A Symposium Sponsored By
The Federal Reserve Bank of Kansas City

REDUCING UNEMPLOYMENT:
CURRENT ISSUES AND
POLICY OPTIONS

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Jackson Hole, Wyoming
August 25-27,1994

Contents

Foreword

Unemployment is disturbingly high in many industrialized countries. While the current global expansion is stimulating job growth, million of workers will remain jobless for a variety of structural reasons. Particularly affected are low-skilled workers who are vulnerable to long periods of unemployment. The results of such widespread joblessness could reach far beyond economic loss to threaten both social cohesion and political stability. Moreover, there is a point at which monetary policy is not the appropriate tool to reduce unemployment.

To enhance our understanding of the causes of rising unemployment in recent decades and to analyze policies that might reverse this trend, the Federal Reserve Bank of Kansas City sponsored a symposium on "Reducing Unemployment: Current Issues and Policy Options" at Jackson Hole, Wyoming, on August 25-27, 1994.

We appreciate the contributions of all those who took part in the symposium and made it a notable success. Special thanks go to members of the Bank's Research Division who helped develop and implement the program.

We hope these proceedings will add to better public understanding of the issues related to reducing unemployment.

THOMAS M. HOENIG
President
Federal Reserve Bank of Kansas City

The Contributors

Frans Andriessen, *Former Vice President,*
Commission of the European Communities
  Mr. Andriessen became president of the ECU Institute and a special
advisor to KPMG in 1993. From 1985 to 1992, he was vice president
of the Commission of the European Communities, where his most
recent responsibilities were for the Commission's external relations,
trade policy, and cooperation with other European countries. In 1988-
89, he was a member of the Delors Committee charged with drafting
a report on economic and monetary union in the European Commu-
nity. Mr. Andriessen, a native of the Netherlands, has served in both
houses of Parliament and as finance minister of his country.

Charles R. Bean, *Professor, London School of Economics*
  Mr. Bean is professor of economics at the London School of Eco-
nomics and a former economic adviser at the UK Treasury, where he
currently serves as a consultant. He has also been a consultant to the
European Commission. A widely published author on the topic of high
unemployment, he has completed a recent survey of the literature on
European unemployment. That article appears in the June 1994 issue
of the *Journal of Economic Literature.*

Alan S. Blinder, *Vice Chairman, Board of Governors*
of the Federal Reserve System
  Mr. Blinder was sworn in as vice chairman and member of the Board
of Governors on June 27, 1994. He had been a member of President
Clinton's Council of Economic Advisers, working on forecasting,
budget, international trade, and health care issues. He is on leave from
Princeton University where he is the Gordon S. Rentschler Memorial
Professor of Economics. Mr. Blinder first joined the Princeton faculty
in 1971 and founded the Center for Economic Policy Studies there.

Author or co-author of ten books, he has also written scores of articles on such topics as fiscal policy, monetary policy, and the distribution of income.

Donald T. Brash, *Governor, Reserve Bank of New Zealand*
Mr. Brash was appointed to his present position in September 1988. Earlier, he had served with the World Bank in Washington, D.C., as chief executive of Broadbank, the New Zealand Kiwifruit Authority, and the Trust Bank group. He is a former member of the New Zealand Monetary and Economic Council and the Committee of Inquiry into Inflation Accounting; chairman of the Economic Monitoring Group; a Foundation member of the New Zealand Planning Council; chairman of the advisory panel on the Goods and Services Tax; and chairman of four subsequent consultative committees on taxation reform on behalf of the New Zealand government.

Martin Feldstein, *President,*
National Bureau of Economic Research
Mr. Feldstein is the George F. Baker Professor of Economics at Harvard University and president of the National Bureau of Economic Research, a private nonprofit research organization specializing in nonpartisan studies of the American economy. From 1982 through 1984, Mr. Feldstein chaired President Reagan's Council of Economic Advisers. He is a fellow of the Econometric Society and the National Association of Business Economists and a member of the Trilateral Commission, the Council on Foreign Relations, and the American Academy of Arts and Sciences.

Stanley Fischer, *Professor, Massachusetts Institute of Technology*
Mr. Fischer, an MIT faculty member since 1973, became deputy director of the International Monetary Fund on September 1, 1994. He was vice president for development economics and chief economist at the World Bank from 1988 to 1990, and has consulted for the U.S. State Department, the U.S. Treasury, the IMF, the Bank of Israel, and the Central Bank of Venezuela. The author, co-author, or editor of a number of books, including several basic economics textbooks, and widely published in professional journals, Mr. Fischer is editor of the *NBER Macroeconomics Annual.*

Alan Greenspan, *Chairman, Board of Governors
of the Federal Reserve System*

Mr. Greenspan was appointed in 1991 to a second four-year term as chairman of the Federal Reserve Board. Previously, he was chairman and president of the New York economics consulting firm of Townsend-Greenspan & Co., Inc., chairman of President Ford's Council of Economic Advisers, chairman of the National Commission on Social Security Reform, and a member of President Reagan's Economic Policy Advisory Board. He was also senior adviser to the Brookings Institution's Panel on Economic Activity, consultant to the Congressional Budget Office, and president of the National Association of Business Economists.

Michel Hansenne, *Director-General,
International Labor Office*

Mr. Hansenne was reappointed to his post as director-general of the International Labor Office in Geneva in 1993. He was first elected to the position in 1989. He received degrees in law and economics and finance from the University of Liege and was a university researcher until his election to the Belgian Parliament in 1974. He served until 1989, while also filling such government posts as Minister for French Culture, Minister for Employment and Labor, and Minister for Civil Service.

James J. Heckman, *Professor, University of Chicago*

Mr. Heckman joined the University of Chicago faculty in 1973. He is the Henry Schultz Professor of Economics and director of the Center for Evaluation of Social Programs, as well as a teacher in the lrving Harris School of Public Policy. A fellow of the Econometric Society, he has given numerous guest lectures in the United States and abroad and has published widely in professional journals, many of which he has also served in an editorial capacity. Mr. Heckrnan is a member of the National Academy of Sciences and the American Academy of Arts and Sciences. In 1983, he received the John Bates Clark Medal of the American Economic Association.

Takatoshi Ito, *Senior Adviser, Research Department,
International Monetary Fund*

Mr. Ito began his IMF duties August 1, 1994, after two years as a

visiting professor at the Kennedy School of Government at Harvard University. He had taught previously at Hitotsubashi University's Institute of Economic Research in Tokyo, and the University of Minnesota. He was also a visiting scholar at the IMF and the Bank of Japan, and a national fellow at Stanford's Hoover Institution. He is a widely published author, a fellow of the Econometric Society, a research associate with the National Bureau of Economic Research and the Center on Japanese Economy and Business at Columbia University, as well as an associate editor of several journals.

Lawrence F. Katz, *Professor, Harvard University*

In his present position as chief economist in the U.S. Department of Labor, Mr. Katz works on the design and analysis of labor market policies. He is on leave from his positions as a professor of economics at Harvard University and a research associate of the National Bureau of Economic Research. His research interests include labor mobility and unemployment, changes in the structure of wages and of family income inequality, theories of wage determination, problems of disadvantaged youth, and regional economic growth. He is currently an editor of the *Quarterly Journal of Economics.*

Paul Krugman, *Professor, Stanford University*

Mr. Krugman joined the Stanford University faculty in July 1994. He had been at MIT since 1979, after earlier serving on the faculty at Yale University. He is a research associate of the National Bureau of Economic Research and a fellow of the Econometric Society. He has been a consultant to the Bank of Portugal and the U.S. State Department and is presently on the Board of Advisers of the Institute for International Economics and the Overseas Development Council. In 1982-83, he served on the Council of Economic Advisers. In 1991, Mr. Krugman was awarded the John Bates Clark Medal of the American Economic Association. His most recent book is *Peddling Prosperity.*

Nigel Lawson, *Former UK Chancellor of the Exchequer*

Mr. Lawson was a senior member of the Thatcher government from its formation in 1979 until his resignation in 1989. He served successively as Financial Secretary to the Treasury, Secretary of State for Energy, and from 1983 to 1989, as Chancellor of the Exchequer. He was a Conservative Member of Parliament from 1974 to 1992 when

he became a peer. He is currently chairman of Central Europe Trust, a director of **Barclays** Bank, and a member of the international advisory boards of TOTAL and Creditanstalt. He began his professional career as a journalist and is a former editor of *The Spectator.* His memoirs, *The View From Number 11*, were published in *1992.*

Assar Lindbeck, *Professor, Institute for International Economic Studies, Stockholm University*
Mr. Lindbeck is professor of international economics and, since *1971,* director of the Institute for International Economic Studies at Stockholm University. His research covers such areas as monetary theory, unemployment theory, macrotheory, and the analysis of the welfare state. He has published widely and contributed to policy discussions in Sweden and elsewhere. A member of a number of expert commissions, he most recently chaired the Economics Commission for the Swedish government in *1992.* Since *1980,* Mr. Lindbeck has also chaired the Committee for the Prize in Economic Sciences in memory of Alfred Nobel.

John P. Martin, *Deputy Director, Directorate for Education, Employment, Labor, and Social Affairs, OECD*
Mr. Martin joined the Organization for Economic Cooperation and Development in *1977* and has held several posts in his current directorate and in the Economics Department, including first editor of the *OECD Employment Outlook* (1983-86), and editor of the *OECD Economic Outlook(1992-93).*Before joining OECD, he was a research fellow at Nuffield College and lecturer in economics at Merton College, both at Oxford. Now a part-time lecturer at the Institute of Political Studies in Paris, he has published many articles on topics in labor economics and international trade.

Allan H. Meltzer, *Professor, Carnegie-Mellon University*
Mr. Meltzer has been professor of political economy and public policy at Carnegie-Mellon University since *1964.* His work in the field of money and capital markets has brought frequent consulting assignments with Congressional committees, the Board of Governors of the Federal Reserve System, foreign governments, and central banks. He is an honorary adviser to the Institute for Monetary and Economic Studies at the Bank of Japan and a visiting scholar at the American

Enterprise Institute. Mr. Meltzer is a founder and co-chairman of the Shadow Open Market Committee and a fellow of the National Association of Business Economists.

John W. Morley, *Head of the Employment and Labor Market Policy Unit, Commission of the European Communities*
Mr. Morley has worked in the European Commission on economic and social policy since the United Kingdom joined the European Community in 1972. He is currently responsible for developing the employment dimension of the Delors Committee's *White Paper Strategy on Growth, Competitiveness, and Employment.* He had previously lectured on economics at Nottingham University, and was an economic adviser to the UK government. He is responsible for comparative analysis on employment-related issues and for the publication of the Commission's Employment in Europe reports. Mr. Morley was a visiting fellow at Duke University in 1992.

Dale T. Mortensen, *Professor, Northwestern University*
Mr. Mortensen joined the Department of Economics faculty at Northwestern in 1965. He is currently the Ida B. Cook Professor of Economics, director of the Mathematical Methods in the Social Sciences Program in the College of Arts and Sciences, and professor of managerial economics and decision sciences in the Kellogg School of Management. A fellow of the Econometric Society, he has held visiting professorships and scholarships at a number of universities both in the United States and abroad. Mr. Mortensen's principal research interest is the performance of the labor market.

Edmund S. Phelps, *Professor, Columbia University*
Mr. Phelps, McVickar Professor of Political Economy at Columbia, is currently at New York's Russell Sage Foundation, working on the causes and cures of joblessness and low wages among disadvantaged workers. A member of the National Academy of Sciences, the American Academy of Arts and Sciences, and a fellow of the Econometric Society, he is the author of a dozen books, an organizer of international seminars, and a charter member of the Economic Advisory Council of the EBRD. His theory of the long-run tendency of the unemployment rate is published in the 1994 *Structural Slumps: The Modem Equilibrium Theory of Unemployment.*

Christopher A. Pissarides, *Professor, London School of Economics*
Mr. Pissarides joined the faculty at the London School in 1976, after a year at the central bank of his native Cyprus, and a two-year lectureship at the University of Southampton. He has held visiting positions at several American universities, the Reserve Bank of Australia, the European University Institute in Florence, and the Institute for Advanced Studies in Vienna. The author of two books and scores of articles, Mr. Pissarides has consulted for the World Bank, the Statistical Office of the European Communities, and the UK Department of Employment. His major research interest is employment and wage theory.

George Shultz, *Former U.S. Secretary of State*
Mr. Shultz returned to Stanford University in January 1989 as Professor of International Economics at the Graduate School of Business and Distinguished Fellow at the Hoover Institution after nearly seven years as Secretary of State. It was his third Cabinet post after having served as Secretary of Labor and Secretary of the Treasury, as well as director of the Office of Management and Budget in the Nixon Administration. From 1974 to 1982, he was president and a director of the Bechtel Group, Inc., and a part-time instructor at Stanford. He began his teaching career at MIT, then served as professor of industrial relations and later, dean of the University of Chicago Graduate School of Business. The author of nine books and recipient of thirteen honorary degrees, Mr. Shultz was awarded the Medal of Freedom, the nation's highest civilian honor, on January 19, 1989.

Dennis J. Snower, *Professor, Birkbeck College,*
University of London
In addition to Mr. Snower's professorship in economics, he is program director of human resources at London's Center for Economic Policy Research. He also heads labor market programs funded by the UK Employment Department and the European Community. With Assar Lindbeck, he has worked to develop the insider-outsider theory of unemployment; independently, his initiatives for the long-term unemployed are the basis for the UK Workstart program. Mr. Snower has been a visiting professor and consultant at many U.S. and European research centers. His areas of specialization are labor economics, imperfect competition, welfare state policy, and the economics of imperfect information.

Hans Tietmeyer, *President, Deutsche Bundesbank*

Mr. Tietmeyer assumed his present post in **1993,** after two years as vice president of Germany's central bank. He had been a member of the board since **1990** except for a brief leave when he was personal adviser to the Federal Chancellor for negotiations on the State Treaty Establishing the Economic, Monetary, and Social Union. Earlier, he filled various supervisory positions in the Federal Ministry of Economics between **1962** and **1982,** and was state secretary in the Federal Ministry of Finance from **1982** to **1989.** Mr. Tietmeyer has been awarded Germany's Knight Commander's Cross as well as high honors from six other European nations and the Vatican.

Symposium Summary

Bryon Higgins

Reducing unemployment has become a top priority for economic policy in most industrialized nations. While unemployment will ebb somewhat as countries recover from the recent global recession, millions are likely to remain jobless for a variety of structural reasons. Moreover, there is a disturbing trend in many industrialized countries toward long-term unemployment, especially among low-skilled workers. This trend has had less effect on measured unemployment in the United States than in Europe in part because U.S. workers have greater incentives to accept low-wage jobs. Nonetheless, virtually all industrial countries face a jobs problem that impairs living standards and threatens a breakdown in social cohesion.

To enhance understanding of what has caused this problem and to analyze policies to address it, the Federal Reserve Bank of Kansas City sponsored a symposium entitled, "Reducing Unemployment: Current Issues and Policy Options." The symposium was held August 25-27, 1994, at Jackson Hole, Wyoming.

This article highlights the issues raised at the symposium and summarizes the papers and commentary. The first section of the article identifies areas of agreement and disagreement among program participants. The remaining sections summarize the views of symposium participants and their policy recommendations.

Symposium highlights

Symposium participants agreed high structural unemployment in industrial countries has resulted from the interaction between market forces and government policies. The principal change in underlying labor market forces in the past twenty years has been a decline in the demand for low-skilled workers, caused mainly by changing technology. In countries such as the United States, with limited government policies affecting labor markets, these forces have led to only marginally higher unemployment but to large increases in income inequality and poverty. In most European countries, with more extensive government policies toward labor markets, the result has been high structural unemployment, especially for low-skilled workers. Much of the increased unemployment is not merely temporary. Long-term unemployment has become a structural feature of economies in many European countries, in part because of generous government payments to the jobless and high payroll taxes to finance those payments. Policymakers in the industrial countries have been faced with a tradeoff between growing long-term unemployment or growing income disparities, a tradeoff Chairman Alan Greenspan characterized in his opening comments for the symposium as both stark and dissatisfying.

Most participants felt the tradeoff could be improved — but probably only modestly — by adopting different labor market policies. The least costly improvement in Europe would be to reduce "employment protection," that is, the laws that make it costly and time-consuming for employers to dismiss workers. Although providing job security, employment protection legislation has also made employers less willing to hire workers in the first place, especially so given the heavy payroll tax burden employers bear in Europe. Lowering payroll taxes, especially for low-wage workers, would further reduce the disincentive to job creation. To complement these policy changes, limiting the duration of unemployment benefits would provide greater incentive for the long-term unemployed to seek employment. Most participants also agreed that replacing "passive" income support payments to the unemployed with "active labor market policies" which increase employment opportunities could also reduce structural unemployment somewhat. Even with these and other changes to improve the

functioning of labor markets, however, most participants concluded that substantially reducing European unemployment would necessarily entail increased income inequality and poverty so long as market forces continued to favor high-skilled over low-skilled workers.

In contrast to these broad areas of consensus, participants disagreed on several specific aspects of the unemployment problem. Some participants thought more accommodative monetary policies in Europe could contribute substantially to reducing unemployment, while others felt central banks could best contribute to job growth in the long run by continuing to focus on price stability. Nor was there complete agreement on the effectiveness of several labor market reforms in reducing structural unemployment. Many participants, especially those from the United States, emphasized the need for paring the European "welfare state" as a prerequisite to reducing long-term unemployment. But several of the European participants questioned the effectiveness and political feasibility of doing so, especially if it resulted in growing income disparity and poverty as in the United States.

The differing degrees of emphasis on alternative policy responses reflected in part differing evaluations of the principal causes of rising unemployment. Those who believed the chief culprit has been the growth of the welfare state naturally placed more emphasis on reversing that trend, while those who believed other causes had also been important were less inclined to recommend drastic changes in the welfare state as a solution. Participants also differed on how much unemployment could be reduced in the United States and elsewhere by increased government spending on training programs, wage subsidies, and other active labor market policies. Some felt such policies could substantially improve the job prospects for low-skilled workers, but others thought they would prove too costly or ineffective.

Extent and causes of unemployment

The fist two sessions of the symposium documented the upward trend in unemployment and analyzed its causes. Topics examined included the differing degrees to which rising unemployment has affected various geographic areas and groups of workers, whether

economic theories adequately explain these differences, and what factors have caused rising unemployment.

Upward trend in unemployment

John Martin presented evidence on how much unemployment had increased in countries belonging to the Organization for Economic Cooperation and Development (OECD). As he shows in Table 1, unemployment rates have risen over the past four decades in the OECD as a whole and in each of the large industrial countries. The increase has been much more pronounced in most European countries than in the United States, Canada, or Japan. As a result of the pervasive upward trend, about 35 million persons in OECD countries were expected to be unemployed in 1994, and an additional 15 million were estimated to have given up on seeking a job or were forced to settle for a part-time job.

Martin also demonstrated that high unemployment has affected some demographic and social groups much more than others. Young people experience unemployment rates more than twice as high as do adults in most industrialized economies other than Germany, which has a strong apprenticeship system for training young workers. In half of the remaining countries in the European Community (EC), youth unemployment rates had surpassed 20 percent by 1993. The other major groups to suffer exceptionally high risk of unemployment are those with low educational qualifications. Workers who have no college experience are especially susceptible to joblessness; their relative plight worsened substantially in the 1980s in terms of both the chance of finding a job and of the wages paid when successful. In Martin's view, this latter trend provides support to the common belief that the relative demand for low-skilled workers has declined in most industrial economies — a belief shared by most symposium participants.

Another disturbing trend, in Martin's view, is rising long-term unemployment, especially in Europe. In the EC, more than 40 percent of the unemployed had been out of work for more than a year, compared to only 12 percent in North America. This difference reflects very different labor market dynamics in the two regions. U.S.

workers are much more likely to lose existing jobs, but are also much more likely to find new jobs fairly quickly, than are their European counterparts. Martin also cited evidence suggesting the long-term unemployed are "outsiders" insofar as wage-setting is concerned because increased long-term unemployment does little to restrain wage increases for the "insiders" who have jobs. In his view, this evidence bolstered the argument for targeting labor market policies to the long-term unemployed as the most effective, as well as the most equitable, way to reduce unemployment without setting off a wage-price spiral.

In his discussion of Martin's paper, Dennis Snower reviewed theories of unemployment to determine which best explained the pattern of unemployment in OECD countries. He indicated most theories fail to explain why unemployment has risen more in Europe than in the United States. The most promising, in his view, is the insider-outsider theory discussed in Martin's paper. Because European firms find it costly to reduce their work force due in part to employment protection laws, European workers' jobs were secure in the face of the mild recessions typical in the 1950s and 1960s. As a result, unemployment rates remained low in Europe during this period. As the severity of recessions increased thereafter, though, firms were forced to reduce the size of their workforces. Having once incurred the high cost of doing so, firms were reluctant to hire workers back, preferring instead to invest in labor-saving capital equipment. The impediments to labor mobility in Europe help explain why high European unemployment rates persist after major recessions and why labor turnover is so much lower in Europe than in the United States. Moreover, the reluctance of European firms to rehire workers helps explain why so many long-term unemployed are outsiders without any appreciable effect on the wage demands of the insiders. Although economists are far from developing theories that explain all aspects of labor market behavior, Snower found the insider-outsider theory the best available foundation for policy recommendations to reform labor markets.

Causes of high unemployment

In his paper, Paul Krugman presented a somewhat different perspective on the causes of high unemployment. He emphasized the distor-

tions caused by the European welfare state as the principal culprit. High payroll taxes, in addition to such stringent labor market regulations as the employment protection guarantees stressed by Martin and Snower, reduce the wages firms are willing to offer to attract employees. At the same time, generous welfare benefits for the unemployed reduce their incentive to accept jobs at these low wages. The resulting wedge between what employers are willing to offer and what workers are willing to accept explains why European unemployment is so much higher than in the United States, where taxes and benefits are considerably lower.

The interaction between the welfare state and a changed economic environment, Krugman argued, can also explain why unemployment has increased so much in Europe. The change he emphasized was declining demand for low-skilled workers in industrial nations. Such a change would tend to increase income inequality by depressing the wages of low-skilled workers. But large disparities in incomes are what the European welfare state was designed to prevent. The collision of market forces pushing toward greater income inequality with government policies that prevented such inequality has resulted in growing unemployment in Europe, especially among low-skilled workers. In analyzing the reasons for declining demand for these workers, Krugman expressed skepticism about the importance of increased competition from newly industrializing nations. Although intuitively plausible, this explanation has been found to have little empirical support according to Krugman. Instead, he attributed the declining demand for low-skilled workers to technological change that devalues the market value of manual labor.

The same forces raising unemployment in Europe, Krugman claimed, have caused rising poverty and income inequality in the United States. With less generous social service benefits, low-skilled workers in the United States have seen their real incomes decline. Krugman did not see any painless way out of the tradeoff between more poverty and more joblessness. Transforming low-skilled workers into high-skilled workers through improved education and training might seem the obvious solution. But raising education levels can be done only gradually, and government training programs are not particularly effective. Some modest improvement in Europe might result

from restructuring the welfare state to reduce distortions. Only a major "pruning" of the welfare state, however, is likely to reduce European unemployment substantially, and then at the expense of increased poverty. Krugman concluded policymakers in both Europe and the United States confront the harsh choice of accepting either high unemployment or widespread poverty.

Edmund Phelps explained why he thought the causes of unemployment are more diverse than implied by Krugman's paper. His research indicated OPEC oil shocks, increased taxes on labor, and higher real interest rates have contributed importantly over the past several years to the rise in the natural rate of unemployment — that is, the unemployment rate consistent with stable inflation. He agreed with Krugman that growth of the welfare state and a decline in demand for low-skilled workers have contributed to high unemployment in most industrial countries. He was skeptical regarding Krugman's claim that increased competition from newly industrializing economies had not contributed importantly to the' declining demand for low-skilled workers. Accordingly, he advocated redistributing the overall gains from free trade through subsidies to employers who hire such workers. The first step in this direction should be a tax credit to offset the payroll taxes paid for low-wage workers, financed in part by reducing the most distortionary elements of the welfare state. If tax credits prove insufficient, governments should consider cash subsidies to firms that employ low-skilled workers.

Like Phelps, Christopher Pissarides felt Krugman put too much of the blame for unemployment on welfare state policies. He did, however, advocate less restrictive employment protection laws in Europe. In his view, laws making it costly for firms to fire workers merely stifle necessary labor market adjustments, thus benefiting neither employers nor workers. Other improvements would be to limit the duration of unemployment compensation and to spend more on active labor market policies to help the unemployed find jobs. While such pruning of welfare benefits can and should be used to reduce European unemployment, Pissarides was emphatic that income support for low-skilled workers should remain. In his view, minimal government support for the disadvantaged, as in the United States, is a "cruel route" not to be followed in Europe.

Monetary policy and unemployment

The focus of the symposium next shifted to the relation between monetary policies and unemployment. Topics addressed included whether expansionary monetary policies in Europe should be used to complement needed labor market reforms, the differences between Japanese and European labor markets, the unique legislative mandate guiding New Zealand's monetary policy, and the pressures on central banks to pursue more stimulative monetary policies when unemployment is high.

The role of monetary policy

In his paper, Charles Bean explained what role monetary policy could play in reducing European unemployment. He argued the main reason unemployment has risen so much more in Europe than in the United States is that European labor markets create long-term persistence of unemployment. His empirical estimates show that shocks with only temporary effects on unemployment in the United States have permanently raised unemployment in Europe. Due to various persistence mechanisms, any increase in European unemployment is quickly translated into a higher equilibrium (or natural) unemployment rate. Lasting reduction of unemployment in Europe can only be achieved with structural reforms to improve the functioning of labor markets.

Bean maintained expansionary monetary policies should nonetheless be used to complement labor market reforms. Such reforms could prove so politically unpopular they would soon be reversed unless their benefits are realized quickly. Macroeconomic policies should thus be used to ensure aggregate demand grows rapidly enough to take full advantage of the expanding.aggregate supply resulting from labor market reforms. Expansionary fiscal policy is effectively precluded by the large structural budget deficits in most European countries. The responsibility for demand stimulus, therefore, falls to monetary policies. In Bean's view, European central banks should be willing to tolerate slightly higher inflation for the next few years if necessary to achieve the goal of reducing the European unemployment rate five percentage points by the end of the decade. In countries where employment growth is stifled by insiders' aggressive wage demands,

a temporary incomes policy might prove a useful adjunct to labor market reforms and stimulative monetary policies.

Bean cautioned against coordinating national monetary policies to achieve exchange rate stability. If labor market reform proceeds at different rates, exchange rates may need to adjust to ensure that each country can realize the full benefit of its reforms. Exchange rate fluctuations within the current wide bands of the European Monetary System should provide adequate scope to pursue independent monetary policies. But an attempt to narrow exchange rate bands or to move rapidly to monetary union would prevent an efficient transition to lower levels of unemployment.

Stanley Fischer disagreed that tolerating higher inflation was necessary to realize the benefits of European labor market reforms. Although real wages in Europe may need to decline modestly to reduce unemployment, this decline could occur without higher inflation. Labor market reforms will, themselves, increase wage flexibility enough to accomplish slower growth in wages without higher inflation. Fischer nonetheless endorsed Bean's plea that central banks in Europe accommodate the higher economic growth potential accompanying labor market reforms.

Takatoshi Ito explained how Japan has managed to avoid the high and rising unemployment observed in Europe. One important factor has been a steadfast Japanese commitment to low inflation. Ito was skeptical of Bean's contention that tolerating higher inflation could reduce European unemployment. The major reason unemployment has remained low in Japan, however, is Japanese labor market institutions have allowed shocks to be absorbed without laying off workers. Whether this will remain so in the face of a severe recession and strong yen is uncertain. Major Japanese companies have increasingly shifted production abroad, raising the prospect unemployment will trend upward in Japan in the years ahead, as it did in Europe during the 1980s.

In Allan Meltzer's view, the upward trend in European unemployment has been due almost entirely to the corrosive effects of the European welfare state. Imposing high taxes on the income of those

who work, and using the proceeds to subsidize those who do not, reduces incentives to seek employment, thereby raising the measured unemployment rate. Meltzer presented evidence the European countries which had increased welfare spending most had also experienced the largest increase in unemployment. He found this a compelling reason for eschewing the monetary stimulus recommended by Bean, concentrating instead on supply-side remedies to "welfare state unemployment."

In summarizing the discussions of the first day of the symposium, Nigel **Lawson** also emphasized the importance of supply-side remedies for reducing unemployment. He emphasized such remedies would be difficult politically because they would cause painful adjustment. **Lawson** nonetheless urged economists to be forthright in recommending the uncomfortable policy changes necessary to reduce unemployment, "because I don't know where politicians and policymakers are going to get their guidance from if these things aren't spelled out clearly."

The importance of price stability

In his luncheon address, Donald Brash explained what he thought monetary policy could—and could not-contribute to reducing unemployment. In his view, monetary policy can best contribute to minimizing unemployment by maintaining price stability. He cited New Zealand's experience as support for this view. In the 1970s and early 1980s, monetary policy was used to stimulate the economy. The resulting burst of inflation caused consumer prices to increase fivefold from 1970 to 1984. This high inflation was accompanied by an upward trend in the unemployment rate. The ultimate result of stimulative monetary policy, therefore, was higher rather than lower unemployment.

This period of stagflation in New Zealand led monetary policy to be reoriented toward price stability. The new orientation was codified in 1989 with passage of a new Reserve Bank Act. The act instructs the Reserve Bank of New Zealand to focus exclusively on achieving and maintaining stability in the general level of prices. The government and the Reserve Bank have agreed that maintaining consumer

price inflation in a range of 0 to 2 percent fulfilled that mandate. Steadfast pursuit of price stability has kept New Zealand's inflation rate in that range since 1991. Although experiencing a prolonged recession during the period of disinflation, the New Zealand economy has subsequently rebounded. The unemployment rate has already come down substantially from its recession peak and is expected to decline further. Based in part on New Zealand's experience, Brash argued that focusing on price stability is not antithetical to reducing unemployment but is a prerequisite for doing so in a lasting way.

This unique legislative mandate for price stability has not, Brash said, entirely shielded the Reserve Bank from political pressures to pursue a more stimulative monetary policy. Critics have attacked the Reserve Bank Act for its alleged callous disregard for the unemployed. Brash views one of his most important functions to be convincing these critics that "attempting to trade off just a little more inflation for a little less unemployment, however tempting, just isn't a workable proposition."

Structural policies to reduce unemployent

In the next two sessions of the symposium, participants evaluated the effectiveness of alternative policy reforms in reducing structural unemployment. Among the reforms discussed were reducing unemployment insurance benefits, imposing a tax on .firms that lay off workers, offering subsidies to firms that hire workers, investing more in education and training, and increasing job search assistance to dislocated workers.

Evaluating alternative policy reforms

In his paper, Dale Mortensen evaluated alternative labor market policies using a theoretical model of job creation and job destruction. According to the model, unemployment could be reduced by cutting back on the generosity of government payments to the jobless or by reducing payroll taxes. The effects of other prospective policy changes are less clear. Imposing a tax on firms that lay off workers, for example, would reduce the incidence of layoffs but could also make firms less willing to hire new workers. Similarly, a tax credit for firms

that hire workers would increase job creation but might also increase job destruction if firms lay off some workers in order to get the tax credit when replacement workers are hired. The net effect of both tax credits for hiring and tax penalties for firing on the overall level of unemployment are therefore ambiguous in the theoretical model. Only by using an empirical version of the model can such ambiguities be resolved.

Mortensen thus presented numerical estimates using an empirical version of the theoretical model to evaluate prospective U.S. policy changes. Using values he considered realistic for the parameters of the model, Mortensen estimated that a firing tax would raise rather than lower unemployment. Such a tax would so impede workers' mobility that aggregate output would also suffer. In contrast, reducing unemployment benefits would be effective in substantially reducing U.S. unemployment, but only at the expense of forcing many of those who could not find jobs into poverty. Similarly, cutting such payroll taxes as the social security tax would not have a large enough beneficial effect on unemployment to justify the accompanying adverse effect of lowering pension and health care for the elderly. **A** more promising labor market reform in the United States, Mortensen concluded, is a hiring subsidy to employers. According to his estimates, such subsidies would substantially reduce U.S. unemployment without imposing hardships on the poor or the elderly. This and similar active labor market policies might best be financed with a payroll tax since, according to the model, such taxes have minimal disincentive effects on hiring.

Martin Feldstein was less sanguine than Mortensen about the prospective benefits of hiring subsidies. In Feldstein's view, Mortensen's model does not provide a reliable basis for estimating the likely effects of actual policy changes. Other studies have found that hiring subsidies are a waste of taxpayers' dollars. Feldstein recommended instead the U.S. unemployment insurance system be reformed to reduce structural unemployment. Such reforms, if carefully designed, could substantially increase incentives for finding a job without imposing hardships on the truly disadvantaged. Subjecting unemployment insurance benefits to the income tax, which the United States now does, reduces disincentives for job seeking but does not reduce benefits for

those too poor to pay taxes. **A** more radical reform would be to set a maximum weekly benefit of about $200, thereby reducing the benefit levels for those who previously had a high-paying job but retaining current benefit levels for others. This type of reform would be much more effective in reducing unemployment, Feldstein argued, than would hiring subsidies.

Assar Lindbeck also expressed skepticism about the advisability of hiring subsidies. He pointed out both workers and firms would have powerful incentives to find ways to exploit the subsidies. Firms that previously transferred workers from one plant to another, for example, could benefit by splitting into two companies in order to reap the benefits of hiring subsidies to the plant that was increasing employment. Lindbeck also argued that Mortensen's policy prescription of more government involvement in labor markets through hiring subsidies and higher payroll taxes should be compared with less government involvement in labor markets before concluding how best to reduce unemployment.

Active labor market policies

In his paper, Lawrence Katz evaluated the effectiveness of active labor market policies in solving the jobs problem, which he defined as "too few decent employment opportunities to go around." The problem has led to higher unemployment in Europe and to increased poverty among working families in the United States. Government programs to enhance the skills and adaptability of the workforce could, in Katz's view, help solve the jobs problem on both sides of the Atlantic. He identified three key elements to such a strategy.

The first element is to create "a system of life-long learning." Katz cited several studies showing investment in human capital has large payoffs both for the aggregate economy and for individuals. Because the jobs problem has disproportionately affected the employment prospects for less-skilled workers, government programs to improve education and training must be an integral part of any long-run solution to the problem. Keeping more young people in school, enabling less-educated adults to return to school, and encouraging employers to invest in their workers are all essential for enhancing the

skill level of the workforces in America and most other industrial countries.

A second major element in solving the jobs problem, according to Katz, is to help displaced workers get new jobs. Most studies suggest job search assistance for such workers is an inexpensive way to reduce the amount of time between jobs. Helping workers start their own businesses has also been shown worthwhile for the minority of displaced workers who have both the willingness and ability to do so. Other forms of government retraining programs have been less successful in part because the programs were not well designed. Overall, Katz strongly advocated a comprehensive "reemployment system" intended to assist displaced workers in getting jobs rather than the current system of merely providing income support during the job search process.

The final element for solving the jobs problem, Katz argued, includes policies to ensure low-skilled individuals can earn more by working than by not working. One such policy is a minimum wage set high enough to increase earnings of low-skilled workers but not so high that they are priced out of the market. Direct government subsidies for the working poor, such as the earned income tax credit in the United States, can also "make work pay" for those whose earning power is minimal.

In his comments, James Heckman emphasized the importance of identifying the most effective programs for improving the lot of less-skilled workers. His reading of the evidence suggests that the returns to government training programs are generally very low. Rather than using scarce budget resources for training displaced workers, in Heckman's view, government programs should focus on early childhood intervention to increase the chances that youth from disadvantaged backgrounds stay in school. A "super-Headstart" program for preschool children has proved effective in raising their educational attainment and reducing their criminal activity in subsequent years. Such programs would yield benefits, however, only in the long run. The short-run problems of less-skilled, adult workers might be more effectively addressed through gbvernment subsidies to their employers rather than through government training programs in

part because such workers are less malleable than youth.

In his comments, John Morley emphasized the importance of striking a balance between employment growth and equitable distribution of income. The 1993 White Paper issued by the European Commission recommended supply-side obstacles to job creation be removed in a way that avoids increased wage inequality. The historical evidence is clear, Morley contended, that unfettered operation of labor markets produces wide disparities in income which are socially unacceptable in developed countries. As a result, governments in most European countries have faced serious political and social constraints on how much to deregulate labor markets. The sharp rise of wage inequality in the United Kingdom which accompanied deregulation has discouraged similar policies elsewhere in Europe. In Morley's view, how much employment growth in Europe can be achieved without unacceptable income inequality remains an open question.

Overview panel

The final session provided speakers the opportunity to give their perspective on the broad range of policy issues discussed at the symposium.

In his overview comments, Frans Andriessen outlined a plan for reducing European unemployment by reforming the European welfare state. Reforming the welfare state is necessary, in his view, if it is to survive. Yet the widespread poverty resulting from allowing living standards to be determined mainly by unfettered labor market forces, as in the United States, is not politically or socially feasible in Europe. Andriessen concluded the welfare state must be reformed in a way that does not impose unacceptable burdens on low-skilled individuals.

Reforming tax systems, Andriessen argued, must also be an integral part of reducing European unemployment. To support the generous benefits available under the European welfare state, taxes on earned income are very high. These taxes have raised the cost of labor so much that many low-skilled individuals have been priced out of the market. Lowering the labor cost for low-skilled jobs should, in Andriessen's view, be the first priority in reducing European unemploy-

ment. This could be done, for example, by lowering taxes on low-income workers, including the payroll taxes paid by their employees. The resulting revenue loss might be offset by additional energy taxes, which would have the ancillary benefit of encouraging conservation. Especially if supplemented by active labor market policies and per-haps additional public sector jobs, this type of tax reform could substantially reduce European unemployment.

In his overview remarks, Alan Blinder discussed the role of macroe-conomic policy, especially monetary policy, in reducing unemploy-ment. While agreeing monetary policy had little if any role in reducing structural unemployment, he also pointed out monetary policy could affect short-run cyclical fluctuations in unemployment. Moreover, he argued that central banks should attempt to guide the unemployment rate to the natural rate. He thus viewed the legislative mandate calling upon the Federal Reserve to pursue both maximum employment and stable prices as being an appropriate charge for central banks. Because he considered U.S. unemployment to be near the natural rate at the time, Blinder saw little the Federal Reserve could do to reduce unemployment further.

Blinder did see a role for monetary policies in reducing European unemployment. Blinder interpreted the consensus among symposium participants to be that macroeconomic policies might be able to pare the unemployment rate in the European Union—which was close to 11 percent at the time—by two or three percentage points in the short run without igniting inflation. In addition, the natural rate of unem-ployment in Europe might be further reduced two or three percentage points in the long run by structural labor market reforms. He agreed with other symposium participants that the success of structural labor market reforms could well depend on the macroeconomic environ-ment. If so, macroeconomic policies and labor market policies should be viewed as complementary rather than unrelated approaches to reducing unemployment.

Michel Hansenne urged in his comments that the unemployment problem be viewed in a global context. He presented estimates by the International Labor Office that 120 million persons worldwide were unemployed, of which about 85 million were in developing economies

or economies in transition. Moreover, a significant reason for rising unemployment and income inequality in the industrialized economies is difficulty in adjusting to changes in the global pattern of trade and production. Despite this difficulty, Hansenne warned against resorting to protectionist trade policies in a vain attempt to resist shifts in the international division of labor.

He also warned against overzealous pursuit of employment growth at the expense of economic equity. Labor markets should not be evaluated exclusively in terms of allocative efficiency, Hansenne argued. They are also social institutions that help decent societies achieve the goals of equity and fairness. In describing what he described as the qualitative dimension of the jobs problem, Hansenne stated:

> "[E]mployment is not just a matter of numbers....[T]he conditions under which work is performed, the livelihood it provides, and the solidarity shown by those with work and income toward those without: these are also measures of a decent society."

In his comments, Hans Tietmeyer explained his views on how the Deutsche Bundesbank could best contribute to lowering German unemployment. He argued that high German unemployment is predominantly a structural phenomenon. One structural problem is that generous benefits available to the unemployed reduce their incentive to work, especially for low-skilled individuals. Moreover, the high cost of dismissing workers due to employee protection laws discourages firms from recruiting new employees. In addition, the cost of labor in Germany is too high, especially for low-skilled workers. Although some progress has been made in reducing these and other structural labor market problems, Tietmeyer stressed the reforms will only gradually reduce German unemployment.

The Bundesbank's role, in Tietmeyer's view, is to create "the underlying monetary conditions that foster greater monetary stability." He rejected the contention that a considerable portion of German unemployment was cyclical and could thus be reduced by lower short-term interest rates. Pointing to uncertainty about how much of German unemployment was cyclical, Tietmeyer asserted that attempt-

ing to use monetary policy to reduce unemployment could lead to higher inflation. This would be particularly risky, he maintained, because of the German people's aversion to inflation. For these and other reasons, Tietmeyer argued the Bundesbank could best contribute to lowering German unemployment by reducing inflation.

At the conclusion of the symposium, George Shultz observed the discussion had focused on those who are unemployed but remain within the traditional system. He pointed out a large and growing group of unemployed persons are in a very different system: "They are in a system of crime and drugs, of no family attachments, and of gang attachments." This alternative system, Shultz said, posed a serious threat to American society. He concurred with James Heckman's assessment that early intervention might well prevent the very young from repeating the cycle which leads ultimately into the alternative system.

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Despite the differences of opinion on details, a recurring theme throughout the symposium was that reducing structural unemployment would require difficult policy choices and tradeoffs. As Chairman Greenspan put it in his remarks, "The job of analysts and policymakers, such as the group represented here, is to try to make the issues and tradeoffs clear to our elected representatives. For, at the end of the day, it is they who must make these very difficult choices. We, however, can play a major role by arraying the real alternatives."

Bryon Higgins is a vice president and economist at the Federal Reserve Bank of Kansas City.

Opening Remarks

Alan Greenspan

I am pleased to open this symposium, which, once again, has brought together a group of experts and central bankers to exchange views on an important issue in the world economy. This year's topic — unemployment, what causes it, and how policy can address it — has been highlighted in various international fora over the past year, including the Organization for Economic Cooperation and Development (OECD) ministers meeting in June and the G-7 summit in July 1994. Clearly, policymakers around the world agree that the persistence of high levels of unemployment is costly and that we could raise output and living standards if more of our unemployed could be put to work. Thus, we are keenly interested in answers to the questions of what we can do to maximize sustainable employment growth and to reduce unemployment.

Those answers are likely to emerge, however, only as we develop a better understanding of the enormous complexity and dynamism of our labor markets. While any macroeconomic or aggregate measure, such as the unemployment rate, is a useful starting point for policy discussions, we must go beyond any one measure of economic slack and examine the interaction of public policies and market forces that affect the extent to which our resources are effectively employed. That is our agenda for the next two days.

The OECD study that John Martin will discuss this morning has contributed greatly to our understanding of recent aggregate unemployment statistics in terms of the characteristics of individuals that

are most vulnerable to jobless spells and underemployment. From this base, we can begin to trace how cyclical fluctuations and structural shifts in the patterns of demand across industries and occupations affect the demand for and supply of labor in our economies. We can, as well, assess the effects--either intentional or unintentional--of public policies on job creation and on the willingness to participate in the labor market.

Charles Bean raises some provocative issues in his interesting paper this morning, and I am sure that my colleague, Donald Brash, will focus on important central banking problems at lunch today. The papers by Dale Mortensen and Larry Katz for tomorrow's session should generate a quite moving discussion of intervention in the operation of labor markets. The large number of proposals and options for reducing disincentives or for providing incentives for job creation is perhaps a good measure of the complexity of the problem.

As Paul Krugman so aptly points out in his paper, even if the economic profession could speak with one voice on the sources of the problem, the choices that policymakers face in seeking to address unemployment would still be hard ones.

Krugman argues that the significant rise in structural unemployment in Europe reflects the endeavors on the part of governments to delimit the increasing degree of income inequality that market forces have recently been engendering. The latter appears to be emerging from significant increases in the application of new technologies in production. Where such market forces are allowed to play out more evidently, such as in the United States, the unemployment rate is lower and measured income inequality higher. The argument for this tradeoff is a persuasive one, and the discussion of this issue should be most interesting.

An important aspect of the structural change that has affected the demand for labor among the major advanced industrial countries is the extent to which the proportion of our real GDP has become increasingly conceptual as distinct from physical. A century ago the economic value added of physical brawn was much higher relative to intellectual pursuits than it is today. If ideas are becoming increasingly

valued at the margin in recent years, then more education, adjusted for supply, will tend to command an increasing premium over less education. This is seen in the rising incomes of intellectual professions relative to the average.

Larry Katz is encouraged by some of the evidence of the potential for government programs to enhance educational capabilities and hence to boost the value added of some of the disadvantaged segments of our societies. Clearly to the extent that such endeavors work, one can be hopeful, recognizing that the benefits will require some time to be realized.

Of concern to central bankers, nevertheless, is the fact that if the tradeoff that **Krugman** outlines is as stark as it appears, those endeavoring to address structural employment imbalances are occasionally bound to find themselves frustrated when confronted with so dissatisfying a choice. Any tendency to seek a bit of macro policy relief by pushing on the outer limits of monetary policy risks longer term financial instability. The lags of monetary policy are long and variable, and the temptation to presume that our forecast point estimates or reduced-form model simulations somehow adequately capture these risks is probably an illusion.

The job of analysts and policymakers, such as the group represented here, is to try to make the issues and tradeoffs clear to our elected representatives. For, at the end of the day, it is they who must make these very difficult choices. We, however, can play a major role by arraying the real alternatives.

I will conclude by thanking the staff of the Federal Reserve Bank of Kansas City for assembling such an excellent program. It promises a lively exchange of views, and I look forward to participating.

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The Extent of High Unemployment in OECD Countries

John P. Martin

The Organization for Economic Cooperation and Development (OECD) has recently completed a two-year study of the causes of unemployment and appropriate solutions. The analysis and policy conclusions of this work were endorsed by OECD ministers at their meeting in June 1994. This report does not mince its words about the seriousness of the problem and the challenges it poses. It describes unemployment as: "probably the most widely feared phenomenon of our times. It touches all parts of society."[1]

It points out that:
"More than ever since World War II, today's unemployment is causing damage in ways that cannot be measured by the sheer numbers. High unemployment creates insecurity and resistance to organizational and technical change. Long-term unemployment lowers self-esteem, is demotivating and self-reinforcing, and is associated with health problems. The rise in youth unemployment means that many young people are losing skills or employability. Groups in society that have never before faced a high risk of unemployment, such as white-collar workers, are losing jobs, with all the personal and societal costs that implies in terms of lost potential and lost investment."[2]

It then proposes more than sixty policy recommendations to tackle the problem. These recommendations cover a wide range of macroeconomic and structural policies designed to achieve the twin goals of

higher employment with good jobs.

In this paper, I do not review these policy recommendations in any detail. Rather, I focus on a narrower remit, but one that is essential to the purposes of this symposium, namely to describe both the extent and nature of the unemployment problem facing OECD countries today.

The first section highlights cross-country trends in unemployment experience since 1950. The second section considers the adequacy of unemployment as a measure of labor market slack and presents some cross-country data on "extended" measures of unemployment. This is followed by a detailed description of the composition of OECD unemployment, focusing on demographic characteristics, family status, and skill levels. The fourth section focuses on an aspect of the unemployment problem which has particularly preoccupied policy-makers of late—the growing tendency in many countries, especially in Europe, for people to drift into long-term unemployment. The fifth section analyzes one major dimension of the costs of unemployment, namely public spending on labor market policies, and presents preliminary evidence on its impact on labor market performance. The final section presents some concluding observations.

Trends in OECD unemployment since 1950

Chart 1 depicts the trends since 1950 in unemployment in the OECD area and its five main countries/zones—North America, the European Community (EC), European Free Trade Association (EFTA) countries, Oceania (Australia and New Zealand), and Japan. During the 1950s and the 1960s, the total number of unemployed in the OECD area averaged below 10 million, an unemployment rate of around 3 percent. But the year of the first oil shock, 1973, represents a watershed in the picture. Over the following ten years, OECD unemployment tripled to 30 million, an unemployment rate of 8 percent. The subsequent prolonged expansion only trimmed back the unemployment total to 25 million people in 1990. After 1990, the number of persons unemployed rose sharply: and the latest OECD Secretariat projections suggest that that number could exceed 35 million persons in 1994 (an unemployment rate of 8.5 percent), before declining

slightly in 1995 as the economic recovery, which is now under way in the OECD area as a whole, steadily gathers strength.[3]
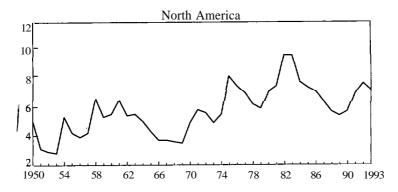
Chart 1 reveals two striking "stylized facts about postwar OECD unemployment experience. First, the overall rising trend has been spread very unevenly across the OECD area:

- In North America, unemployment rates were relatively high in the 1950s and 1960s. But there has been only a modest trend increase since 1970, albeit with large cyclical fluctuations. Unemployment peaked at just over $7\frac{1}{2}$ percent in 1992—well below the previous peak of over $9\frac{1}{2}$ percent in the early 1980s—and is currently around 7 percent.

- The unemployment rate in both the EC and Oceania was lower than in North America in the 1950s and 1960s. But it has risen sharply since the mid-1970s, with the unemployment rate in both regions currently at record rates of around 10 to 11 percent.

- The EFTA countries successfully stabilized unemployment in a narrow range of 2 to 4 percent until 1990. Since then, however, the rate has risen sharply, to almost 8 percent.

- Japan has managed to keep recorded unemployment low, at between 1 and 3 percent, throughout the entire postwar period. The current unemployment rate is around 3 percent. But this understates significantly the true extent of labor market slack.

Second, there is an apparent tendency for unemployment rates after rising during a cyclical downswing, to exhibit "persistence," that is, to remain at or around a higher level even when economic activity and employment pick up again.[4] This phenomenon of unemployment persistence is a feature of the data at the aggregate OECD level. It is particularly marked in the EC countries and Oceania.

Table 1 presents the unemployment rates for individual OECD counmes since 1950. For virtually all the countries, the data refer to *standardized* unemployment rates which, in principle, are more com-

Chart 1
Unemployment Rates in OECD Regions, 1950-93
(Percent of Total Labor Force)

North America

European Community

Oceania

Unemployment Rates in OECD Regions, 1950-93
(continued)

EFTA

Japan

OECD

Source: **OECD** (1994a)

Table 1
Unemployment Rates in OECD Countries, 1950-93[1]

Percent of Total Labor Force

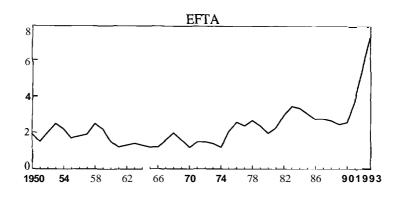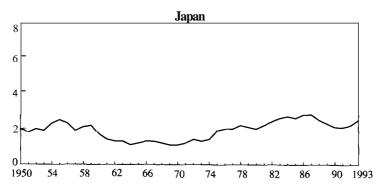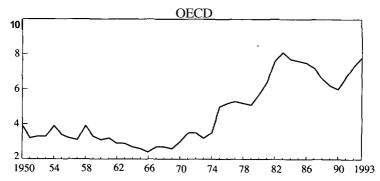|	Averages of				1990	1991	1992	1993
	1950s	1960s	1970s	1980s				
North America	4.3	4.7	6.1	7.4	5.7	7.0	7.7	7.2
Canada	3.8	4.7	6.6	9.3	8.1	10.2	11.2	11.1
United States	4.4	4.7	6.1	7.2	5.4	6.6	7.3	6.7
Japan	2.1	1.3	1.7	2.5	2.1	2.1	2.2	2.5
European Community	3.6	2.1	3.7	9.1	8.1	8.3	9.1	10.6
Belgium	3.8	2.1	4.2	10.4	7.2	7.2	7.9	9.1
Denmark	3.7	1.4	3.8	8.9	9.6	10.5	11.2	12.2
France	1.5	1.7	3.8	9.0	8.9	9.4	10.4	11.6
Germany	4.9	0.6	1.9	5.7	4.9	4.2	4.6	5.8
Greece	5.7	5.3	2.3	6.6	7.0	7.7	8.7	9.8
Ireland	5.2	4.9	6.8	13.9	13.3	14.7	15.5	15.8
Italy	7.2	3.8	4.7	7.5	8.2	7.8	8.3	10.2
Luxembourg	0.3	0.2	0.7	2.6	1.7	1.6	1.9	2.6
Portugal	2.2	2.4	4.6	7.3	4.6	4.1	4.1	5.5
Netherlands	1.5	0.9	4.0	9.6	7.5	7.0	6.7	8.3
Spain	2.1	2.3	4.2	17.5	15.9	16.0	18.1	22.4
United Kingdom	1.7	2.0	4.4	10.1	6.9	8.8	10.0	10.3
EFTA	2.0	1.4	1.9	2.8	2.6	3.8	5.6	7.4
Austria	4.3	2.1	1.6	3.3	3.2	3.5	3.6	4.2
Finland	1.6	2.1	3.7	4.9	3.4	7.6	13.1	17.7
Norway	1.7	1.7	1.6	2.8	5.2	5.5	5.9	6.0
Sweden	1.7	1.5	1.8	2.2	1.7	2.9	5.2	8.2
Switzerland	0.3	0.1	1.2	1.5	1.1	1.8	3.1	3.7
Oceania	1.4	1.8	3.4	6.9	7.1	9.6	10.7	10.6
Australia	1.5	2.0	3.9	7.5	7.0	9.5	10.8	10.8
New Zealand	0.9	0.9	1.5	4.1	7.7	10.2	10.3	9.5
Turkey	3.7	4.8	7.5	7.5	7.8	7.6	7.7	7.3
OECD	3.5	2.8	4.3	7.0	6.0	6.7	7.3	7.8

'standardized unemployment rates except for Austna, Denmark, Greece, Luxembourg, Switzerland, and Turkey. The Eurostat comparable unemployment rates were used for Denmark. Greece, and Luxembourg, and national definitions for the latter two countries and Austria.

Source: Keese (1994).

parable between countries than the unemployment rates published in national sources.[5] The standardized rates for many countries — which are based on labor force surveys which can produce unemployment data in line with International Labor Office (ILO) guidelines for international comparisons — are available only for the more recent years; to derive a consistent series back to 1950, these standardized rates have been chained with estimates for earlier years derived from other labor force surveys, population censuses, and administrative data.[6]

This table shows the wide-ranging nature of the rise in unemployment over the past two decades. Up to the 1970s, none of the countries shown had double-digit unemployment rates, whereas in 1993 nine countries shared this dubious distinction. The four highest rates are all in Europe: Spain had an unemployment rate in the second quarter of 1994 of 24.1 percent, followed by Finland (18.5 percent), Ireland (15.1 percent), and France (12.6 percent). The recent increase in Finnish unemployment is without precedent in postwar OECD experience: its standardized rate was only 3.4 percent in 1990. Neighboring Sweden has also experienced a sharp increase in unemployment over the same period, up from 1.5 percent in 1990 to 7.7 percent in the second quarter of 1994. The rise in the Swedish unemployment rate would have been even steeper had the government not greatly expanded labor market programs: in 1993, around 6 percent of the Swedish labor force on average were covered by active labor market measures, compared with $1\frac{1}{2}$ percent in 1990.

"Extended" measures of unemployment and underemployment

Unemployment rates, whether standardized or not, in fact cover only a part of labor market slack in OECD countries, and there are long-running debates in many countries as to the adequacy of such conventional measures of unemployment? It is, for example, common to argue that so-called "discouraged workers," that is, persons who report in labor force surveys that they would like a job but are not currently searching for work because they believe no suitable job is available, should be included in the unemployment total. Similarly, many individuals are working fewer hours than they would wish to do

at the going wage rate; these so-called "involuntary part-time work-ers" are also an element in labor market slack. Others argue that the measured unemployment figures overstate the degree of labor slack by including people who are not really seeking work and/or who are working in the underground economy. Unfortunately, there are no reliable means at our disposal for making cross-country estimates of the numbers of unemployed who might fall into the latter category.[8] Finally, some analysts have claimed that it is more useful to focus on the "nonemployment" rate, which includes both the unemployed and those who are economically inactive (that is, classified as out of the labor force in household surveys), than on the unemployment rate alone.

Discouraged workers and involuntary part-time workers

Work has been undertaken recently at both the OECD and the U.S. Bureau of Labor Statistics (BLS) on international comparisons of "extended" indicators of unemployment which include some of the major additional dimensions of labor market slack.[9] It should be emphasized at the outset, however, that given the wide differences in definitions across countries, especially for discouraged workers, cross-country comparisons of these "extended measures must be made with a great deal of caution.

With this caveat in mind, Chart 2 presents the standardized unem-ployment rate for 1991 and an indicator of extended unemployment which include adjustments for both the numbers of involuntary part-timers and discouraged workers. In terms of the BLS indicators, the standardized rate corresponds to U-5; adding an adjustment for invol-untary part-timers to the standardized rate corresponds to U-6; and adding discouraged workers to the standardized rate plus the adjust-ment for involuntary part-timers corresponds to U-7.[10]

It is immediately evident that making these adjustments narrows the range of dispersion in labor market slack across countries: the coeffi-cient of variation for the extended measure of unemployment is 35 percent, compared with 43 percent for the standardized rate alone. At the same time, there is a strong positive correlation between the standardized unemployment rate and the extended measure: the

Chart 2
Unemployment and 'Extended' Unemployment Rates, 1991[1] (in Percent)

[1] Countries are ranked in descending order of the unemployment rate.
[2] Data for involuntary part-time workers not available.
[3] Data for discouraged workers not available.
[4] OECD standardized unemployment rates for all countries except Denmark, Greece, and Turkey where national definitions were used.
[5] Including discouraged workers and involuntary part-time workers. Half the number of involuntary part-time workers are included in the number of unemployed.

Source: OECD (1993a), Table 1.5.

Table 2
Alternative Measures of Labor Market Slack in Selected OECD Countries, 1993

	Standardized unemployment rate	Alternative Unemployment Rates Including		
		Discouraged workers[1] (a)	Involuntary part-time workers[2] (b)	Both (a) and (b)
Australia	10.8	12.2	14.2	15.5
Canada	11.1	11.9	13.9	14.6
Japan	2.5	4.5	3.5	5.4
New Zealand	9.5	10.4	NA	10.4
Sweden	8.2	9.9	8.6	10.3
United Kingdom	10.3	10.8	11.9	12.3
United States	6.7	7.5	8.6	9.4
Average[3]	6.5	7.5	8.1	9.2

[1]For definitions of discouraged workers, see Annex 1.A, *OECD Employment Outlook,* 1993. Discouraged workers are included in both the number of unemployed and the labor force.
[2]For definitions of involuntary part-time workers, see the notes to Table 1.6 of *OECD Employment Outlook,* 1993. Half the total of involuntary part-time workers is included in the number of unemployed.
[3]Weighted by 1993 labor force.
Source: OECD (1994d).

Spearman rank correlation for 1991 is 0.85. On average, the adjustment for involuntary part-timers is more significant than the adjustment for discouraged workers: for the OECD area as a whole there were about 4 million discouraged workers and 9 million involuntary part-timers, equivalent to almost half the number of unemployed in 1991.

More recent data on the extended measures of unemployment are available for only seven OECD countries. These data, presented in Table 2, show that the average U-7 type rate was 9.2 percent in 1993 compared with an average standardized rate of 6.5 percent. It is noticeable that the extended unemployment rate for Japan more than doubles compared with the standardized rate, narrowing the gap with the United States: as a proportion of the U.S. rate, the Japanese rate

rises from 37 percent on a standardized basis to 57 percent on the U-7 type measure.' [1]
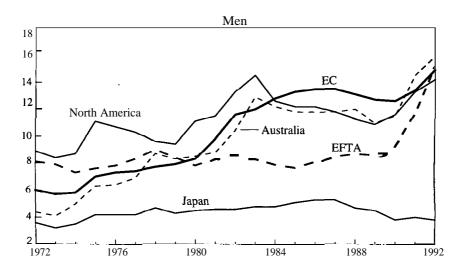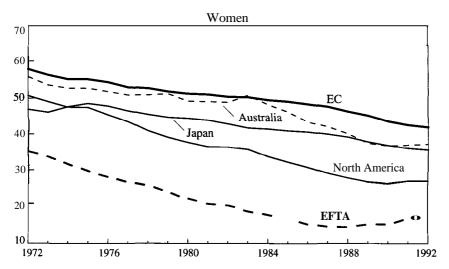
Nonemployment

Other analysts argue that, instead of focusing on certain groups within the inactive population and adding them to the figure for unemployment, it makes more sense to use the nonemployment rate as a measure of labor market slack. They claim this results in a more internationally comparable measure than the standardized unemployment rate or the extended measures of unemployment discussed above.[12] At the same time, not all nonemployment can be regarded as a measure of labor slack. For example, many young people choose to stay on full-time in education and training in order to build up their human capital, rather than to work or look for a job. Many older workers opt for early retirement rather than for paid work or unemployment. And many mothers with young children may not wish to undertake paid work.

In order to adjust for these groups, Chart 3 presents data on nonemployment rates both for prime-age men and for women for the five main OECD countries/regions since the early 1970s. This shows more convergence over time for prime-age males than do unemployment rates alone. It is noticeable that North America, the EC, EFTA, and Australia all have very similar nonemployment rates for prime-age males of 14 to 16 percent in the early 1990s. The contrast with Japan is striking: not only does Japan have an extremely low nonemployment rate of around 4 percent, but the rate has also declined slowly since 1987.

The picture of nonemployment for prime-age women is very different. There has been a downward trend in nonemployment for women in all regions, the sole exception being EFTA in the early 1990s. This trend decline in nonemployment among prime-age females reflects the upward trend in female labor force participation. At the same time, there remains a wide dispersion in nonemployment rates across regions. The highest nonemployment rate in the early 1990s, of around 45 percent, is in the EC followed by Australia and Japan. The lowest nonemployment rate is in the EFTA region.

Chart 3
Non-employment Rates, 1972-1992[1]
Percentage of Population Aged 25-54
Not in Employment

Men

Women

[1]EC includes France. Germany, Ireland. Italy, the Netherlands, Portugal, Spain, and the
United Kingdom. EFTA includes Finland, Norway, and Sweden. The age group for Italy is
25-59 years.
Source: OECD, Labor Force Statistics.

While the extended measures of unemployment or the nonemployment rate do indeed convey more information than the standardized unemployment rate about the degree of labor market slack or social hardship, it is less obvious that either measure is better as an indicator of wage pressure. Elmeskov and Pichelmann (1993) have tested this hypothesis by estimating standard real wage equations for 19 OECD countries in which they include both unemployment and labor force participation rates, in both levels and first differences.[13] Their results suggest that for most countries the unemployment rate is a more significant determinant of real wage pressures than is the nonemployment rate.

In sum, it is important to complement the standardized unemployment rates with extended measures of unemployment in order to obtain a more complete picture of the under-utilization of labor resources and degree of social hardship. Accordingly, the OECD has begun to construct such measures for the purposes of international comparisons. But the evidence suggests that the standardized unemployment rate is still a very important economic indicator, at least in terms of wage bargaining and inflation pressures.

Composition of OECD unemployment

Policymakers are very concerned about which labor force groups bear most of the burden of high and persistent unemployment. In order to identify these groups, data are first presented on the demographic composition of unemployment. This is followed by data on unemployment rates by family status and by skills/educational qualifications.

Unemployment rates by age and gender

It is well known that in almost all OECD countries young people— defined as those younger than 25 —typically experience much higher rates of unemployment than do other age groups. Table 3 shows that the youth unemployment rate in 1993 exceeded 30 percent or more in several European countries (Italy, Spain, and Finland) compared with 13.3 percent in the United States, around 18 percent in Oceania and Canada, around 12 percent in EFTA, and only 5 percent in Japan. Within Europe, only those few countries with a traditionally strong

Table 3
Unemployment Rates by Age and Gender

	Older Workers[1] Relative to Prime-Age		Level[3]	youths[2] Relative to Adults		Level[3]	Women Relative to Men		Level[3]
	1979	1990	1993	1979	1990	1993	1979	1990	1993
North America	0.71	0.75	5.1	2.84	2.39	13.8	1.36	1.00	6.9
Canada	0.81	0.83	9.6	2.38	1.82	17.8	1.33	1.00	10.6
United States	0.70	0.75	4.7	2.90	2.49	13.3	1.37	1.00	6.5
Japan	1.81	1.64	3.0	1.80	2.45	5.1	0.90	1.08	2.7
European Community	NA	0.98	8.5	NA	2.38	20.2	1.60	1.51	11.7
Belgium[4]	NA	0.49	2.4	NA	2.34	13.9	3.50	2.51	10.6
Denmark[4]	NA	0.79	8.5	NA	1.53	11.5	1.94	1.14	10.0
France	1.10	0.84	7.7	3.31	2.47	24.6	1.89	1.72	13.3
Germany[5]	2.13	2.05	11.5	1.34	0.89	5.4	1.75	1.37	6.3
Greece[4]	NA	0.25	1.9	NA	5.31	24.5	2.47	2.73	12.9
Ireland[5]	1.00	1.01	10.8	1.58	1.63	23.1	0.86	0.64	15.4
Italy	0.95	0.25	2.0	6.87	4.50	30.6	2.71	2.27	14.8
Netherlands[5]	1.01	0.56	3.1	2.47	1.75	10.2	2.15	2.00	8.8
Portugal	0.10	0.56	3.4	5.01	3.13	12.0	3.12	2.08	6.5
Spain	0.75	0.62	11.5	3.86	2.65	43.2	1.23	2.02	29.4
United Kingdom	1.88	1.20	9.7	2.85	1.63	17.3	0.68	0.47	7.5
EFTA	NA	0.81	5.6	NA	1.88	11.8	NA	1.03	6.1
Austria	NA	1.56	5.6	NA	0.75	4.1	2.08	1.17	3.8
Finland	0.93	1.14	17.8	2.28	2.22	30.5	0.87	0.72	15.6
Norway	0.24	0.38	2.6	5.78	3.01	13.9	1.55	0.86	5.2
Sweden	1.39	1.21	5.5	3.34	3.02	18.4	1.25	0.96	6.6
Switzerland[6]	NA	0.61	1.9	NA	2.19	4.8	NA	2.01	2.7
Oceania	NA	0.99	10.3	NA	2.57	18.4	NA	1.01	9.6
Australia	0.75	1.13	11.3	3.46	2.60	18.6	1.61	1.04	9.8
New Zealand	NA	0.75	5.3	NA	2.43	17.2	NA	0.89	8.9
OECD	NA	0.88	5.4	NA	2.47	15.0	NA	1.25	8.0

[1]Older workers are aged 55 to 64 except in the United Kingdom (women 55 and over), Italy (60 to 64), and Norway (60 and over). Prime-age workers are aged 25 to 54 except in Italy and Norway (25 to 59).

[2]Youths are aged 15 to 24 except in Norway, Spain, Sweden, the United Kingdom, and the United States (16 to 24), and Italy, Belgium, Denmark, and Greece (14 to 24). Adults are aged 25 and older.

[3]As a percentage of the labor force for the corresponding group.

[4]Unemployment rate levels refer to 1991.

[5]Unemployment rate levels refer to 1992.

[6]Data for 1990 refer to 1991.

Sources: OECD, Labor Force Statistics, Eurostat, Labor Force Survey; Österreichisches Statistisches Zentralamt, Mikrozensus; and Office fédéral de la statistique, Swiss Labor Force Survey.

apprenticeship system — Austria, Germany, and Switzerland — have succeeded in maintaining youth unemployment rates of 5 percent or less.

Youth unemployment rates may be disproportionately influenced by the economic cycle. As a result, the ratio of youth to adult unemployment rates is often regarded as a better indicator of the state of the youth labor market. This differential narrowed in most OECD countries between the cyclical peaks of 1979 and 1990, the major exception being Japan. But this apparent improvement in relative youth unemployment performance in the 1980s was not driven, as might have been expected, by increases in youth employment/population ratios. Rather, as OECD (1994d) points out, much of this improvement appears to have been driven by falling youth labor force participation rates, especially in many European countries, as young people have chosen to stay on longer in both secondary and tertiary education and training.[14]

Higher school enrollment rates are a hopeful sign for the future as they imply that new labor force entrants will have higher educational attainments than the current workforce which, in turn, should stand them in good stead as they seek a firm foothold in the labor market. But the wide disparities in youth unemployment rates across countries in Table 3 show that the school-to-work transition is an acute problem for young people in most OECD countries. Some countries do seem to manage this transition much better than others, (for example, the "dual system" of apprenticeship in Austria, Germany, and Switzerland as well as the Japanese model).[15]

At the other end of the age spectrum, unemployment rates for older workers have a much smaller range than for young workers, from a low of 2 to 3 percent in 1993 in Japan, Belgium, Greece, Italy, Portugal, Norway, and Switzerland to a high of almost 18 percent in Finland. Relative to prime-age workers, unemployment rates for older workers exhibited differing trends over the 1980s. They fell in a number of European countries and Japan, but rose in North America, Australia. and some of the EFTA countries.

These trends are strongly influenced by, among other factors,

changes in labor market policies and income support programs, for example, unemployment benefits, disability benefits, and early retirement schemes.[16] For example, in many European countries, social security arrangements have encouraged older workers to withdraw from the labor market; in some cases, notably in the Netherlands and Sweden, early retirement has been encouraged by collective bargaining arrangements under which firms give incentives to older workers to leave their jobs. In other countries, where such incentives do not exist, older workers tend to bear a growing burden of permanent job loss as industries are restructured.

Female unemployment rates exhibit a very wide dispersion across OECD countries, ranging in 1993 from a low of less than 3 percent in Japan to a high of almost 30 percent in Spain. Unemployment rate differentials by gender narrowed over the 1980s in all countries except Greece, Japan, and Spain. It is noticeable from Table 3 that the ratio of female to male unemployment rates is persistently higher in most EC countries than it is in North America, Japan, EFTA, or Oceania. The United Kingdom and Ireland are the only exceptions to this pattern among the EC countries — there female rates are lower than male.

Unemployment by family status

The family composition of unemployment has been relatively neglected in international comparisons, mainly because of difficulties in assembling comparable data. But this dimension of the unemployment problem is an important one in assessing the hardship caused by unemployment and deriving appropriate policies. For example, the problem is somewhat different if most of the unemployed are living in families where there is at least one other member working, compared with a situation where a large proportion of the unemployed are living on their own or in lone-parent families.

Data assembled in OECD (1989) showed that in 1986, 46 percent of the unemployed in the United States and 41 percent in the EC were classified as living in households where no other family member was employed. Slightly more than half of unemployed married men and three-quarters of those heading lone-parent families were in such a

Table 4
Unemployment Rates by Family Status, 1991-92[1]
As a Percentage of the Labor Force

	Living in Families				Not in Family	
	Husbands	Wives	Lone Parents	Youths	Total	Youths
North America	5.2	5.2	9.9	16.7	7.9	10.5
Canada	8.4	9.1	18.0	17.8	13.4	16.8
United states[2]	4.8	4.8	9.6	16.6	7.5	10.3
European Community	4.3	8.7	15.5	19.0	10.1	13.8
Belgium	2.5	8.3	18.6	14.7	9.7	12.9
Denmark	5.0	8.4	17.7	8.1	11.2	12.6
France	4.8	10.0	18.6	23.6	10.9	15.6
Germany	2.4	4.9	9.2	3.0	5.7	4.9
Greece	1.9	7.4	12.7	25.7	10.4	21.4
Ireland	12.3	16.0	30.7	24.1	15.0	20.1
Italy	2.0	10.5	7.5	29.1	10.3	21.6
Luxembourg	0.6	2.7	2.9	2.9	1.4	2.2
Netherlands	3.3	8.5	16.4	10.5	9.7	12.2
Portugal	1.3	4.9	4.4	8.6	4.3	9.2
Spain	7.0	18.9	18.8	31.0	17.7	27.2
United Kingdom	6.7	5.8	16.9	13.7	13.1	14.3
EFTA	4.2	4.1	NA	NA	NA	NA
Austria	2.2	3.0	4.5	NA	5.5	NA
Finland	9.4	8.1	NA	NA	NA	NA
Norway	4.0	3.8	NA	NA	NA	NA
Sweden	3.2	2.6	NA	NA	NA	NA
Oceania	7.3	6.4	18.1	NA	16.0	NA
Australia[3]	7.6	6.6	16.5	19.5	16.1	17.3
New Zealand	5.7	5.7	23.2	NA	15.0	NA

[1]1991 for the EC countries, Austria, and New Zealand; 1992 for all other countries.
[2]Lone parents are men and women without a spouse who maintain families.
[3]Totals of people not in families include persons whose family status could not be determined.
Sources: For the EC countries, unpublished data provided by Eurostat; for all other countries, data provided by national statistical offices.

family situation. At the same time, about 50 percent of the unemployed were wives or children in married-couple families, of whom the vast majority were living in families where someone else was employed.

Unfortunately, it has not proved possible to update the 1989 OECD analysis. Instead, Table 4 presents 1991 data on unemployment rates by family status. In most countries for which the requisite data are available, unemployment rates for youths living at home tend to be higher than for their counterparts who are living on their own. In some cases, the differences are large. For example, the unemployment rates for youths living at home in France, Italy, and the United States in 1991 exceeded those for youths living on their own by six to eight percentage points.

Lone parents appear to be particularly vulnerable to above-average rates of unemployment. Table 4 shows that in many cases, they experience unemployment rates twice or more those of husbands or wives. Lone-parent families, the vast majority of whom are headed by a woman, are also disproportionately prevalent in low-income families.[17] The causes of high unemployment and poverty among lone-parent families are complex, but the analysis in OECD (1994b, Chapter 9) suggests that the so-called "unemployment~poverty traps" arising from the interactions of public transfer programs with taxation systems and the availability of affordable child care are important determinants.

Unemployment rates by skill/educational attainments

It has become commonplace to argue that the current unemployment problem in OECD countries has been exacerbated by a universal shift in relative labor demand against unskilled labor, especially of males. For example, Balls (1993) argues that:

"The reason for the seemingly permanent rise in male nonemployment lies elsewhere in the economic change which no developed country has avoided in the 1980s: the collapse in the demand for unskilled male labor in [the] manufacturing industry" (p.12).

Table 5
Unemployment Rates by Occupation[1]

		Blue-collar	White-collar	Ratio
Australia	Peaks: 1973	1.6	1.4	1.2
	1981	4.7	2.5	1.9
	1990	6.5	3.0	2.2
	Troughs: 1975	5.1	2.9	1.8
	1983	10.2	3.9	2.6
	1992	10.2	4.2	2.4
Canada	Peaks: 1975	8.4	4.2	2.0
	1981	9.3	4.7	2.0
	1989	8.9	5.2	1.7
	Troughs: 1977	9.9	5.4	1.8
	1982	15.2	6.8	2.2
	1992	15.4	7.5	2.1
Finland	Peaks: 1976	3.5	1.9	1.8
	1990	4.5	1.9	2.4
	Troughs: 1978	10.0	2.9	3.4
	1993[2]	20.3	11.5	1.8
France	Peaks: 1982	8.3	5.5	1.5
	1991	10.2	6.8	1.5
	Troughs: 1985	11.8	6.3	1.9
	1993	12.6	8.8	1.4
Spain	Peaks: 1979	9.6	3.7	2.6
	1990	10.9	6.6	1.7
	Troughs: 1985	20.3	8.8	2.3
	1992	15.2	8.6	1.8
Sweden	Peaks: 1980	2.2	1.2	1.8
	1990	1.6	0.9	1.8
	Troughs: 1982	4.0	1.7	2.4
	1992	7.1	2.8	2.5
United Kingdom	Peaks: 1991	9.9	4.4	2.3
	Troughs: 1984	11.3	4.9	2.3
	1993	14.9	6.2	2.4
United States	Peaks: 1974	6.7	3.3	2.0
	1979	7.0	3.4	2.1
	1990	7.4	3.3	2.2
	Troughs: 1975	11.7	4.7	2.5
	1982	14.2	4.9	2.9
	1983	13.5	5.0	2.7
	1992	10.1	4.6	2.2

[1]Blue-collar workers correspond to transport and production workers and laborers (occupational groups 7/8/9 of ISCO-1968) and white-collar workers to all professional, technical, administrative, managerial, clerical, and sales workers (occupational groups 0/1, 2,3,4 of ISCO-1968). For Australia, France, and the United Kingdom, occupations based on national classification systems have been reclassified to conform with ISCO-1968.
[2]Data refer to the third quarter.
Sources: ILO, Year Book of Labor Statistics, and data provided by national statistical offices.

Like many others, Balls attributes this shift in relative labor demands mainly to technological change rather than to increasing competition from low-wage developing countries.[18] If this is the case, a trend rise in unemployment rates for unskilled relative to skilled workers would be expected. It is not easy to examine whether this has occurred in a cross-country perspective because international comparisons of unemployment by skill levels are very difficult to make with existing data sources. The concept of "skills" is a multidimensional one, for which there are no agreed international definitions. Consequently, there is no alternative to working with proxy measures such as unemployment rates by occupation or by educational attainment. Even with such data, it is necessary to rely upon a mix of national and international data sources whose comparability is fragile.

With these caveats in mind, Tables 5 and 6 present time-series data for a small sample of OECD countries. Table 5 presents unemployment rates for blue-collar and white-collar occupations at the peaks and troughs of the last three economic cycles. These data show that the risk of unemployment is much higher for blue-collar than it is for white-collar workers in all the OECD countries for which data are available. Typically, the ratio of blue-collar to white-collar unemployment rates is around two or more. There is, however, no common trend in the ratio across countries, thereby failing to provide solid support for the hypothesis of a trend shift in relative labor demands against unskilled workers.

Table 6 presents data on the second proxy for skills (that is, educational attainment), distinguishing between those with little or no educational qualifications and those with the equivalent of upper secondary education or higher. Again, the common pattern is that workers with low educational qualifications face a higher risk of unemployment than do those with an upper secondary education or better. On the basis of this proxy indicator of skill differentials, there is a common trend in seven of the eight countries over the 1980s: the ratio of unemployment rates for the least-educated workers rose relative to the more highly educated group.[19,20] Australia was the sole exception to this trend. The rise in relative unemployment risk for the least-educated workers was especially marked in France, Germany, Italy, and the United States.

Table 6
Unemployment Rates by Educational Attainment

	Age grouping		Lower secondary or less	Upper secondary or higher	Ratio
Australia	(25-54)	1982	6.2	3.4	1.82
		1990	7.0	4.0	1.75
Canada[1]	(25-54)	1979	6.3	3.9	1.62
		1990	9.3	5.5	1.69
France	(25-64	1979	4.6	3.3	1.39
		1990	10.7	5.6	1.92
Germany	(25-54)	1978	4.4	2.4	1.88
		1987	13.5	6.1	2.22
Italy	(25-64)	1980	2.9	5.2	0.56
		1989	7.4	7.7	0.96
Japan[2]	(25-64)	1979	6.7	6.5	1.02
		1992	4.8	4.5	1.06
United Kingdom[3]	(25-55)	1979	5.6	2.6	2.14
		1992	7.7	3.5	2.18
United States	(25-64)	1970	4.6	2.5	1.81
		1979	7.2	3.6	2.01
		1990	8:5	3.8 `	2.24

[1] The two educational attainment groups are "high school or less" and "any post-secondary."
[2] The unemployed have been defined as those persons not employed, wishing to work, and seeking work. This definition is less restrictive than the one used in the monthly Japanese labor force survey which accounts for the higher unemployment rates, particularly for women, than usually reported for Japan.
[3] A major change took place in the definition of employment after 1979 and hence, the results for 1979 and 1990 (especially in level terms) are not strictly comparable.

Sources: Australia: Data provided by the Australian Bureau of Statistics (see ABS, Labor Force Status and Educational Attainment, Australia).
    Canada: Data provided by Statistics Canada (see Statistics Canada, The Labor Force).
    France: Data provided by INSEE (see INSEE, Enquête sur I'emploi).
    Germany: Mikrozensus. data supplied by the national statistical authorities.
    Italy: ISTAT, Rilevazione delle forze di lavoro.
    Japan: Statistics Bureau, Management and Coordination Agency. Employment Status Survey.
    United Kingdom: Data provided by the Employment Department.
    United States: Calculated from data published in Bureau of Labor Statistics, Labor Force Statistics; derived from the Current Population Survey 1984-87, and the the Census. Statistical Abstract of the U.S.: 1992.

Thus, the evidence shows that unskilled workers face a higher risk of unemployment than skilled workers in those OECD countries for which data are available. While the evidence is not entirely conclusive, the data provide some support for the hypothesis that there has been a trend decline over the 1980s in many OECD countries in relative demand for low-skilled workers.

The duration of unemployment

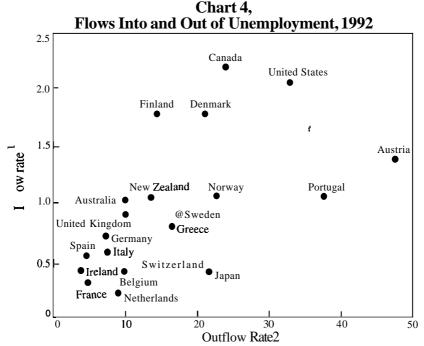It is well-known that, under certain conditions, the unemployment rate can be decomposed into two main components:

—the proportion of the labor force who enter unemployment

—the average time people who enter unemployment spend in unemployment.

In a steady state, where inflows into and outflows from unemployment are stable and cancel out, the unemployment rate will be constant and the following identity will hold:[21]

unemployment rate = inflow rate into unemployment x average completed duration of an unemployment spell.

Thus, the same unemployment rate in two countries could be associated with high inflow rates and relatively short durations in one country, whereas the other country could have the opposite pattern.

These different dynamics of unemployment are important for policy analysis. Long average spells of unemployment translate into a high proportion of long-term unemployed—defined as those unemployed continuously for one year or more—in total unemployment. It is generally considered that the long-term unemployed typically suffer greater economic and personal costs than do the short-term unemployed, for example, through deterioration of their human capital and loss of work motivation. It is also argued that employers may use the duration of an unemployment spell as a screening device, leading them to prefer to hire those who have been unemployed only for a relatively short time. In this way, the long-term unemployed become "outsiders"

Chart 4,
Flows Into and Out of Unemployment, 1992
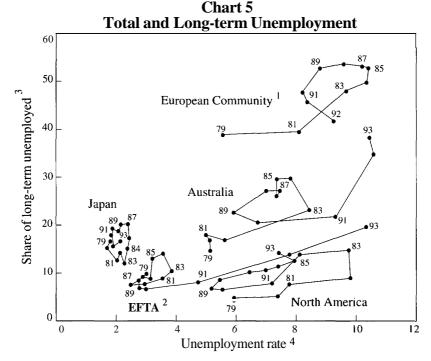
in the labor market and have little or no restraining influence on wage determination.[22]

The incidence of long-term unemployment

Chart 4 shows that there are large differences in inflow and outflow rates across OECD countries. In particular, many EC countries and Japan have low inflow rates compared with North America, Finland, Denmark, and Austria. At the same time, the chart shows that these EC countries also tend to have relatively low outflow rates from unemployment compared with North America, Japan, and some EFTA countries.[23] This positive correlation between inflow and out-

Chart 5
Total and Long-term Unemployment

1. Excludmg Luxembourg and Portugal for all years and Greece for 1979.
2. Finland, Norway and Sweden only.
3. Unemployed for one-year and over as per cent of all unemployed.
4. Standardized unemployment rates
Source OECD (1994a).

The incidence of long-term unemployment

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Chart 5 reveals striking differences across countries/regions in both the incidence of long-term unemployment and how' it has changed since 1979. In the EC, over 40 percent of the unemployed in 1992 had been out of work for over a year, compared with 37 percent in Australia, around 18 percent in EFTA and in Japan, and just 12 percent in North America (data for the latter four countries/regions refer to 1993). Second, for any given unemployment rate, the share of long-term unemployment is much higher in the EC than in any of the other countries/regions. Finally, the share of the long-term unemployed also appears to have ratcheted-up over the 1980s more in the EC than elsewhere.

Data on the incidence of long-term unemployment by age (not shown here) show that youths typically experience shorter spells of unemployment than do prime-age or older workers. At the same time, the risk of long-term unemployment for youths is very high in some EC countries: in the early 1990s between 40 and 60 percent of the young unemployed in Belgium, Ireland, Italy, and Spain had been out of work for over a year. Older workers tend to experience the greatest risk of long-term unemployment; for example, in eleven out of nineteen OECD countries for which data are available, more than 50 percent of unemployed males aged 55 and over had been out of work for a year or more in 1992.

The relationship between long-term unemployment and real wage pressures

Insider-outsider models of unemployment predict that the long-term unemployed can be expected to exert relatively little impact on wage determination. This hypothesis has been assessed recently by Elmeskov and MacFarlan (1993) using data for a large sample of OECD countries. Drawing on econometric estimates of wage equations reported in OECD (1993a, Chapter 3), they decompose the estimated semi-elasticities of real wage growth with respect to the rates of short-term and long-term unemployment (both expressed as a proportion of the total labor force).

Their results show that in all countries, in line with the hypothesis, the short-term unemployment rate apparently exerts much more of a
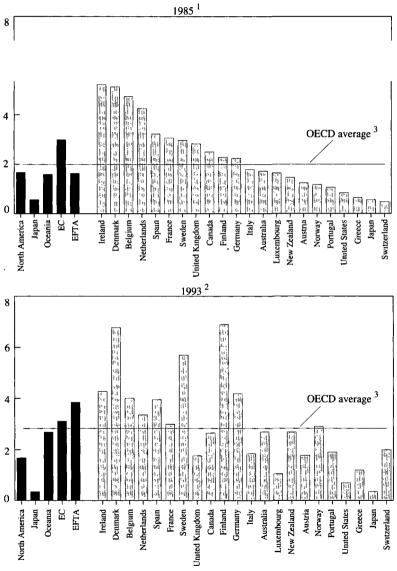
restraining influence on real wage growth than does the long-term unemployment rate. At the same time, the long-term unemployment rate appears to have a small restraining influence on real wage growth in most countries. To the extent that such estimates are robust, they provide a foundation for the argument that there is a sound efficiency case, in addition to equity considerations, for targeting labor market policies to the long-term unemployed.[25] Because their wage bargaining power is relatively weak, policies which can assist more of the long-term unemployed back into employment should lead to a fall in the non-accelerating inflation rate of unemployment (NAIRU).[26]

Labor market measures to combat high unemployment

Having presented a detailed picture of unemployment in OECD countries and how it has changed over the past few decades, it is natural to address also the costs of unemployment. This is not a simple matter since these costs have many economic and social dimensions, ranging from the loss in output due to labor slack to possible effects of unemployment on health and criminality. It is impossible to do justice to all these different elements of the costs of unemployment in this paper. Instead, the discussion here is confined to public spending on labor market programs to reduce unemployment, drawing on an internationally comparable data set which the OECD has constructed.

Public spending on labor market programs absorbs significant shares of national resources in many OECD countries, these policies being expected to achieve a variety of economic and social objectives. For analytical and policy purposes, the OECD splits this spending into so-called "active" and "passive" measures. The former comprise a wide range of policies aiming at improving the access of the unemployed to the labor market and jobs, job-related skills, and the functioning of the labor market.[27] Passive measures cover unemployment and related social benefits and early retirement benefits. For several years, the OECD has been urging its member countries to adopt a twin strategy: (1) to switch resources from passive to active measures, and (2) to enhance the effectiveness of active measures. Furthermore, these principles were endorsed by OECD labor ministers at their meeting in January 1992.

Chart 6
Public Expenditure on Labor Market Measures
Percentage of GDP

1985 [1]

OECD average [3]

1993 [2]

OECD average [3]

1. 1986 for Luxembourg, Portugal and Denmark; and 1987 for Japan.
2. 1991 for Luxembourg and Ireland; 1992 for Belgium, France, Italy, Japan, Netherlands, and New Zealand.
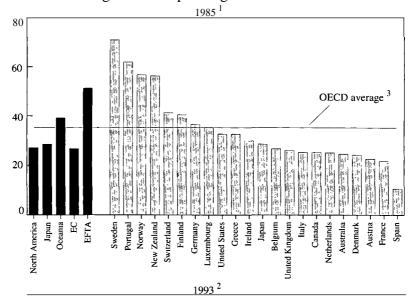3. Unweighted average.
Source: OECD (1994d).

Chart 6 shows data on public spending on labor market measures for 1985 (the first year for which the data are available) and 1993. It reveals that the typical OECD country spent 2 percent of its GDP on labor market measures in 1985 compared with 2.8 percent in 1993. There is wide variation across countries in the share of spending on labor market measures, ranging in 1993 from a low of less than 0.4 percent of GDP in Japan to a high of almost 7 percent in Denmark and Finland. Data (not shown here) on program participation rates, that is, the proportion of the labor force that participates in these programs, reveals a similar wide disparity across countries, with the rates in 1993 ranging from less than 3 percent of the labor force in the United Kingdom, the United States, Greece, and Austria to more than 14 percent in Denmark.
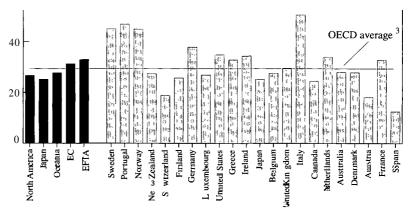
Did countries manage to switch resources into active measures? Progress has been very limited: for the typical OECD country, spending on active measures rose only from 0.7 percent of GDP in 1985 to 0.9 percent in 1993. Chart 7 reveals that the share of spending on active measures as a proportion of total public spending on labor market programs declined between 1985 and 1993 in half of the countries. Furthermore, the only country where spending on active measures exceeded spending on passive measures in 1993 was Italy. In the period 1985-92, this was so in Sweden too, but the steep rise in unemployment since 1991 has forced the Swedish authorities to devote an escalating share of national resources to income support, up from 0.9 percent of GDP in 1990 to 3.1 percent in 1993.

Has public spending on labor market measures, particularly on active measures, had any discernible effects on labor market ,and economic performance? In addressing this key question, I confine my attention to the macroeconomic impacts of labor market policies; microeconomic evidence from a wide range of program-level evaluation studies is reviewed elsewhere — see OECD (1993a, Chapter 2) and the paper by Lawrence **Katz** in this volume.

The evidence suggests that spending on active measures does appear indeed to lower the NAIRU in the majority of countries by facilitating wage moderation — see OECD (1993a), which analyzes pooled cross-country data for the period 1985-90. A similar result is reported by

Chart 7
Spending on Active Programs
Percentage of total spending on labor market measures

1985 [1]

1993 [2]

1. 1986 for Luxembourg, Portugal and Denmark; and 1987 for Japan.
2. 1991 for Luxembourg and Ireland; 1992 for Belgium, France, Italy, Japan, Netherlands, and New Zealand.
3. Unweighted average.
Source: OECD (1994d).

Layard, Nickell, and Jackman (1991). But this finding is not a univer-
sal one. Since active labor market policies raise the welfare of the
unemployed relative to the employed population, they may weaken
incentives for real wage restraint. Studies of some Nordic countries
reviewed by Calmfors (1994) found that active measures appeared to
raise wage pressures, thereby pushing up the NAIRU.

In theory, active measures should also reduce labor market mis-
matches, thereby contributing to greater labor market efficiency. In
some cross-country work which I and a former colleague at the OECD,
François Delorme, have carried out on estimating Beveridge curves
for a large sample of OECD countries, we found that spending on
active measures appears to be associated with an inward shift of the
curve. This result indicates that spending on active measures enhances
the efficiency of the matching process in the labor market.[28]

Work on the macroeconomic effects of labor market programs is in
its infancy, and the significance of these results should not be exag-
gerated.[29] Nevertheless, they do suggest that switching resources
away from passive income support to active measures may not only
alter the composition of employment in favor of targeted groups of
workers, but also could enhance labor market efficiency and lower
unemployment. Judged in this light, the very limited progress made
by OECD countries over the' past ten years in accomplishing this
objective is disappointing.

Summary and conclusions

The rising tide of unemployment has been a major blot on the
economic record of the OECD countries since the early 1970s. Cur-
rently, OECD unemployment is close to a record high and, even
though a cyclical recovery is now under way throughout the OECD
area, this is not expected to make major or rapid inroads into the total
of 35 million persons unemployed. Indeed, the latest OECD Secretar-
iat medium-term projections suggest that, in the absence of major
changes in economic policies, the OECD unemployment rate may
decline only slowly, perhaps to $7\frac{1}{2}$ percent by the year 2000 ($10\frac{1}{2}$
percent for OECD Europe).[30]

A review of the trends in unemployment since 1950 shows two important stylized facts. First, the rising trend has been spread very unevenly across regions and countries. The EC countries, Australia, and New Zealand have witnessed a steep trend rise over the period, whereas there has only been a small upward drift in unemployment in the United States and Japan. Second, unemployment rates in many countries, especially in Europe, appear to exhibit "persistence:" once the unemployment rate has risen in response to a shock, there is a noticeable tendency for it to stick around the higher level.

Measured unemployment, large-scale though that is, does not capture the full extent of labor market slack. International comparisons of "extended" measures of unemployment—which take account of discouraged workers and involuntary part-timers as well as the unemployed—must be made with great caution. Nevertheless, recent calculations by the OECD Secretariat suggest that taking account of these additional elements could add between 40 and 50 percent to the current OECD unemployment total of 35 million. These extended measures also show somewhat more convergence in the size of labor slack across OECD countries than do the standardized unemployment rates alone. At the same time, it is impossible to adjust these estimates for the proportion of the unemployed who are engaged in concealed employment. But the evidence suggests that the standardized rates are still an extremely useful indicator of wage and inflation pressures.

The burden of high unemployment is shared unevenly across labor force groups. The young typically have unemployment rates two to three times larger than those of adults. But there is a wide disparity, not only in terms of the ratio of youth to adult rates but also in terms of how this differential has varied over the 1980s. Many of the young unemployed live with their parents; in most countries youngsters living at home have higher unemployment rates than do their counterparts who are living on their own. Less than half of the unemployed live in households where no other family member is employed. Lone parents, most of whom are women, are particularly hard-hit by unemployment. In all countries, unskilled workers face a higher risk of unemployment than do skilled workers, and there are some indications that this risk has risen over the past decade.

The fact that a large proportion of the unemployed have been out of work for over a year is a major preoccupation for policymakers. In the EC, more than 40 percent of the unemployed fall into this category, and the incidence of long-term unemployment has ratcheted up over the past decade, unlike the situation in North America and Japan. Cross-country evidence suggests that the long-term unemployed exert much less of a restraining influence on real wage growth than do the short-term unemployed. Accordingly there appears to be a good economic case for targeting labor market measures to the long-term unemployed.

Public spending on labor market measures to combat high unemployment typically absorbs 2 to 3 percent of GDP. In the great majority of OECD countries, most of this spending goes to income support rather than into active measures which aim to facilitate the matching of workers to jobs, keeping the unemployed in contact with the labor market while at the same time, improving their skills. Progress in switching resources from passive to active measures has been very slow over the past decade. This is disappointing, because there is evidence from both microeconomic and macroeconomic studies that well-designed, targeted, and monitored active measures can help reduce unemployment.

The present unemployment problem has built up over several decades and will take time to unwind. It is also clear, as the OECD ***Jobs Study*** emphasizes, that a successful strategy to cut unemployment durably will demand "a balanced mix of policies which mutually reinforce innovative and adaptive capacity and improve conditions for job creation" (1994a, p.43). Implementing such a strategy will demand a strong political will to convince electorates of the need to accept the radical changes in economic and social policies and institutions required to lower unemployment without sparking off a renewed bout of inflation pressures.

Endnotes

[1]OECD (1994a, p. 7)

[2]*Ibid.*, p. 41.

[3]See OECD (1994c).

[4]For a review of recent evidence on the persistence of unemployment in OECD countnes, see Elmeskov and MacFarlan (1993). This paper argues that slow adjustment of both wages and employment toward long-run equilibrium in response to demand and supply shocks is an important part of the explanation of unemployment persistence.

[5]The standardized unemployment rates, compiled for seventeen OECD countries, are based on definitions of the 13th International Conference of Labor Statisticians (generally referred to as the ILO guidelines). Under these definitions, the unemployed are those of working age who, in a specified period, are without work and are both available for, and have taken specific steps to find, work. The uniform application of the definitions in principle results in estimates that are more internationally comparable than those based on national definitions. Eurostat (the Statistical Office of the European Communities) also publishes comparable unemployment rates for all EC countnes. There are some differences between the OECD and Eurostat estimates, reflecting mainly differences in interpretation of the ILO guidelines, methods of updating survey benchmarks, and seasonal adjustment, which the two organizations are working to eliminate.

[6]For details, see Keese (1994).

[7]The example of Belgium is instructive. Between 1982 and 1991. "broad unemployment" in full-time equivalents — including, in addition to unemployment as usually defined, part-time unemployed, persons receiving unemployment benefit but exempted from job search for specific reasons, and persons on direct job creation programs — rose by 25 percent (see OECD, 1994e). But the standardized unemployment rate for Belgium fell from 12.6 percent to 7.2 percent over the same period.

[8]See OECD (1986, Chapter III) for a review of the limited evidence on concealed employment.

[9]See OECD (1993a). Since 1976, the Bureau of Labor Statistics has published a range of alternative unemployment measures for the United States, known as U-1 to U-7. It has only recently begun to extend these calculations to some other OECD countries — see Sorrentino (1993) for details.

[10]The definitions of these indicators of labor market slack are:
(i) including involuntary part-time workers (U-6 type measure): $(SU + .5 (IPT)) / LF$; and
(ii) including both discouraged and involuntary part-time workers (U-7 type measure): $(SU + DW + .5 (IPT)) / (LF + DW)$
where SU = number of unemployed persons based on standardized definitions,
DW = number of discouraged workers,
LF = labor force,
IPT = number of involuntary part-time workers, which comprises both those working part-time for economic reasons and those who could not find full-time work.

The U-6 and U-7 type measures include half the number of involuntary part-time workers, making the assumption that they are working about half the number of hours of an individual working full-time.

It should be noted that the BLS definition of U-6 is somewhat different: it is "total full-time job seekers, plus half of the part-time job seekers, plus half of the total number of persons working part-time for economic reasons, as a percent of the civilian labor force, less half of the part-time labor force" — see Sorrentino (1993).

[11]Sorrentino (1993) shows a much smaller gap between the Japanese and U.S. U-7 rates. The difference mainly arises from the treatment of discouraged workers. As Sorrentino recognizes, the special labor force surveys in Japan do not allow for a very precise definition of discouraged workers. Sorrentino prefers to work with a range of estimates which include some groups which the OECD Secretariat estimates in Table 2 exclude. For a more detailed discussion of the differences between the OECD and the BLS estimates of discouraged workers in Japan, see OECD (1987, pp. 211-12).

[12]See Balls (1993) for a trenchant statement of this hypothesis.

[13]The unemployment rate in these regressions is defined relative to the total population aged between 15 and 64 years rather than the labor force, so as to have the same denominator as the labor force participation rate. This allows Elmeskov and Pichelmann to test the restriction that the effects on real wages of unemployment and nonemployment are identical.

[14]OECD (1994d) also highlights the fact that there are very large differences across countries in the proportions of young people who combine schooling and work (largely in part-time jobs). Combining schooling and work is much more common in the English-speaking countries and Denmark than in most continental European countries and Japan.

[15]Some of the main lessons from these successful systems are reviewed in the editorial in OECD (1994d).

[16]See OECD (1992, Chapter 5) for a detailed review of trends in labor force participation and retirement of older workers.

[17]See OECD (1993b).

[18]This issue has been much debated in the U.S. literature. See the papers in Bhagwati and Kosters (1993) and the paper by Paul Krugman in this volume.

[19]Comparisons over time are affected by changes in the composition of the labor force. For example, the proportion of the work force with lower secondary education or less has been declining in all countries which may have resulted in a fall in average skill levels for the least-educated workers and, hence, correspondingly higher unemployment rates.

[20]Trends in relative earnings also point to a similar conclusion. The 1980s witnessed an increase in relative earnings of highly educated workers in many OECD countries contrasting with declines in the 1970s. This rise in the earnings premium associated with university-level education occurred despite a continued increase in the supply of highly educated workers. After reviewing the evidence, OECD (1993a, p. 177) concluded that "an important cause of the swing to increased dispersion of earnings in the 1980s was an increase in the relative demand for highly educated workers."

[21] It is possible to extend this identity to allow for the possibility that a person can enter the pool of unemployed more than once during a given time period. The issue of multiple spells of unemployment is not discussed here. For a review of cross-country evidence on the phenomenon, see OECD (1985).

[22] See Lindbeck and Snower (1989) for the theoretical foundations of insider-outsider models. Layard, Nickell, and Jackman (1991) and Elmeskov and MacFarlan (1993) report empirical tests of these models using cross-country data sets.

[23] It should be noted that outflow rates for most European countries are based on single readings taken one year apart and, hence, are likely to have some downward bias compared with data for Canada, Italy, Norway, Spain, Sweden, and the United States where inflows are based on monthly or quarterly readings.

[24] See OECD (1994b), Chapter 8) for a detailed review of these arguments.

[25] This case is made in OECD (1994a). It has also been argued strongly by Snower (1994). He proposes that the long-term unemployed be allowed to convert part of their unemployment benefit entitlements into an employment subsidy for any firm which will hire them.

[26] The orginal proponents of this argument were Baily and Tobin (1978). See also Calmfors (1994) for a review of the theoretical arguments in favor of targeting labor market policies.

[27] Spending on active measures is, in turn, split into five components: public employment services and administration, labor market training, youth measures, subsidized employment, and measures for the disabled. For further details. see OECD (1993a, Chapter 2).

[28] A similar result is reported by Jackman, Pissarides, and Savouri (1990).

[29] Calmfors (1994) highlights various statistical problems with such econometric results, stressing the simultaneity problem between unemployment and spending on active measures.

[30] For details on these projections, see OECD (1994c, pp. 26-30).

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Commentary: The Extent of High Unemployment in OECD Countries

Dennis J. Snower

John Martin's paper is an excellent survey of the extent of the OECD unemployment problem and its salient features in recent times. The following five stylized facts about OECD unemployment are documented in it:

(1) Different OECD countries have experienced very different long-term trends in unemployment, with unemployment rising dramatically in the European Community (EC) since the mid-1970s and in the European Free Trade Association (EFTA) countries since 1990, while showing little, if any, trend increase in North America or Japan. Over the past two decades, the average level of unemployment has been much higher in the EC and Oceania than in the United States, Japan, and EFTA.

(2) OECD unemployment rates display "persistence," or positive serial correlation. In other words, high unemployment today is associated with high unemployment in the future. This phenomenon is more pronounced in the EC and Oceania than in the United States or EFTA.

(3) The duration of unemployment varies widely among OECD economies, even after normalizing for differences in unemployment rates. Over the past two decades, unemployment durations have been much longer in the EC than in the United States and Japan (for given unemployment rates), and increases in unemployment have been

associated with more long-term unemployment in the former countries than in the latter.'   Thus the burden of unemployment is distributed more unevenly in the EC than in the United States and Japan.

(4) Unemployment rates are particularly high among the young and, to a lesser degree, among women.[2]

(5) Unemployment is concentrated among unskilled people. In particular, unemployment rates are higher for blue-collar workers than for white-collar workers and for workers with low educational attainment than for those with a secondary or higher education.[3]

In addition to these indisputably noteworthy empirical regularities, here are five more which, to my mind, are equally worthy of attention:

(6) The longer people are unemployed, the lower are their chances of finding employment.

(7) Over the past 25 years, EC unemployment rates have varied less within business cycles than across them. In other words, the difference between the peak and trough unemployment rates within a business cycle is less than the difference between the unemployment rates at the same stage of successive business cycles. This tendency, however, is not evident in the United States or Japan.

(8) Over the 1950s and 1960s, the average unemployment rate in Europe was significantly lower than that in the United States; since the mid-1970s, however, the average European unemployment rate has significantly exceeded the U.S. rate.

(9) In the United States, labor and product market activity levels tend to move in tandem. In particular, production and employment tend to move in the same direction; production and unemployment, in opposite directions. This tendency is far less pronounced in most European countries.

(10) Despite the massive increases in productivity and the somewhat smaller increases in the labor force experienced by most OECD countries over the last century, OECD unemployment rates do not

vary with the level of productivity or the size of the labor force in the very long run.

These ten stylized facts represent a challenge to theorizing about unemployment. A respectable theory of unemployment should be able to explain all of them. In the remainder of the paper, I wish to consider how our various unemployment theories have performed by this criterion.

Let me begin with the market-clearing theories, which on the whole imply that unemployment policy is unnecessary and even undesirable; for when people freely choose to remain unemployed, it is often inefficient for government to use taxpayers' money to create jobs for them.

According to the traditional, market-clearing natural rate theory, unemployment is at its "natural rate" (which depends only on the structural characteristics of the economy, such as people's tastes, technologies, and resource endowments) when people have correct expectations about wages and prices. The dominant theory of how expectations are formed is the rational expectations theory, which asserts quite plausibly that people are not fooled in ways that they, themselves, could have predicted.

Whatever its academic appeal, this theory fails to address many of the facts above. With the decline in union density, no significant upward adjustment of unemployment benefits and benefit durations, and the moves toward deregulation, privatization, and liberalization of labor markets in many OECD countries over the 1980s, it is hard to argue that the natural rate of unemployment could have risen significantly. Furthermore, given the stable rates of inflation over much of the decade, it can't be argued that people's wage-price expectations were getting further and further out of line with reality. Nevertheless, European unemployment rose massively. There is nothing in the market-clearing variant of the natural rate hypothesis that provides even a clue about why this happened.

According to the intertemporal substitution theory, if workers believe that real wages are temporarily depressed and will rise in the future,

they may wish to partake in more leisure now and work harder later. The same may be true if they perceive real interest rates to be temporarily low, since that means that their current wage income cannot be transferred into the future at an advantageous rate. The *real business cycle theory* builds on this idea by identifying technological shocks as the main source of macroeconomic fluctuations and assumes that individuals respond to these technological shocks by intertemporally substituting between labor and leisure.

How this theory could seriously explain European unemployment defies my imagination. Many millions of people in Europe joined the unemployment register in the mid-1970s, early 1980s, and early 1990s. Can we honestly believe that these were simply colossal leisure binges, taken because workers were expecting real wages or real interest rates to rise later on? Regarding the upward trend in European unemployment rates since the mid-1970s, can we honestly assert that we are observing a very long-term intertemporal substitution, whereby workers have decided to enjoy a lot of free time for two decades, perhaps with the intention of working very long hours for the next two decades? And even if the monstrous implausibility of these suppositions is put aside, we are still left with the fact that the available empirical evidence indicates that people's hours of work are unresponsive to real wage and real interest rate variations, and that much of these variations tends to be permanent rather than temporary.

Now let me turn to the non-market-clearing theories. According to the *efficiency wage theory,* firms have imperfect information about the productivities of individual employees, but they can observe that higher wages stimulate the average productivity of their workforces. The reason is that higher wages enable firms to recruit more highly qualified employees or motivate employees to work harder. Or, higher wages discourage workers from quitting their firms, thereby reducing the firms' labor turnover costs. Consequently, firms may have an incentive to keep wages above the level that would be necessary to ensure full employment. The unemployed are unable to get jobs even by offering to work for less than the prevailing wage, because it is not in the firms' interests to allow the wage to fall.

The great strength of this theory is that it provides one conceivable

explanation for why people may remain unemployed even though they would prefer to do the prevailing work at less than the prevailing wages. Beyond that, however, it is not clear that the efficiency wage theory can shed much light on why EC unemployment has risen over the past two decades, why **U.S.** and Japanese unemployment has fared better, or why unemployment in many countries varies less within a business cycle than from one cycle to the next. Contrary to the predictions of the theory, the **skilled** workers (whose work is generally difficult to monitor) have low unemployment rates, while the **unskilled** workers (whose work tends to be more easy to monitor) have high unemployment rates. Nor is it plausible that **U.S.** unemployment should have recovered more quickly from recessions than EC unemployment because **U.S.** firms have more information about their employees than EC firms.

The theories of *labor union* behavior picture the unions as exercising market power on wages, driving wages up and employment down. Thereby, some people become unemployed. On the empirical front, it is worth noting that although there is evidence that, over several decades, intercountry differences in the coverage of collective bargaining agreements help account for some of the intercountry differences in unemployment rates among OECD countries, the union theories have not performed well over the past decade in predicting movements of unemployment through time. In the first part of the 1980s, for example, union membership in the United Kingdom and several other European countries fell while unemployment rose.

That still leaves the most popular unemployment theory of the 1950s and 1960s: the *Keynesian theory.* Here people can't find work because firms are not producing enough; the firms are not doing so because there is too little product demand; and demand is deficient because people can't find work. What lies at the source of this vicious cycle is the insight that deficient demand in the labor market originates in the product market, and deficient demand in the product market originates in the labor market. Activity in these two markets goes up and down together. The mechanism that puts this vicious cycle into operation is wage-price rigidity. A fall in product demand will reduce labor demand if wages don't fall sufficiently; a fall in labor demand will reduce product demand if prices are downwardly rigid.

This view sheds some light on the unemployment experience of the 1980s. At times of high unemployment and much excess capital capacity, it is generally true that increases in aggregate demand lead to increases in employment, and demand reductions lead to employment reductions. But the 1980s have exposed an important shortcoming of the Keynesian theory: for most of this period, European labor and product market activity did not move together at all. Product demand started to pick up toward the end of 1982, but employment did not start to improve until 1986 in the United Kingdom and even later in most other EC countries. The Keynesian vision of tightly linked labor and product demand is called into question here. It turns out that the link was much stronger in the United States and the EFTA countries than in the EC over the 1980s, but it would be implausible to rationalize this by suggesting that the United States and EFTA face much more wage-price sluggishness than the EC.

Finally, the ***insider-outsider theory*** focuses attention on labor turnover costs as a source of unemployment. These costs, falling on firms, give market power to the "insiders" (experienced, incumbent employees), who know that their employers would find it costly to replace them. The insiders use this power to improve their wages. The labor turnover costs discourage firms from firing their current insiders, but the high insider wages also discourage the hiring of new entrants.

This theory is able to account for many of the stylized facts summarized above. The relatively high labor turnover costs in Europe often insulate the insiders from the danger of becoming unemployed, and consequently, high unemployment has little effect on wage settlements. Wages are more responsive to unemployment in the United States, where labor turnover costs tend to be lower. When business cycles are short-lived and mild, most European countries — with comparatively high labor turnover costs — may be expected to do relatively little hiring or firing, hoarding labor in the slumps and bringing it back into use in the booms. But in the face of deep, prolonged recessions, these countries will stop hoarding and start firing labor. Then firms will be comparatively slow to rehire this labor in a subsequent recovery, fearing that they may incur further firing costs should the recovery not materialize, and thus investment in labor-saving capital equipment may then take the place of new employment. This helps explain (1)

why unemployment rates in Europe were significantly lower than in the United States in the 1950s and 1960s (when business cycles were short-lived and mild), but significantly higher since the mid-1970s; (2) why U.S. unemployment has been more variable than European unemployment; and **(3)** why there has been more "decoupling" of employment and production in Europe than in the United States, where labor turnover costs are generally lower.

Insofar as many of the full-time, unskilled jobs in the traditional industrial sectors are associated with significant labor turnover costs, the insider-outsider theory also helps explain why wages in these sectors have refused to fall with falling demand. It also helps explain why much service sector employment and temporary employment— associated with relatively low turnover costs — has been buoyant in comparison with industrial employment in the OECD. As noted in John Martin's paper, it suggests a reason why the long-term unemployed have much less influence on wage inflation than the short-term unemployed. And insofar as hiring and firing costs tend to be lower in the United States than in Europe, the theory sheds some light on why U.S. firms have been more successful than European ones in creating jobs in the secondary sectors.

So much for my whirlwind survey of theories to account for the ten stylized facts above. We still have a long way to go in explaining these facts, and in the absence of reasonably comprehensive explanations, policy advice will inevitably continue to rest on reasonably shaky foundations. John Martin's paper highlights both the magnitude and the importance of this task.

Endnotes

[1]The EC countries tend to have lower inflow and outflow rates from unemployment than the United States. Japan has a low inflow rate and a high outflow rate relative to the EC.

[2]The youth unemployment rate is well above twice the adult unemployment rate in the EC, Japan, North America, and Oceania, but well under twice the adult unemployment rate in the EFTA. The female unemployment rate is significantly greater than the male unemployment rate in the EC, but not in the EFTA, Japan, North America, or Oceania.

[3]John Martin shows that the ratio of blue-collar to white-collar unemployment rates is not rising consistently among OECD countries. He states that this finding fails to support the hypothesis that the demand for unskilled labor is falling relative to the demand for skilled labor. But this inference is unwarranted. The employment of white-collar workers has risen relative to employment of blue-collar workers in the OECD; if the unemployment rates of these workers have not moved in the opposite direction in some countries, then that must be because the supply of skilled labor has risen sharply relative to the supply of unskilled labor in these countries.

Past and Prospective Causes
of High Unemployment

Paul **Krugman**

Twenty years ago, on the eve of the first of the great post-Bretton-Woods recessions, unemployment did not appear to be a major problem for advanced economies. Among what would later be dubbed the G-7 nations, the United States had the highest unemployment rate at 5.5 percent; but very little of this unemployment was long-term, and the extent of short-term unemployment could be rationalized as the inevitable and even desirable result of a dynamic economy. Western Europe had an unemployment rate that, measured on a comparable basis, was only **3** percent. Japan's unemployment rate was a trivial 1.4 percent, a performance nearly matched by West Germany's 1.6 percent. Whatever their other economic and social problems, the world's industrial nations seemed to have left fears of mass unemployment far behind.

Today, of course, unemployment is back with a vengeance. In Europe, in particular, the seemingly inexorable rise in the unemployment rate (Chart 1) has led to the creation of a new word: Eurosclerosis. The United States has not seen a comparable upward trend — indeed, the unemployment rate in 1989-90 was lower than in 1974, and the current recovery may already have pushed the unemployment rate into the same range (changes in the survey method, introduced this year, blur the picture slightly). However, many people on both sides of the Atlantic believe that the United States has achieved low unemployment by a sort of devil's bargain, whose price is soaring inequality and growing poverty.

Chart 1
Unemployment Rates

The purpose of this paper is to address the big questions about unemployment in the Organization for Economic Cooperation and Development (OECD) countries: Why has it risen? Will it continue to rise? What can be done to reverse the trend? These are daunting questions. Luckily, there is no need to be original. Not only has the OECD unemployment problem been the subject of massive amounts of research,' many economists have coalesced around a common view of the nature of the problem. This common view does not exactly represent a consensus, since there are important dissenting voices, but it is the conventional wisdom. For the most part, this paper restates that conventional wisdom.

Why is such a restatement necessary? Because while economists who think about OECD unemployment may have reached a considerable degree of agreement, educated opinion more broadly defined, and the opinion of policymakers in particular, remains far more diverse. In part, this may be because the instincts of the broader public do not accord with what the economists have to say. It may also be because the standard view is far from comforting, and seems to imply some harsh choices that the public and the policymakers would rather not

face. And in part, the failure of the standard economist's view to become equally standard among non-economists may result from a failure to explain that view clearly. This last failure, at least, may be correctable.

This paper is in five parts. The first part addresses the crucial distinction between cyclical and structural movements in unemployment, a.k.a. fluctuations around and movements in the natural rate. The second part lays out the central theme of the conventional wisdom about rising unemployment in advanced economies: that high unemployment in many industrial nations is an unintended byproduct of their redistributionist welfare states, and that the problem has worsened because the attempt to promote equality has collided with market forces that are increasingly pushing the other way. The third part of the paper turns to the question of the sources of the apparent tendency toward greater earnings inequality, and in particular, the relative roles of globalization and technological change. Finally, the last two parts of the paper are concerned respectively with possible policies and realistic prospects.

Cyclical versus structural unemployment

The starting point for most analytical discussion of unemployment trends is the hypothesis, introduced by Friedman and Phelps a generation ago, that at any given time a national economy is characterized by a "natural rate" of unemployment. Expansion of aggregate demand may push unemployment below this rate, but only at the cost not merely of higher but of accelerating inflation. Similarly, a shortfall of aggregate demand may push unemployment above the natural rate, but this will lead to decelerating inflation. Given any policy environment that avoids explosive inflation or deflation, then, the economy cannot remain persistently either above or below the natural rate of unemployment, although it may fluctuate around that level.

It follows from this hypothesis that changes in unemployment must be separated into two components: "cyclical" fluctuations around the natural rate, which can be attributed to changes in aggregate demand, and "structural" movements in the natural rate itself, which can result from changes in labor market institutions, demographic shifts, and so

on. How one assesses the prospects for reversing a rising trend in unemployment, and what policies one advocates to help turn it around, depend crucially on whether the rise is cyclical or structural.

The natural rate hypothesis has received near-universal acceptance among academic economists since the 1970s.[2] My sense is that it is less well accepted among policymakers and journalists, who seem to regard it as an abstract idea whose very neatness makes it suspect. It is therefore worth pointing out that for the United States, at least, the natural rate hypothesis has a very solid basis in experience.

Suppose we ask the question, is it true that inflation consistently accelerates when the unemployment rate is low, and decelerates when that rate is high? The answer is yes, it is. The consistency is particularly apparent if we look not at the overall unemployment rate, whose interpretation shifts somewhat with changes in the age and sex mix of the labor force, but at a more stable group. Table 1 compares the level of the unemployment rate among married men with the change in the rate of inflation, measured by the GDP deflator, over the subsequent year. Between 1973 and 1992, the unemployment rate for married men was above 4 percent in eleven years, below that rate in eight years. If there were nothing to the natural rate hypothesis, there should be little systematic relationship between the unemployment rate and the change in the inflation rate. In fact, the correspondence is very close: in all but two years in which the reference unemployment rate was above 4 percent, inflation fell; in every year but one in which it was below 4 percent, inflation rose. In other words, the evidence is overwhelmingly consistent with the idea that the U.S. economy will suffer accelerating inflation if the unemployment rate for married men drops below about 4 percent.[3]

Table 1
Unemployment and Inflation 1973-93

		Unemployment rate (mamed men)	
---------------------------------	--------	<4 percent	>4 percent
Change in inflation rate	Positive	7 years	1 year
(fixed-weight GDP deflator)	No change	0 years	1 year
	Negative	1 year	9 years

Admittedly, a simple table like this can be constructed only for the United States among advanced countries. The reason is that the United States is unique in having no visible long-term trend in its unemployment rate, suggesting that the natural rate has been more or less constant. For other industrial countries it is necessary to attempt to estimate shifts in the natural rate as well as the relationship between deviations from the natural rate and inflation. If there were no "clean" case like that of the United States, this might raise suspicions that the hypothesis is not so much confirmed by the data as imposed on them, that economists are simply adding epicycles until their model fits. Luckily, however, the United States experience does provide a pretty convincing demonstration of the natural rate hypothesis.

Given that hypothesis, unfortunately, a discouraging conclusion immediately follows: most of the upward trend in OECD unemployment rates since the early 1970s represents a rise in structural unemployment. We know this because the unemployment rates consistent with stable inflation have unambiguously risen, especially in Europe. Chart 2 shows inflation in the EC since 1960. Inflation was stable in the early 1960s, despite an average unemployment rate of little more than 2 percent; it was rising in the late 1980s, in spite of an average unemployment rate of more than 8 percent, suggesting that the natural rate of unemployment has risen by at least 6 percentage points. Admittedly, the deceleration of inflation in OECD countries since 1992 suggests that current unemployment rates also contain a cyclical component; most economists would agree that there is considerable room to take up economic slack in both Europe and Japan, although not at this point in the United States. Nonetheless, the bulk of the unemployment problem clearly seems to arise from an upward trend in the natural rate, and this paper will proceed on the presumption that this is the essence of the problem.

Before doing so, however, it may be worth briefly addressing two alternative views that have, in effect, been used to argue that this pessimistic view about the prospects for reducing unemployment by expanding demand is wrong: the serious argument that the natural rate itself may be affected by the business cycle, and the silly but popular view that globalization has somehow repealed the limits on expansion of aggregate demand.

Chart 2
EC Inflation Rate (GDP Deflator)

Hysteresis

In an influential 1986 paper, Olivier Blanchard and Lawrence Summers argued that sustained increases in the unemployment rate due to inadequate demand get built into the natural unemployment rate, so that attempts to recover from these slumps are blocked by fears of inflation. Their formal analysis was based on a model in which unions represent only employed workers, and ignore the impact of their wage demands on the employment prospects of those not currently working (a formulation which linked their work to the still influential "insider-outsider" approach of Lindbeck and Snower, (1988); temporary negative shocks to labor demand, which disenfranchise some of the work force, can therefore permanently raise real wages and reduce employment. Informally, advocates of the "hysteresis" hypothesis argue that a variety of mechanisms, including loss of skills and loss of reputation, cause the long-term unemployed to become perceived as unemployable.

After an initial period of considerable popularity, the hysteresis hypothesis has lost some of its influence. This loss of favor appears

to represent an empirical judgment. We might note three particular pieces of evidence. First, the U.S. experience shows no evidence of hysteresis at work: even though the American economy passed through an extended, double-dip recession from 1979-1982, and did not get back to late 1970s levels of unemployment until the late 1980s, the natural rate showed no signs of having increased during that time. Second, European nations like Sweden that managed to avoid large-scale unemployment during the 1980s, and should therefore according to the hysteresis hypothesis have avoided a large rise in their natural rates, now show all the symptoms of full-blown Eurosclerosis. Third, as discussed below, differences in national unemployment rates seem to be fairly well explained by differences in how well countries treat their unemployed; the hysteresis story would predict a larger role for accidents of history.

I personally find the hysteresis hypothesis intellectually very appealing, and suspect that Blanchard and Summers are right in arguing that some version of that hypothesis is essential in explaining earlier episodes of mass unemployment — that, for example, the Great Depression was an aggregate demand slump which was met with new institutions that in effect ratified the high level of unemployment. But its relevance to the current situation is unclear, and it will be left on one side for the rest of this paper.

Globalization

Recently, there has been a vocal movement in the United States which has protested against actions by the Federal Reserve to slow demand growth as the economy approaches standard estimates of the natural rate. These critics argue that the economic realities have changed and that there is no longer any risk that a rapid recovery will set off renewed inflation.

The basic argument of these critics is that globalization — the increased openness of the United States to international trade — has changed the rules of the game. Economic expansion cannot produce bottlenecks, because firms can always turn to suppliers abroad. Firms will not raise prices, no matter how hot the market, because they fear foreign competitors. And workers, constantly threatened with loss of their

jobs to other nations, will not demand higher wages no matter how low the unemployment rate goes. According to this view, internationalization has either drastically lowered the natural rate or even made the whole concept irrelevant.

Many people find this argument extremely attractive. It is hard to see, however, how anyone who has looked at recent economic experience, or is familiar with basic economic data, can take the argument seriously.

First, the whole emphasis on the importance of international competition ignores the fact that both the U.S. economy and the economy of Western Europe (considered as a unit) are still primarily in the business of producing goods and services for their own use. Imports are only 11 percent of U.S. GDP. While it is true that a somewhat wider range of goods is subject to international competition than is actually traded, at least 70 percent of each economy remains effectively insulated from foreign markets—and therefore is capable of experiencing inflation regardless of international conditions.

Second, the challenge to conventional wisdom seems to take it for granted that the United States faces a perfectly elastic supply of imports at given prices in *dollars.* But the United States has a floating exchange rate; and any effort to promote continued recovery by keeping interest rates low would drive down the dollar, and therefore raise import prices in U.S. currency. The normal view of international macroeconomists has been that an open economy with a floating exchange rate faces a *steeper* tradeoff between unemployment and inflation than a closed economy (indeed, this has been the traditional rationale for policy coordination); it is hard to see why this view should suddenly be abandoned in favor of the idea that an open economy faces no tradeoff at all.'

Finally, there are clear recent examples demonstrating that open economies can indeed develop inflation problems if they overexpand. The U.S. economy itself found inflation accelerating in the late 1980s, as the unemployment rate dropped below 6 percent. Has the structure of the economy really changed so much in five years? But this experience pales by comparison with the British experience. The

United Kingdom is a much more open economy than the United States, so if the idea that globalization prevents inflation works anywhere it should work there. But a rapid UK boom during the late 1980s produced an explosion of inflation, forcing an abrupt U-turn in the country's economic policies.

In short, there is no reason to believe that the increased openness of advanced economies has changed the basic logic of the natural rate hypothesis, or that it should lead us to modify the conclusion that a rise in the natural rate, rather than inadequate demand, is the main source of the unemployment problem in advanced economies.

Why has the natural rate risen?

A wide variety of explanations have been offered for the apparent rise in the natural rate of unemployment. Most papers on the issue are either careful tests of one of these explanations, or comprehensive surveys of the different explanations. In this paper I will avoid being judicious, and offer just one explanation, in two parts. The first part is that persistent high unemployment can be explained by the disincentive effects of welfare state policies. The second part is that market forces pushing toward greater inequality have worsened the unemployment consequences of the welfare state.

The welfare state and unemployment

A welfare state may be loosely defined as a system that collects taxes from the population at large and uses the proceeds to provide support to the poor, the unemployed, and other groups believed to need help. All advanced countries are welfare states to some degree. The extent of the redistribution, however, varies substantially across countries. In particular, by just about any measure the United States taxes less and provides less support to the unemployed than European nations. The United States has also, of course, been able to avoid the upward trend in unemployment that has afflicted Europe. It is only natural to suspect that the two facts are related: that the generosity of Europe's welfare states is in some sense responsible for the rise in their unemployment rates.
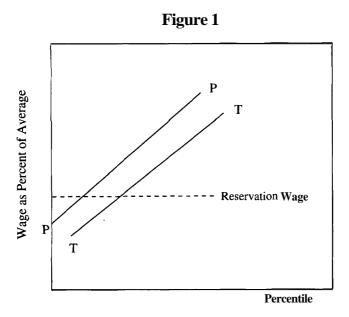
How might a welfare state create unemployment? Taxes (such as required employer contributions to social insurance funds) and regulations may raise the cost to firms of offering jobs, and thus reduce the wages they are willing to pay; simultaneously, benefits such as unemployment insurance may reduce the incentive for workers to accept jobs, and thus raise the wages they demand.

Figure 1 presents a schematic representation of these ideas, which represents a drastic oversimplification but may prove useful as an organizing device. In drawing the figure, I suppose that workers vary considerably in the real wage that they could earn in an unregulated market. I will, for the sake of brevity, refer to the real wage the market is willing to pay a worker as her "productivity," without necessarily committing to the view that wages actually equal marginal products. We may then calculate a schedule that relates the percentile of a worker to her relative productivity. For example, a worker who is in the 10th percentile of the wage distribution might have a productivity that is 25 percent of the average productivity for all workers, and so on. In Figure 1, **PP** represents that productivity schedule. In the absence of welfare state policies, **PP** would also represent the actual wage schedule.

But now introduce policies that include both taxes on employment and benefits to the unemployed. This will have two effects. First, a wedge will be driven between the productivity of workers and their take-home pay; the take-home pay schedule is represented by TT. Second, workers will be discouraged from accepting employment; this can be represented by introducing a *reservation wage,* a floor on the wages workers will accept. (Or the wages that they are allowed to accept, if there are high minimum wages imposed either by law or by organized labor.)

The result is obvious: all those workers whose take-home pay is less than the reservation wage will become unemployed.

Is this a reasonable picture? It implies two testable empirical propositions. First, it implies that in cross-country comparisons there should be a positive relationship between unemployment and both the level of benefits to the unemployed (which raise their reservation wage) and

Figure 1

the tax wedge. Second, it implies that within countries unemployment should be higher among low-productivity workers, a category that should be correlated with though not necessarily exactly matched to workers with low skill.

Both propositions have some empirical support. Cross-country regressions, like those of Layard, Nickell, and Jackman (1994) do find that measures of the level of benefits have strong positive effects on long-term averages of national unemployment rates. And it is true that within countries, unemployment rates are strongly correlated with skill levels. Table 2 provides some illustrative British data.

These are not extremely stringent tests. Nonetheless, they do confirm that a story along the lines of Figure 1 is at least broadly consistent with the evidence.

But this is a story about the level of the unemployment rate, rather than its trend. It suggests that generous welfare states will tend to have higher unemployment rates than nations which allow markets to

Table 2
Skill Level vs. Unemployment in the UK, 1984

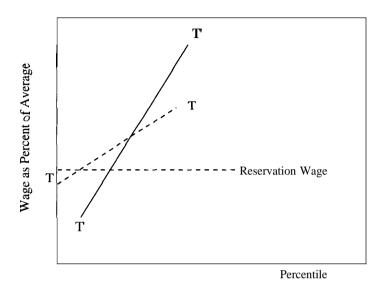| Occupational group	Unemployment rate
Professional and managerial	5.3
Clerical	8.0
Other non-manual	12.2
Skilled manual	12.6
Personal services/other manual	15.5

Source: Layard, Nickell, and Jackman (1994).

function with a greater degree of brutal freedom, a prediction that seems to accord with the situation today. It does not, however, explain why unemployment rates in Europe should have risen so much.

One reason for a rise in unemployment rates might be an increase in the generosity and cost of the welfare state. It is hard to believe, however, that this is the key factor. While there has been a rise in the tax burden in Europe since 1970, especially in social insurance contributions, European welfare states were already notably generous in the low-employment era of the early 1970s. Most analysts have therefore looked for the explanation of the upward trend not in changed policies but in a changed environment. In particular, it has become increasingly common, to argue that the upward trend in unemployment is the result of market forces that "want" to produce greater inequality of earnings. The collision between these market forces and the attempts of the welfare state to limit inequality then lead to higher unemployment.

Inequality and unemployment

It is straightforward, in our stylized framework, to see how a rise in the inequality of market wages could lead to increased unemployment. An increase in inequality implies that the wages of low-paid workers fall relative to the average, while those of high-paid workers rise relative to the average. That is, it implies a ***rotation*** of the wage curve TT in Figure 1. This is shown in Figure 2, as the shift from **TT** to TT'. If the reservation wage as a percentage of average wages remains unchanged, the effect is clearly to raise the fraction of workers

Figure 2

unemployed. The logic is simple: if the wages that the market is willing to pay workers of low productivity fall relative to the average, while the level of benefits keeps up with the average, more workers will find that available pay rates are below their reservation wage.

This rise in unemployment only takes place, of course, if the reservation wage is high enough to be binding. If the reservation wage is very low, as it would be in a weak welfare state, the market push toward greater inequality will simply result in greater inequality! Conversely, in a strong welfare state the increase in underlying pressures toward inequality may not be clearly visible in the actual distribution of earned wages, since those workers whose relative wages would have fallen the most are-instead priced out- of the labor market.

These observations suggest two points. First, if·a.tendency toward greater inequality is an important cause-ofrising unemployment, we might expect to see less of that trend in countries with niggardly welfare states. In other words, the difference in institutions may explain the striking contrast between U.S. and European experience,

shown in Chart 1. Second, in those countries where there is no upward trend in unemployment, we should expect to see a marked rise in wage inequality.

The fact, of course, is that there has indeed been a dramatic increase in wage inequality in the United States. It is the observation of that increase which has led many observers to conclude that growing U.S. inequality and growing European unemployment are different sides of the same coin. There has been a great deal of dispute over the issue of inequality in America, for obvious political reasons, but labor economists are unanimous in finding a massive increase since 1970 both in the dispersion of wages and in the premium for skill. This increase in dispersion reversed what had appeared to be an earlier trend toward greater equality of earnings. Table **3** shows some representative numbers.

Table 3
Indicators of U.S. Wage Inequality

A. Ratio of earnings of college to high school graduates,
   1-5 years experience

1964	1.59
1979	1.30
1989	1.74

Source: K. Murphy and F. Welch, "The Structure of Wages," *Quarterly Journal of Economics,* (February, 1992).

B. Log difference in earnings of 90th and 10th percentile, men 35+

1940	1.45
1970	1.18
1985	1.46

Source: C. Goldin and R.A. Mayo, "The Great Compression: The Wage Structure in the United States at Mid-Century," *Quarterly Journal of Economics,* (February 1992).

These numbers represent a dramatic change in the wage structure. It is a testimony to the flexibility of U.S. wages that the American labor market was able to accommodate such large shifts without massive disruption. Correspondingly, if the same forces were trying to produce similar results in other countries, it is not hard to believe that different and less flexible labor market institutions could easily have responded in ways that led to considerable unemployment. The obvious question, of course, is why this happened. What were these

"market forces" that led to radically increased inequality in the United States and, perhaps, to greatly increased unemployment in Europe? We turn to this question shortly. First, however, it is important to stop and consider a factor that is widely believed to be crucial to employment but that does not appear to make much difference in practice.

Productivity and employment

Nearly all official reports on long-term unemployment problems stress the importance of raising productivity. In many cases, as in the 1993 European Commission White Paper (discussed below), they call for industrial policies such as support for high technology industries that are expected to promote productivity growth as an answer to employment problems. Moreover, the rise in unemployment after the early 1970s coincided with a global slowdown in productivity growth. So it seems obvious to many policymakers that there must be a straightforward connection. But is there?

At first glance it might seem that the framework shown in Figure 1 would imply that higher productivity would imply an upward shift in the wage curve, and thus a fall in unemployment. The schedules in Figure 1 are all drawn, however, to show wages and productivity *relative to the average;* an across-the-board rise in productivity, if matched by an increase in minimum wages, benefits, and so on that raises the reservation wage at the same rate, will have no effect on unemployment.

In practice, welfare state economies do tend to raise benefits along with average wages, and in many cases to raise them even faster when the inequality of wages is increasing, as a way of leaning against the wind.[4] As a result, we should not expect to see any strong relationship between productivity growth and unemployment trends. And in fact, there is no such relationship in the data. Chart 3 compares long-term productivity growth rates for advanced countries with the change in their average unemployment rates between the first half of the 1960s and the second half of the 1980s. There is no visible pattern in the scatter: the best unemployment performances were turned in by the country with the worst productivity performance (America) and that with the best (Japan).
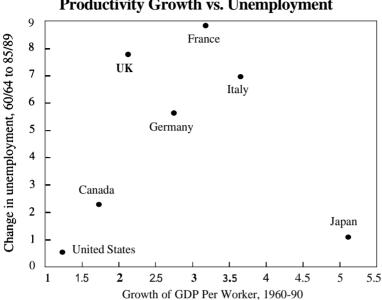
Chart 3
Productivity Growth vs. Unemployment

The moral is that good things do not necessarily go together: high productivity growth need not imply favorable employment performance, or vice versa. There is a strong tendency on the part of policy-makers to presume that the economic problem must be one-dimensional—that growth and job creation are both aspects of some underlying quality, typically labeled with words such as "competitiveness." The available evidence suggests, however, that the unemployment problem has a life of its own, and is not simply part of a generalized deterioration in economic performance.

The tendency toward greater inequality

At this point we have made two main points. First, the rise in unemployment rates in the OECD primarily represents a rise in the natural rate of unemployment. Second, a likely explanation for this rise is the collision between welfare state policies that attempt to equalize economic outcomes and market forces that are pushing toward greater inequality. But what are these market forces?

It is at this point that there is perhaps the greatest gap between professional economic research and the conventional wisdom as expressed in official reports and presentations to such prestigious forums as the Davos conference. Before turning to analysis, it may be useful to illustrate the tone of much nonprofessional discussion with a passage from a report that was at any rate intended to serve as the basis for European Union strategy in coping with unemployment: the European Commission's White Paper of 1993.[5]

The White Paper asks why European unemployment remained so high even during the business cycle recovery of 1987-90—in effect, it asks why the natural rate is so high, though without using that term—and offers four reasons:

"—The role we have come to play in the new international division of labor has not been an optimum one because we have neglected future growth markets in concentrating too much on the revenues and positions established in traditional industries.

"—The relatively high cost of unskilled labor is encouraging investment in rationalization and holding back job creation in services.

"—Our employment systems have aged: by this term we mean the whole complex of issues made up nowadays by the labor market, labor legislation, employment policy, the possibilities of flexibility within or outside enterprises, the opportunities provided or not provided by the education and training systems, and social protection.

"—Finally and more especially, other countries are becoming industrialized and competing with us--even in our own mar- kets—at cost levels which we simply cannot match."

Of these explanations, the second essentially fits into the framework described in the last section of this paper. The third is fairly mysteri- ous; whatever it means, it may have something to do with the incentive effects of the welfare state. The important observation, however, is that in a four-point explanation of unemployment, the Commission

report offers two points related to international competition. In particular, the last explanation, which the report highlights as being the most important, explicitly blames rising European unemployment on competition from newly industrializing nations.

These views are not unrepresentative. Indeed, it is probably fair to say that many if not most intellectually minded European business and political leaders would list external competition, and especially competition from the Third World, as the single most important reason for rising unemployment in their nations. A significant number of their American counterparts would similarly blame external competition for growing inequality and declining real wages among the less skilled. Are they right?

Globalization, inequality, and unemployment

Despite the normal presumption of gains from international trade, it is possible to conceive of a number of ways in which increased competition on world markets could adversely affect economies. In a Keynesian situation, a trade deficit could depress aggregate demand and thus output. Increased foreign production of goods that compete with exports could worsen a country's terms of trade. More speculatively, foreign competition could drive a country out of industries that for some reason are especially desirable, either because capital and/or labor consistently earn more in those industries than elsewhere, or because the industries yield valuable external economies. In practice, however, these potential channels for damage seem either not to be operative for the advanced nations, or to be irrelevant for the issue of unemployment. Most OECD unemployment is not Keynesian, and in any case the advanced nations as a group (and the European Union in particular) have not run consistent trade deficits.[6] The terms of trade of the industrial nations as a group have improved, not worsened, over the past generation. It is conceivable that Europe has been pushed out of some desirable industries, that "the role we have come to play in the new international division of labor has not been an optimum one," but this should show up as a slower growth of productivity; yet European productivity growth has continued at respectable rates, and in any case productivity and unemployment seem to be unrelated.

There is, however, one more way in which international trade could affect the economy, which could explain both the increase in U.S. inequality and the rise in European unemployment: increased trade with countries abundant in unskilled labor could increase the premium on skill.

This idea is attractive at several levels. First, it offers a broad common explanation of what is happening on both sides of the Atlantic. Second, it ties the great labor market trends in advanced nations directly to other major trends in the world economy: the growth of international trade and the rise of newly industrializing nations. Finally, the idea that trade produces a tendency toward factor-price equalization is well-grounded in economic theory, going back to seminal work by none other than Paul Samuelson. All in all, the proposition that globalization explains the simultaneous growth in inequality and unemployment makes a nice, intellectually appealing package; it is not surprising that it should command wide acceptance.

Unfortunately, empirical research is nearly unanimous in rejecting the idea that imports from the Third World have been a major factor in reducing the demand for less-skilled workers.

To understand this evidence, it is necessary to understand not just that international trade can in principle change the relative demand for skilled and unskilled labor, but how the mechanism of that change must work.

Suppose that a country in which skilled labor is relatively abundant increases its trade with another country in which it is relatively scarce. This will raise the demand for skilled labor, while reducing the demand for unskilled labor—but how? The answer is, through a change in the industry mix. The skill-abundant country will export skill-intensive goods and import labor-intensive products, and as a result will shift its production toward skill-intensive sectors and away from labor-intensive sectors.

At any given wage rates, a shift in the industry mix toward skill-intensive products raises the demand for skilled workers while reducing it for unskilled workers. This will lead to a rising real wage for

skilled workers, a declining real wage for unskilled. The rising wage differential, in turn, will lead firms in *all* industries to reduce the ratio of skilled to unskilled workers in their employment. When the dust has settled, the wage differential must rise just enough to offset the effects on labor demand of the change in industry mix.

According to this story, then, if international trade is the cause of an increase in the skill premium, the rising relative wage for skilled workers must lead all industries to employ a *lower* ratio of skilled to unskilled workers; this is necessary in order to allow the economy to shift its industry mix toward skill-intensive sectors. Or to put it differently, the skilled workers needed to expand the skill-intensive sector are made available because industries economize on their use when their relative wage rises; and conversely the shift in the industry mix ratifies the change in relative wages.

This analysis carries two clear empirical implications: if growing international trade is the main force driving increased wage inequality, then we should see the ratio of skilled to unskilled employment *declining* in all industries, and a substantial shift in the mix of employment toward skill-intensive industries.

In fact, the data look nothing like this prediction. A number of studies, including Bound and Johnson (1992), Katz and Murphy (1992), OECD (1993), and Lawrence and Slaughter (1993), have found either for the United States or for a broader set of countries that both propositions fail to hold. There has been little shift in the mix of employment toward skill-intensive industries; and there has been an across-the-board *increase* in the ratio of skilled to unskilled workers employed within each industry, in spite of the rise in the relative wages of the skilled. That is, the data strongly indicate that if the relative demand for skilled workers has risen, it is because of some common factor that affects all sectors, not because of forces like international trade that change the sectoral mix.[7]

How can the effects of such a dramatic global trend as the rise of the newly industrializing economies be so invisible in the labor market data of advanced countries? There are several answers. For one thing, although the rapidly growing economies of the Pacific Rim have

attracted a great deal of attention, their role in the trade of advanced nations is still fairly small. As late as 1990, imports from newly industrializing economies were only 8.5 percent of the total merchandise imports of the OECD nations, and imports of manufactured goods from these countries were less than 1.5 percent of GDP.

Moreover, the entry of newly industrializing countries is not the only trend affecting the relative supplies of skill-intensive and labor-intensive products in the world economy. Think about two events that are often lumped together: the emergence of China as a major manufacturing exporter, and the rapid increase in the skill level of the labor forces in other East Asian nations, including Japan. Both tend to increase exports of manufactures from East Asia, but they have opposite effects on the relative prices of skill-intensive products. When a country with abundant unskilled labor throws itself open to trade, this tends to lower the relative price of labor-intensive goods, causing other nations to shift out of these sectors. But when a country upgrades its skill level, it tends to produce more skill-intensive and fewer labor-intensive goods, which has the opposite effect. It may be useful to pose the following question: has the skill of the labor force in the average trading nation—where countries are weighted not by population, but by the value of their production—gone up or down over the past two decades? It is by no means clear what the answer is, so we should not be surprised that there is no clear effect of international trade on the skill mix of industries within advanced countries.

The evidence, then, clearly rejects the view that growing competition from the Third World has been the source either of growing inequality in the United States or of rising unemployment in Europe. But what can explain these trends?

Technology and the skill premium

Economists use the word "technology" somewhat differently from normal people. Webster's defines technology as "applied science," which is pretty much the normal usage. When economists speak of technological change, however, they mean "shifts in the production function"—alterations of the relationship between inputs and outputs, regardless of the reason.

In this economist's sense, it seems undeniable that the increase in the **skill** premium in the advanced world is primarily the result of **skill-biased** technological change. Although the relative wages of **skilled** workers have risen, most sectors have increased the ratio of highly **skilled** to **less-skilled** workers in their labor force; this imrnediately indicates a change in the production function that raises the marginal product of the skilled relative to the **unskilled.** And virtually all of the rise in the'relative demand for **skilled** workers seems to have been a result of this intra-industry change in demand, rather than changes in the inter-industry mix of employment. In the economist's sense, then, the growth of earnings inequality in the United States — and quite possibly therefore much of the rise in structural unemployment in Europe — has been the result of technological changes that just happen to work against unskilled workers.

This answer may, however, seem unsatisfying. It is not a tautology: it could in principle have been the case that nontechnological forces, such as international trade, were responsible for much of the growth in the **skill** premium. Still, one would like to relate technological change in the economist's sense to its more normal usage: what is changing in the way that we produce goods and services that has apparently devalued less **skilled** workers?

The short answer is that we don't know. There are, however, several interesting albeit conflicting pieces of evidence.

On one side, there is some evidence that some increased dispersion in earnings can be traced directly to the spread of computers. In a recent study, **Krueger** (1993) has found that workers who use computers achieve noticeable wage premia over workers who do not; he claims that the expansion of computer use in the 1980s can account for one-third to one-half of the rise in the rate of return to education.

On the other side, some of the professions that have seen very large increases in incomes since the 1970s have not exactly been in fields whose practitioners are obviously made more necessary by modem technology (in the normal usage of the word): doctors, corporate executives, and so on. And it is also true that the growth of inequality in the United States has a **striking** "fractal" quality: widening gaps

between education levels and professions are mirrored by increased inequality of earnings *within* professions. Lawyers make much more compared with janitors than they did fifteen years ago; but the best-paid lawyers also make much more compared with the average lawyer. Again, this is hard to reconcile with a simple story in which new computers require people who know how to use them.

It is surely hard not to suspect that the dramatic progress in information and communication technology over the past two decades has somehow played a central role in the increased premium on skill, and perhaps in the growth of European unemployment. The actual linkages are, however, not at all well understood — a point that is important to remember when we turn to policy.

What can be done?

Robert Lucas once scathingly described the report of the McCracken Commission on inflation as being marked by "undisciplined eclecticism." Much the same may be said about many official reports on OECD unemployment: lacking a clear vision of the nature of the problem, they offer a kind of policy salad that mixes together various proposals that seem forward-looking — building smart trains and information superhighways or promoting multimedia are treated at the same level as trade liberalization and reform of unemployment insurance. For this paper, I will perhaps err in the opposite direction, and take it as a maintained hypothesis that the European unemployment problem and the U.S. inequality problem are two sides of the same coin, and ask a narrowly focused question: what can be done about the apparent tendency of markets to produce increasingly unequal outcomes, or to produce persistent high unemployment if this tendency toward inequality is repressed?

Once one phrases the question that way, there are a limited number of sensible strategies available.

Human capital

The most optimistic viewpoint on the inequality/unemployment problem, one particularly associated in the public mind with U.S.

Labor Secretary Robert Reich (see Reich, 1991), is that investment in human capital — both in basic education and in retraining for older workers—can reverse the tendency toward greater inequality.

In principle, human capital investment could constitute a two-pronged assault on the problem. First, education and training could, in effect, make the 10th percentile worker more like the 90th percentile worker. If a worker who does not go to college has nonetheless received a highly effective basic education, she will be more productive not only in absolute terms but also relative to the college-educated. The same is true of a worker whose former skills have been made obsolete by technical change, but receives training that equips him with a new set of marketable skills. Thus a program of investment in human capital should work directly to flatten the wage schedule in Figures 1 and 2.

At the same time, an increase in the overall level of skill in the workforce would presumably make the premium on skill smaller— and this too should flatten the wage distribution.

Investment in human capital, then, seems to be a magic bullet that solves the problems of both unemployment and inequality, without posing painful tradeoffs. What are the objections?

The big question is whether it is realistic to expect government education and training programs to make a large enough impact on the wage distribution to have any noticeable effect. A skeptic might offer several disturbing observations. First, it is unclear how much of the spread in the earnings distribution is actually tied to formal education; the fractal quality of the increased dispersion suggests that deeper forces are at work, which may continue to yield increasingly unequal outcomes even if formal education levels are made more uniform. Second, improvements in basic education will, by definition, take a very long time to be reflected in the actual labor market. As a result, human capital optimists tend to stress retraining, which might have more immediate payoff; but there is little evidence suggesting that retraining schemes are actually particularly effective in raising worker productivity.

Above all, it is hard to see any evidence in the data that virtue in the form of good education and retraining are rewarded with good labor market performance. Americans who are self-critical about our basic education generally hold up European nations such as France and Western Germany as models, but their success in teaching students basic literacy and numeracy has not translated into sustainable low unemployment. Neither has the massive Swedish retraining scheme.

None of this constitutes a conclusive demonstration that human capital investment cannot have a favorable impact, or an argument against trying to improve education and training. It is, however, hard to escape the feeling that those who place their faith in education and training as the major solution to the problems of jobs and wages are engaging in wishful thinking, driven by an unwillingness to face up to the harshness of the tradeoffs involved.

Pruning the welfare state

If investment in human capital is the feel-good answer to unemployment, scrapping or at least shrinking the welfare state is the tough, hard-nosed answer. Theory, experience, and econometric evidence all suggest that countries with high natural rates of unemployment can bring down those natural rates by reducing both the generosity and duration of benefits to the unemployed, thereby increasing the desperation with which the unemployed must search for jobs. The gross comparison between the United States and Europe is one piece of evidence; cross-country econometric studies like the already cited work of Layard, Nickell, and Jackman (1994) are another. The experience of the United Kingdom, which has lowered its social safety net part way from European toward U.S. levels, provides something of a test case. Both anecdotal evidence and econometric estimates — see, for example, Elmeskov (1993) — suggest that the UK's natural rate has in fact declined both absolutely and relative to those of its European neighbors.

The problem is that this reduced unemployment does not come without a cost. While welfare states do distort incentives, they also provide real benefits to families in the lower end of the income distribution. Thus when the welfare state is scaled back, the lowest-

income members of society are in fact hurt. The new jobs created are, predictably, low-wage (just think of running Figure 1 in reverse). And those who are still unemployed after the reduction in benefits are especially hard hit. It is surely not an accident that the United States, which combines unusually low benefits among industrial countries with an unusually favorable employment performance, also is unique by any measure in the extent of poverty—especially among families with children.

It is common in much discussion of unemployment to use euphemisms in describing policies that will in effect lower the reservation wage; to talk, for example, about increasing the flexibility of the labor market. The reasons for this desire to mask the harshness of the choice are obvious. It is therefore, however, all the more necessary for those of us who are not under political constraints to be blunt. There is a well-understood way to reduce OECD unemployment, but it involves creating more jobs at the expense of more extensive and more severe poverty. As Layard and others put it, "This is a harsh route, in which some people end up on the scrap-heap."

This is an unpleasant tradeoff. Is there any way to improve it?

Making the welfare state work better

Any tax or transfer payment distorts incentives. The size of the distortion can, however, be made less if the tax or transfer scheme is well designed. To a first approximation, the welfare state can be thought of as a combined system of taxes and transfers whose objective is to help the less fortunate, but which has large incentive effects, one of whose consequences is unemployment. Without question, it should be possible to make incremental improvements in this system that would reduce its incentive cost.

An example, which receives considerable emphasis in the European Commission White Paper, is the funding of social insurance via employers' contributions. In most cases, these contributions are regressive—that is, they represent a higher share of the compensation of low-wage than of high-wage employees. This, however, means that the system discourages the employment of precisely those workers

who are most likely to be driven out of employment in any case.

A meliorative approach to unemployment, then, would try to find ways in which the current levels of support for the unemployed could be provided with less distortion of incentives, and hope in this way to achieve some reduction in the natural rate of unemployment. It is unclear, however, how much improvement is possible.

Subsidizing employment

Until recently, smaller European countries, and especially Sweden, seemed to have managed to escape both Eurosclerosis and the American affliction of growing inequality. The key element in Sweden's success was an "active manpower policy," in which the government was prepared to make large outlays in an effort to keep unemployment low. Unemployed workers were sent to expensive retraining programs; employers were offered substantial subsidies for hiring the long-term unemployed; and the government, itself, acted as an employer of last resort. In the 1980s, expenditure on these policies was about 1 percent of GDP, which most Swedes regarded as a good bargain.

Unfortunately, this record of success ended in the 1990s. The Swedish unemployment rate, less than 2 percent in 1990, has nearly quadrupled. Some of the unraveling may be attributed to macroeconomic problems, associated with Sweden's effort to shadow the European Monetary System. More to the point, Sweden became unable to maintain its policies in full because of a fiscal crisis, which drove the public sector deficit to 14 percent of GDP in 1993. See Lindbeck and others (1994) for a discussion of the crisis. And many Swedes now attribute the country's slide in economic rankings, from the highest per capita GDP in the OECD in 1970 to rough parity with the United Kingdom today, to the long-term incentive effects of its social policies.

As a matter of economic principle, subsidized employment for those who would otherwise be unemployed should be a way to cut through the otherwise agonizing tradeoff between mass unemployment and mass poverty. As a practical matter of political economy, is it possible to carry out such a policy in a way that targets the groups that really

need it, and thus avoids a runaway growth of expenditure? Five years ago, one might have said yes, and pointed to the Swedish example; at this point, the apparent unraveling of that model makes it difficult to argue for implementation of Swedish-style labor market policies. Nonetheless, unless Eurosclerosis goes into spontaneous remission it is likely that there will eventually be a call for a return to policies that subsidize employment.

Prospects

Predicting the future course of OECD unemployment involves assessing both the trends in market forces and the likely policy responses. In other words, this section is totally speculative. Nonetheless, it may be worth setting out a few scenarios.

Market trends

The key question about market trends is whether the forces that have pushed toward greater inequality will continue or reverse direction.

The popular view that attributes the pressure on OECD labor markets to globalization and competition from newly industrializing countries is generally associated with a belief that things can only get worse. After all, there are still billions of workers out there, willing to work for very low wages, ready to pour their products onto world markets. As we have seen, however, the overwhelming evidence is that the pressure is in fact coming not from foreign competition but from the skill-biased nature of domestic technological change. Will this bias toward skill continue?

The short answer is that we don't know—but even that represents what may be a surprising piece of optimism. Let us consider the case for that optimism.

One point is historical. The Industrial Revolution was almost surely associated with a capital-using bias in technology, which led to a conspicuous failure of labor to share in the initial gains. From the 1920s to the 1970s, however, industrial growth was associated with an increasingly equal income distribution. The point is that techno-

logical advance need not always move the earnings distribution in the same direction; the relationship between growth and distribution has reversed sign in the past, and may well do so in the future.

Let me also offer an even more speculative observation. It is generally assumed that modem technology, and especially computing technology, inevitably favors the cleverest and best educated. Robert Reich has nicely encapsulated this view by referring to the beneficiaries of technology as those who have the talent and education to work as "symbolic analysts," rather than as manual workers. And there is no question that this is what has happened so far. Yet in the somewhat longer run it may actually be easier for computers to replace people in what are commonly regarded as high-skill occupations than in more ordinary work. As the artificial intelligence expert Marvin Minsky has pointed out, "A 1956 program solved hard problems in mathematical logic, and a 1961 program solved college-level problems in calculus. Yet not until the 1970s could we construct robot programs that could see and move well enough to arrange children's building blocks into simple towers ... What people vaguely call common sense is actually more intricate than most of the technical expertise we admire." The time could well come when most tax lawyers are replaced with expert systems, but human beings are still needed—and well paid—for such truly difficult occupations as gardening and house-cleaning. The high-skill professions that have done so well in the last twenty years may be the modern counterpart of early nineteenth century weavers, whose incomes soared after the mechanization of spinning, only to crash when the technological revolution reached their own craft.

This is pure speculation. For the time being the fact is that technological change has tended to magnify inequality, and thereby impose unemployment on those countries that lack sufficient flexibility of relative wages. What are the likely policy responses?

Policy responses

More often than not, the best policy forecast is for no substantive change. Surely the most reasonable forecast for the OECD economies is of no major change in their labor market policies: perhaps some reforms intended to improve incentives, perhaps some modest ges-

tures toward active labor market policies, but no radical departure.

Would such policy drift be sustainable? At the moment, a sense of crisis has been created by two factors: the sharp rise in European unemployment rates since 1992, and the emergence of large budget deficits in countries with extensive welfare states. The very recent surge in unemployment is, however, primarily cyclical rather than structural. For what they are worth, estimates of trends in natural rates for major European countries seem to show a flattening or even slight reversal of the upward trend by the end of the 1980s. See Elmeskov (1993), pp. 61-2. It is thus possible that an ordinary cyclical recovery could reduce the European unemployment rate to, say, its 1991 level. This would take off some of the immediate social pressure. A cyclical recovery would also improve the budget situation of the industrial nations.

It is worth recalling that policy concern with European unemployment tends to come in waves. Eurosclerosis was a major issue in the mid-1980s, but was nearly forgotten in the wave of "Europhoria" during the rapid growth of 1987-90. Now the consensus is that this growth was no more than a business cycle recovery, with little bearing on the structural problems — Europe's equivalent of "morning in America." Nonetheless, a solid recovery could once again cause the current focus on unemployment to recede.

What are the alternatives to drift? Leaving aside hopeful experiments with education and training, there are two main alternatives: Europe can become more like America,[8] or it can try to become more like Sweden used to be. That is, the welfare state can be scaled back, increasing the incentives for firms to offer and for workers to accept low-wage employment; or governments can try to subsidize employment at acceptable wage levels.

The political problems with either alternative are obvious. Attempts to scale back the protections that have discouraged employment in Europe will, indeed, already have, led to massive protests. On the other hand, if employment is to be subsidized, the money must be found somewhere, a difficult task when the budgets of many high-unemployment nations seem already to be dangerously out of control.

Unfortunately, it is hard to offer any comfortable predictions. The unemployment problem of the advanced nations has no painless solutions, and we should not expect effective action to solve that problem until or unless it becomes a true crisis.

Endnotes

[1]Elmesov (1993) provides a useful survey both of evidence and of the immense literature.

[2]Admittedly, there is a significant "real business cycle" faction among academic macro-economists who do not believe that aggregate demand can alter unemployment even in the short run—that is, they believe in effect that the economy is always at the natural rate. I make no apologies for disregarding that view in this paper.

[3]Because of the changing demography of the labor force, the overall unemployment rate consistent with stable inflation has shifted around somewhat over time. In the late 1970s, with large numbers of young entrants into the labor force and a surge of women entrants with limited work experience, 4 percent unemployment among married men corresponded to about 7 percent overall unemployment; by the late 1980s, as the labor force became older and more experienced, a reasonable estimate of the natural rate had fallen to about 6 percent. Weiner (1993) provides estimates of a demographically adjusted natural rate; the track record of that rate in predicting the direction of inflation change is even better than that in Table 1.

[4]For a speculative model of the political economy of this tendency, based on a median-voter approach, see Krugman (1993).

[5]Commission of the European Communities, *Growth, Competitiveness, Enployment: The Challenges and Ways Forward into the 21st Century,* Brussels, December 1993, p. 4.

There is a persistent belief among journalists and policymakers that competition from newly industrializing countries, in addition to having the distributional effects discussed below. has been responsible for the declining share of manufacturing in advanced economy employment. This belief is, however, flatly rejected by the data. See Elmesov (1993) and Krugman and Lawrence (1994).

[7]There has been some confusion created by several studies that attempt to measure the impacts of trade on income distribution by looking at the quantities of skilled and unskilled labor "embodied" in trade flows. Although this procedure, as implemented in such studies as Borjas, Freeman, and Katz (1991), seems plausible, it cannot be justified in any consistent trade model—nor is it possible to determine the direction of the bias. Despite the problems with their procedure, Borjas and others, and especially the update of their conclusions by Katz (1993), arrived at the same answer as other studies: that trade has played only a minor role in the trend increase in U.S. inequality. A recent study by Wood (1994) has claimed very large effects of North-South trade on income distribution. He not only relies on the "embodiment" method, however, he also uses a highly questionable procedure to get very high labor content in imports. It is hard to know what consistent economic model would justify his estimates, or how they can be reconciled with the direct evidence that there has been little change in the skill intensity of the industry mix

[8]It is also possible that America will become a bit more like Europe. Clinton Administration officials have proposed both substantial increases in the minimum wage and a healthcare reform funded by employer mandates; both measures would substantially raise the cost of low-skill workers to employers, moving American labor markets closer to the European norm. At the moment. however, both proposals seem to be in abeyance.

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Commentary: Past and Prospective Causes of High Unemployment

Edmund S. Phelps

I am delighted to see that Paul Krugman and I agree on the two most basic points to be made. First, there is a natural rate of unemployment. Second, the natural rate moves. The importance of natural rate doctrine, of course, lies in the property of its standard models that after a monetary disturbance has driven the unemployment rate away from the natural rate—or a real disturbance operating through the monetary mechanism discovered by Keynes—the *equilibrium* (that is, the surprise-free, correct-expectations) trajectory of the unemployment rate returns to the natural rate (Phelps, 1968). A soft landing is theoretically possible in the simplest models, while in realistic models exhibiting stickiness of wages or prices or of the interest rates set by the central bank, overshooting is to be expected. In any case, the average unemployment rate in a long period—a dozen years or more, say—is rarely far from the average value of the natural unemployment rate in that period.

On our approaches to unemployment, however, we are far apart. I feel compelled therefore to inject into the discussion my own perspective on the natural unemployment rate, since it differs from that of Krugman and several other economists here. Then I will come to his thoughts on the subject and try to give them their due.

Confidence in the essential rightness of natural rate doctrine has not always been as firm as it is now. As the 1980s unfolded it began to be felt that I and the other natural rate theorists, such as Stiglitz (1973),

Calvo (1979), and Salop (1979) had left the natural rate concept too
feeble to live. In Western Europe, unemployment rates reached dou-
ble-digit levels at mid-decade and seemed to hang there, motionless.
Moreover, the inflation rate seemed to be barely falling. Several
economists began to express doubts about the natural rate. Since the
natural rate couldn't have jumped to double digits, they said, there
must be something wrong with the natural rate concept.[1] (Some
economists developed the concept of strong persistence, or strong
hysteresis: **A** country's equilibrium unemployment rate is not some
natural rate; it is whatever rate was experienced yesterday.)

Now I am coming off a six-year effort to fortify the natural rate
concept against such doubts through a further development of the
theory of the determination of the natural rate (Phelps, 1994a). The
objective has been to find the mechanism governing how the natural
rate moves in response to a nonmonetary macroeconomic shock or
policy shift. The empirical conclusion is stronger than I anticipated:
*Most of the long-term changes in the unemployment rate are the result
of the movement in the natural rate rather than of deviations from an
unchanging natural rate.* It is the persistence of the underlying forces
driving the natural rate that accounts for the seeming "persistence" of
the unemployment rate, not any tendency for unemployment to lock
onto its current rate regardless of fundamentals.

The gist of the theory, as in my original 1968 formulation, is still
the idea that costliness of employee behavior at'low unemployment
rates impels firms to drive the equilibrium wage level above the
market-clearing level. (If across the economy the going wage starts
out low enough to clear the market —a wage level so low that firms
could afford to hire everyone wanting a job, leaving no pool of workers
involuntarily unemployed — firms are beset by employee quitting,
shirking, absenteeism, strikes, and the rest. Each firm then responds
by raising its wage in the expectation that a favorable wage differential
would provide its employees with an incentive to perform better—
sufficiently better to repay the higher hourly wage.) The escalation of
wage standards in turn forces each firm to economize more on labor.[2]
Employment — the number of jobs available — is decreased; but the
labor force is not or not by as much, if decreased at all. Thus a pool
of involuntarily unemployed workers is created — the natural army of

the unemployed.[3] We can imagine them drawing lots in the local employment office or taking a number at one or more firms as consumers do at a bakery to determine who gets a job and when.)

My more recent models have the further property that there is an equilibrium wage required by cost considerations at every given level of the unemployment rate. This required wage curve gives a higher wage the lower is the unemployment rate. **A** shock increasing the propensity to quit or shirk or whatnot drives up the required wage in the sense of shifting up this curve—for example, a fatter financial cushion—more cash flow or imputed income from private assets or more welfare entitlements. My recent models capture this by making these propensities of an employee a function of wage rates (his employer's and other firms') relative to what is called his "nonwage income."

Overall equilibrium also entails that firms can afford to employ the numbers they are employing. This brings in the demand wage—the wage that the firms can afford to pay at a given level of employment or at the corresponding level of the unemployment rate. Anything that reduces the demand for labor can be interpreted as shifting down this demand-wage curve. This steady-state demand wage is downward sloping in the wage-employment rate plan, like ordinary labor demand curves.

Unemployment has to rise or fall as necessary to reconcile the demand wage and the required wage. If something happens to push up the required wage above the demand wage, employment shrinks until the required wage is no longer above the demand wage. This rate of unemployment where the required wage equals the demand wage— where the two curves cross—gives the natural rate. If the economy is found initially at that point, firms will be willing to hire at a rate that maintains the unemployment rate steady for the moment. This notion of the unemployment rate that, if reached, would hold steady at least momentarily, absent monetary influences, is what we mean by the natural rate.

It follows that forces shifting up the required wage but not the demand wage (or shifting up the former more than the latter) operate

to increase the natural rate; thus forces shifting down the demand wage but not the required wage (or shifting down the former more than the latter) also increase the natural rate.

It is instructive to consider a shock consisting of a one-time "Harrod-neutral" technological advance at firms — one that "augments" the labor input of all grades of labor equiproportionately — accompanied by an increase of the capital stock in equal proportion. In a neoclassical growth model, the effect would be simply to increase output, wages, and nonwage income in that same proportion, with no change in the rate of interest. Those results occur in my models with the added implication that there is no change in the natural unemployment rate. The reason for this neutrality is that wage rates as a ratio to nonwage incomes are left unchanged, so that the required wage increases in the same proportion as the demand wage rises. This neutrality could theoretically apply to an open economy too. The value-added tax is another neutral factor, and so too in the long run is the size of the labor force. All other shocks appear to be non-neutral for the natural rate.

A wave of empirical results from this framework (or more rudimentary ones) have come in. My own statistical study of seventeen OECD countries (Phelps, 1994a) confirms the importance of several factors in the secular rise of unemployment — though one, the real price of energy, has abated.

> "The two external oil price shocks hurled by OPEC in the middle and late 1970s were seriously contractionary. Such shocks push up the natural rate by reducing the wage business can afford while doing little or nothing to bring an accommodating reduction in the required wage."

This factor is widely thought quiescent now, since real oil prices, after soaring to twice its 1960s level in the 1980s, have been low again since 1987. Yet energy taxes in many countries have risen to fill the void, possibly shoring up the natural rate. Furthermore, the shift of energy-saving production techniques for more than twenty years may continue to dampen the demand for labor.

> "External shocks to real interest rates (money rates after sub-

tracting off the ongoing inflation rate) have been a big contractionary force, as the theory predicted. Being purely on the receiving end, Europe suffered most from such shocks in the '80s, the non-German countries most in the early '90s. An environment of high real interest rates has a chilling effect on investment activities that create jobs: training new employees, labor-intensive construction, and recruiting new customers by keeping prices low." (Phelps, 1994a)

The good news is that the factors that pushed up world real interest rates in the early 1980s and the early 1990s, notably the American and next the German investment stimuli, have subsided. Moreover, reverse forces are operating in the 1990s with the renewed attacks on government spending and the defense budget. (Lower inflation may also have lowered the real cost of capital.) The bad news is that some new and as-yet-unmeasured factor has been keeping real interest rates higher than predicted for the past few years — presumably the emerging market economies.

A country can insulate itself from these international forces only at great cost. But an appreciable part of the secular rise of unemployment in France and elsewhere can be laid to a domestic factor.

"The big hikes in payroll and personal-income taxes in most countries have been mass job-killers. In France the ten-point rise has cost the unemployment rate about a point and a half. The contrasting neutrality of value-added taxes is also confirmed." (Phelps, 1994a)

Some observers already guessed these results from simple correlations: In the G-7 contest for the largest total rise in these two damaging tax rates from 1965 to 1990, Canada and France finished 1 and 3. In the standings for the rise in unemployment, Canada and France finished 3 and 1. Japan aside, the United States was last in the latter race, and next to last in the former. Either way, the results conform to the theory. When business or workers are taxed on wages, business must pay more to provide the same employee incentives as before, and cannot then afford the same workforce as before.

The econometric estimates and the time series of the explanatory variables imply a path of the natural unemployment rate over the estimation period—and on to 1993, the last year for which we have all the data on the causal variables. The United States path is shown in the attached chart. As the reader can see, the forces I have discussed have collectively produced a major rise of the U.S. natural rate between the mid-1960s and the present. As estimated, the natural rate has climbed from around 5 percent in 1964 to around 6.45 percent in 1993. If this is so, there has been substantial overshooting of the unemployment rate in 1994. Furthermore, international factors point toward a resumption of the natural rate to a level more nearly like what existed in 1988, 1990 and 1991—years when the world real interest rate was much higher and the dollar's real strength much less than in 1993. What we might call the *basic* natural rate might be estimated at around 6.65 percent. It seems to me, therefore, that Paul **Krugman** is out of touch with the development of the natural rate in this country when he suggests that the natural rate in the United States has exhibited no important elevation in the past few decades. A climb of one-third since the mid-1960s is, to me, a major increase, and this increase comes on top of a level that was already unsatisfactory and far higher than what was enjoyed in Western Europe at that time.

Two other influences are not estimated in my study, though I am working to estimate these factors now. One of these is domestic:

> "The enlargement of welfare benefits in recent decades operates to undermine employee performance and thus to shrink jobs— and possibly wages too. When people see that failing to remain continuously in their job will not cost them a range of benefits, from medical care to retirement income, and that losing their jobs may gain them additional means-tested benefits, their propensities to quit, shirk, be an absentee, and to strike are increased. Employer costs are increased, and jobs have to be curtailed." (Phelps, 1994a; see also Phelps, 1994b)

The other is largely international:

> "The demand for low-skill labor appears to have declined in relation to labor demand as a whole. The effect on the unemploy-

ment rate of low-wage workers is sizable in recent estimates by others, though the effect on the general unemployment rate is still quite small." (Phelps, 1994a)

Two of the underlying causes are also international. Trade liberalization in previous decades and the productivity gains realized in East Asia, in sending cheap-labor imports into Western markets, have reduced sharply the wage that some employers can afford. Technological advances such as computerization may make the training of low-skill labor too expensive to be worthwhile for employers.

Let me now take up briefly Paul Krugman's thoughts on the behavior of the natural rate over this same period. I am continually astounded that insightful economic observers do not see the importance of the huge rise in the world real interest rate in recent years (first pointed to by Lal and van Wijnbergen and by Fitoussi and Phelps in the mid-1980s). One would think that an international economics theorist, as Krugman is, could hardly miss the point that the newly arrived opportunities for profitable investment in East Asia and Latin America at real rates far higher than the marginal investments needed for high employment in the rich countries of the West spell a slowdown of wages in the West to accommodate the elevation of the world real rate. The trade theorists miss it, I would guess, because they have not thought through how such a downward pressure on wages could push up the natural rate. However, let us focus on what he does say, not on what he doesn't.

It was very pleasant to see him take seriously the idea, which has been noisily trumpeted in the financial press, that the welfare state and its financing through taxes on labor might have been responsible for some of the rise of the natural rate on the European continent. I did feel let down, therefore, when he lets the welfare state off the hook, saying that it does not "explain why unemployment rates in Europe have risen so much." To say that the welfare states were "already notably generous in the low-employment (sic) era of the early 1970s"—he must mean the low-unemployment era—is of little value here (it proves nothing) since so many other factors can explain the low unemployment in those years (and earlier ones): the world real interest rate had been steadily falling and was then much lower than

it is today, and tax rates falling wholly or disproportionately on labor were far lower than today. Ultimately, good sense is regained when he concedes that pruning the welfare state would contribute to reducing the natural rate, alluding to the widely conceded decline in the British natural rate over the past dozen years.

The author's discussion of "inequality" and unemployment was a great deal fresher, thus more of a contribution, it seemed to me. I will confess that at first I thought this was just a glitzy way of saying that a drop or a slowdown in the demand for *low-wage* workers will raise *their* natural unemployment rate. "Economist Says Inequality Swells Joblessness," is the possible headline, and in fact I saw a headline like that in Italy this summer (though I think none of the conference speakers had said any such thing). But then I realized that there is a deep truth in it—more maybe than the author realized.

Suppose that there is an increase or a speedup in the demand for *high-wage* labor. Since their unemployment rate is already quite low we can virtually forget about the effect on *their* natural unemployment rate. But the natural unemployment rate of the *low-wage* workers might be sensitive to such a shock, and be driven up by it. If there were a sociologist here, he or she would insist to us that some or all of the low-wage workers would resent the increased wage rates of the high-wage workers and this resentment would aggravate their propensities to quit and shirk, with the consequence that their employability was reduced and their natural unemployment rate was increased. Whatever the truth in that thesis, I would argue that the technological or other improvement generating the increased demand for high-wage labor would-trickle down in the form of increased nonwage income for low-wage workers—they would find that while their wages were at a standstill, the returns from the private assets and the welfare entitlements were enlarged by the economic progress focused at the top of the pyramid. As a thought experiment, take a random sample of workers from a poor economy and transplant them into a rich economy where their wages will be as low as previously but everyone else's wages will be vastly higher. I say that their employability will collapse from the destruction of their incentives to perform as diligently as they did in their home country, with the result that their unemployment rates will soar.

There is also a great deal in Krugman's paper on how little the effect of foreign trade on the natural rate has been so far. The international economics fraternity is, nearly to a man, all very determined to defend free trade against the criticism that it has worsened unemployment. So the diligent review of recent studies on this topic is hardly iconoclastic. I would only say that I also like free trade. But I do think that the ritualistic free traders should shore up their case by arguing that it may be necessary to engage in some redistribution of the gains from a country's free trade if there is to be assurance that low-wage workers will not be heavy losers from free trade. If the plight of low-wage workers gets much worse in the future, it will be interesting to see how the international economists divide themselves among the die-hard free-trade camp--come what may—and a new camp that takes seriously the need for subsidies for low-wage workers. This brings me to the matter of policies to reduce the natural rate.

What to do? The solution for which I have pleaded the past five years: a low-wage employment'subsidy. It would best take the form of a tax credit that employers could use to offset the payroll taxes they owe from their employment of low-wage workers (Phelps, 1990). Low unemployment and better.pay would result at the low end of the labor market—the less of the one, the'more of the other. I hope that, with time, I will be able to persuade Paul Krugman; who seems a little diffident about subsidies at this moment, and indeed all right-thinking economists to join in the effort to see such a scheme put into action.

To some extent, this subsidy scheme would be self-financing.Reduced joblessness and better pay would reduce claims on the welfare system. As crime rates fell there would be savings in law enforcement. The added employment would add some payroll and income tax revenue net of the subsidy.

To a considerable extent, the remaining financing would best come from shrinking those welfare benefits that most undermine employees' interest in staying and performing in their job. Unemployment benefits are a common example.

Some increase of taxes could well be necessary, though. An extra value-added tax would be relatively convenient in countries having

the machinery for collecting such a tax already in place. An extra payroll tax at the high-wage end is likely to be more attractive. In that latter case, no *net* increase in the overall tax burden on labor results, only a reshuffling of the net tax revenue to be paid.

Once the results of this measure for unemployment and wages can be gauged, the government should give consideration to outright cash subsidies that would go beyond relief of payroll taxes. In recent calculations, I figure that wage incomes as low as $7,000 or so could be boosted to around $11,000 or so, with lesser increases at higher income levels, at a cost of a little more than $100 billion per year (Phelps, 1994c). The transformative social effects would transcend what might be suggested by the impact on the aggregate unemployment rate.

It would be fitting that the employment subsidy program be introduced first in this county, where the economic difficulty of low-wage workers may be the worst among Western countries. The United States, which, as Myrdal was fond of observing, has always been the laboratory for devising answers to the world's new social problems, has the opportunity to be the first country to translate widespread notions of economic justice for disadvantaged workers into reality—and to reduce unemployment and boost industry and enterprise in the process.

Chart 1
Decomposition of the Rate of Steady-State Unemployment and the Rate of Actual Unemployment in the United States
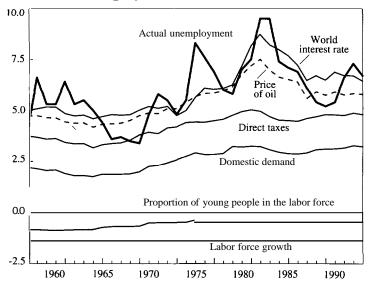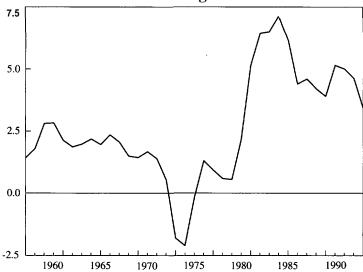

Chart 2
The World Real Long-Term Interest Rate

Endnotes

[1]A similar episode occurred just a year ago. On both occasions, just when radical pessimism began to take hold, recovery began in one country after another, with few exceptions.

[2]Although my decision to raise my wage scale is no reason then to fire some of my workers, the discovery that the firms generally have raised their wages is a reason for me to fire some of my employees and to pay more to the remaining ones.

[3]For these workers, and for workers generally, the wage is above the "reservation wage," which a worker needs to participate in the labor force. It is curious that Paul Krugman somehow appears to believe that people's unemployment is explained by an excess of their reservation wage over their available wage; that could only explain their nonparticipation in the labor force, not their unemployment. since they would not be in the labor force.

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Commentary: Past and Prospective Causes of High Unemployment

Christopher A. Pissarides

Krugman correctly says that the increase in unemployment in Europe is an increase in the natural rate. What he means by that is that if policymakers tried to reduce the unemployment rate through expansionary monetary policy, the result would be inflation with only temporary effect on unemployment, if at all. Not many economists in Europe will disagree with that view.

He also writes, however, that following massive amounts of research in the Organization for Economic Cooperation and Development (OECD), "many economists have coalesced around a common view of the nature of the problem." And the reason that policymakers do not all subscribe to that conventional economic wisdom is partly because of our "failure to explain that view clearly." Krugman has succeeded in putting forward the view that he considers to be the conventional wisdom with exemplary clarity. But although he says many correct things about European unemployment, I have doubts whether his interpretation would be as generally accepted as he claims or that the picture is as simple as he makes it out to be.

Krugman attributes virtually the whole of the rise in European unemployment to a single cause, welfare policy. Simple diagnosis to complicated problems is, of course, what we are all after, but unfortunately the truth, as I see it, is much more boring. Social security is certainly a factor, and an important one at that, in the comparison of the U.S. and European unemployment experience. But there is a lot

more to the dynamics of European unemployment, some of it related to policy, some not. There is also the question of the tradeoffs, whether less unemployment at the cost of more dead-end, low-paid jobs is better than what we have now, which I will not touch upon here.

Let me explain by **taking** first some specific points raised by Krugman. One of the views about European unemployment that he plays down is what he calls the hysteresis hypothesis, though a better term for it would be unemployment persistence. It is the view that after unemployment goes up, for whatever reason, supply-side influences are set into motion that prolong the return of unemployment to its initial natural rate. This prolongation could take anything up to three or four years or, some would claim, even longer.

Krugman dismisses this view because of three facts. First, the United States has not experienced it; second, Sweden that avoided unemployment in the 1980s still experienced an upsurge in unemployment in the 1990s; and finally; other factors, notably welfare policy, can explain the differences in unemployment experience between countries.

On the first point, the evidence on the U.S. experience does not contradict persistence. I believe that the most plausible cause of persistence is the loss of **skill** and the will to work associated with long-term unemployment. Since the United States has not experienced long-term unemployment, it should not experience persistence.

In **Krugman's** comment on Sweden, there is confusion in the discussion between the impact effect of a shock and its propagation effects that are associated with persistence. What Sweden suffered in the 1990s was a negative shock that raised unemployment on impact. Persistence deals with the return of unemployment to the natural rate after the shock goes away. Krugman can still be proved right if the Swedes managed to avoid long-term unemployment and yet their unemployment did not return to the level of the 1980s. The jury, however, is still out on that question.

Finally, the view that social security legislation can explain all the differences in unemployment experience between countries is simply

not correct. Social security legislation can explain *some* of the differences in unemployment experience, but a lot remains unexplained. Krugman supports his view by referring to the study of **Layard, Nickell,** and **Jackman.** But what that study supported is not that a single factor, be it social security, globalization, or what have you, can explain unemployment, but (to use a phrase coined in another report by **Layard** and others) that the explanation of unemployment needs a two-handed approach, demand on the one hand, supply on the other.

' I want to mention one or two other caveats about **Krugman's** claims before I give my own view about the policy options. **A** powerful argument made by Krugman is that the reason for the increased inequality in labor market fortunes is not competition from abroad. I do not want to argue either in favor or against this proposition but I want to dispute some of the evidence that he gives to support his argument, by referring to British data.

The claim is made that if there were competition at the lower end of the **skills** distribution, there should be a shift in industrial structure in favor of industries that employ more skilled labor; and within industries, there should be a rise in the ratio of **skilled** to **unskilled** labor. Krugman refers to evidence that shows that this has not happened.

In Britain, however, increased unemployment has affected primarily unskilled *manual* workers, not all **unskilled** workers. The unemployment of all occupational groups went up during the 1980s and **1990s,** but that of **unskilled** manual workers went up by much more than the rest. (Interestingly, figures just released show that in the recession of the **1990s,** the professional classes suffered more unemployment relative to the **unskilled** than they did in the recession of the 1980s.) In 1986, the lowest **skill** non-manual worker group suffered 7.9 percent unemployment; the **unskilled** manual group suffered **23.3** percent. (See **Pissarides** and Wadsworth, 1992; Krugman correctly reproduces Table 2 from **Layard** and others showing different figures for 1984. I am puzzled by their numbers.) Therefore, the relevant evidence for Britain should compare industries using manual workers and industries using non-manual workers. The shift from manufacturing to services that took place in the 1980s is the kind of evidence

Krugman is looking for. It is generally recognized in Britain that part of that shift was caused by the appreciation of sterling in the early 1980s, which is a cause similar to the one dismissed by Krugman. Regardless of cause, however, there is a strong simple correlation in Britain between the share of employment in production industries, which employ most manual workers, and the unemployment rate.

Another comment refers to the European Commission White Paper of 1993. Written in Eurospeak, perhaps it is not surprising that it is open to more than one interpretation. My reading of it, which does not strike me as too unreasonable an interpretation of the European scene, is this. Foreign countries increased the supply of manufactured goods in international markets and this is one area where the European Union does not have the comparative advantage (point 4). Therefore, their emergence requires the shift of labor and capital in European markets from the production of those goods to the production of others, notably services, telecommunications, pharmaceuticals, and so on (point 1). But European labor costs (point 2) and employment protection legislation, social security provisions, and a host of other factors that reduced the flexibility of the labor market (point 3) have not allowed firms to switch production, giving rise to the unemployment of recent years.

Does this report put the blame for European unemployment on international competition or on Eurosclerosis? European labor markets, like markets in the rest of the world, are continuously subjected to shocks: witness the decline of coal mining, shipbuilding, and steel in Britain in the 1950s and 1960s, and the emergence of services and light engineering, all achieved without unemployment. The difference this time is that European markets have not been able to respond to the shocks without crisis. The source of the shock is not really important in a discussion of unemployment because if the labor market is flexible enough to absorb it, unemployment will not occur. What matters for unemployment and what policymakers can do something about is the market mechanism that transmits the shock to employment and wages.

Let me now turn to labor market policies and the implications that they have for the market mechanism. Some labor-market policies in

Europe slow down the ability of the market to respond to shocks without obvious benefits to employers or workers. The most important of these are restrictions on the dismissal of labor, that come under the heading "employment protection legislation." There is evidence that employment protection legislation in Europe has held back both job creation and job destruction. This has created long-term unemployment, disenfranchisement of the unemployed, and persistence of unemployment. With less restrictions, the turnover of the unemployment stock would increase, making it easier for dismissed workers to find jobs and so removing the need to protect their jobs in the first place. Long-term unemployment would also fall, removing the hysteresis implications of the shocks.

Other policies in Europe slow down job creation but with obvious benefit to some workers. The payment of compensation to unemployed workers is the best example of this kind of policy. The evidence here is becoming clear: the level of benefit is not all that important; what matters is the length of time that benefits are available. Long-duration benefits lead to long-duration unemployment, again with bad implications for the long-term unemployed.

The principles that should guide policy reform here are obvious, though the details of the implementation and the practicality of the solution are matters of disagreement. There are two options. The first is to pay benefit for a short period of time, say six months or one year, and then leave the workers to fend for themselves. One need not go to the American extreme, where the coverage of benefit is also restricted. Coverage could be as universal as it is in Europe today with no bad implications for unemployment. The other option is to change the form of support after the initial period. This brings in active labor market policy.

Active labor market policy includes spending on measures that help the unemployed get into jobs. Job matching services, training opportunities, employment subsidization, youth schemes and other similar measures come under the heading of active policy. The OECD has spent a lot of effort recently collecting data on active policy. Currently in the OECD, spending on active policy is about as much as half of spending on income support for the unemployed. The big spenders are

the Scandinavian countries; the small ones, the North American ones.

The recent experience of Sweden with unemployment has done much to undermine the popularity of active policy. But one need not go as far as Sweden did in the 1980s and also, since we are still talking about the natural rate here, final judgment on Sweden will have to wait the emergence of that country from its recent recession. The evidence accumulated by the OECD shows that countries that spend more on active policy than on passive have less long-term unemployment and consequently less overall rate of unemployment and less sluggishness in response to shocks. Active policy can undo what passive policy does to incentives and wages, admittedly at a cost.

Concluding, I find myself a little less sure than **Krugman** is of the cause of Europe's unemployment problem but a little more optimistic about the policy options. Employment protection legislation will have to go. On income support, one does not have to take the cruel route that the United States has taken. Income support can and I think should stay, but it should be backed up with active measures to reduce its disincentive effects. How far both passive and active measures should go is a matter of policy choice. Perhaps Sweden has overdone it but I do not think anyone can claim that the Britain of the 1990s is overdoing it. (Britain is not moving in the direction of the United States. It is relaxing restrictions on the dismissal of labor but it is not restricting the availability of unemployment compensation. On the contrary, it is increasing spending on active measures to help the unemployed get back to work. The critics claim that Britain has not done enough and its unemployment experience in the recent cycle gives them some support. The recent unemployment cycle has many features in common with the earlier one and the average unemployment rate has not changed since 1984.)

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The Role of Demand Management Policies in Reducing Unemployment

*Charles R. **Bean***

> *"Macroeconomic policy has two roles in reducing unemploy-*
> *ment: over the short term it limits cyclical fluctuations in output*
> *and employment; and over the longer term it should provide a*
> *framework, based on sound public finances and price stability,*
> *to ensure that growth of output and employment is sustainable,*
> *inter alia through adequate levels of savings and investment."*

This quotation appears at the beginning of the Policy Recommen-
dations section of the Organization for Economic Cooperation and
Development's recent jobs study (OECD, 1994). However, of the
fifty-nine separate recommendations only three concern macroeco-
nomic policies, and but 10 percent of the background analysis is
concerned with macroeconomic issues. The three specific macroe-
conomic recommendations are: (1) maintaining demand at a level
appropriate for achieving noninflationary growth; (2) fiscal consoli-
dation; and (3) improving the mix of public spending and taxation (as
much a microeconomic measure in any case). Likewise most of the
contributions to this conference concentrate on structural issues con-
nected with labor markets rather than traditional macroeconomic
questions.

Let me state clearly at the outset that I do not wish to argue that this
emphasis on the supply side is mistaken. While it is almost certainly

the case that adverse demand shocks have played at least some role in pushing European unemployment to its present levels, the scope for more expansionary macroeconomic policies alone to reverse the trend is distinctly limited, for reasons that will be discussed below. Rather, reducing unemployment levels to something that is socially accept-able will surely require the implementation of various structural measures to improve the functioning of labor markets. One, rather classical, view would be to argue that this is all that is required: if the supply side is put right then the demand side will take care of itself through appropriate adjustments in wages and prices. I think that the presence of various rigidities in the economy make this too sanguine a view and that the likelihood of the labor market measures being successful will be enhanced if accompanied by suitably expansionary macroeconomic policies—in the words of Blanchard and others (1985) a "two-handed" approach. Apart from leading to further unnecessary output losses, a classical strategy of allowing the demand side to adjust automatically through downward wage and price adjustment runs the risk of leading to an early reversal of what may be quite painful supply-side reforms if their benefits are not immediately apparent to the electorate. However, saying that policies toward aggregate demand should be complementary to supply-side policies still leaves many questions unanswered.

In my contribution I shall try to address some of these. I shall start by presenting some evidence on the role of demand factors in the movements in American and European unemployment, and then review the mechanisms by which macroeconomic policies affect unemployment, paying particular attention to persistence mechanisms that lead demand shocks to have supply-side consequences. I conclude that the scope for demand management policies alone to reduce the present very high levels of European unemployment is limited. I shall then go on to consider how macroeconomic policy should be set to complement appropriate unemployment-reducing supply-side meas-ures, taking cognizance of the uncertainty surrounding the equilibrium unemployment rate and the constraints on fiscal and monetary poli-cies. Finally I shall consider the desirability of other policies that might enhance the effectiveness of macroeconomic policies.
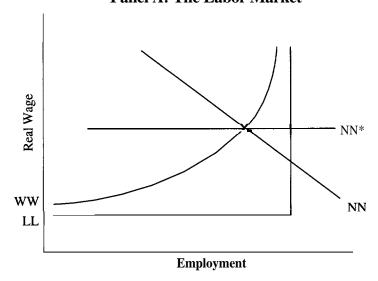
Macroeconomic policy and unemployment
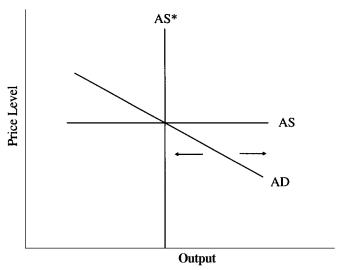
Cyclical unemployment

Figure 1 depicts the conventional framework for thinking about unemployment. Panel A, drawn in employment/real wage space, is a straightforward generalization of the usual competitive labor market diagram to allow for imperfections in both labor and product markets. LL is the competitive labor supply schedule, for simplicity, drawn assuming a common reservation wage across the whole labor force and inelastic labor supply above that level. WW is a wage-setting schedule (or in Phelps' 1994, terminology a "surrogate labor supply schedule") describing how wages are set. This could represent the outcome of bilateral bargaining between firms and workers or the operation of efficiency wage considerations. In either case, the premium of the wage over the reservation wage is increasing in the employment rate. NN is a "medium run" labor demand schedule (or more accurately a price-employment schedule) depicting firms' optimal price and employment decisions, given the nominal wage they face and their existing stock of capital. Equilibrium employment, and by residual also unemployment, is then given by the intersection of WW and NN. In the long run, capital can be adjusted, leading the NN schedule to shift outward (inward) as capital accumulates (decumulates) toward its optimal level. We can then also construct a long-run labor demand schedule which allows for this endogeneity of capital; this schedule will be horizontal if there are constant returns to scale, as in N*N*. Note that this implies that in the long run an upward shift in the wage-setting schedule will ultimately show up entirely in unemployment with no change in the real wage or productivity; looking at the evolution of real wages or labor shares—as in the old "wage gap" literature—may thus tell us rather little about the ultimate causes of movements in unemployment.

Panel B gives the associated picture in output/price space and looks (and behaves) just like the usual aggregate supply/aggregate demand model of introductory undergraduate texts. AD is a conventional downward sloping aggregate demand schedule whereby lower prices elicit higher demand through one or more of the real balance effect, lower interest rates, and improved competitiveness. AS* is a pseudo-

Figure 1

Panel A: The Labor Market

Panel B: The Product Market

classical aggregate supply schedule in which nominal wages and prices have adjusted fully and output is at the level associated with the intersection of NN and WW. However, in the short run, wages and/or prices may be sticky because of contracts or because of informational imperfections. In this case fluctuations in aggregate demand lead to movements along the short-run aggregate supply curve AS (drawn horizontal for the particular case where both nominal wages and prices are instantaneously fixed).[1]

If policymakers observe fluctuations in demand sufficiently early and *if* they can take appropriate offsetting policy action sufficiently promptly, then they can stabilize activity and unemployment around its equilibrium level. However, while this analysis might be accepted in principle, in practice most policymakers today would take the view that uncertainty about where the economy is today, let alone where it is going, coupled with uncertainty about the timing and impact of any policy action makes activist policies to eliminate such cyclical fluctuations hazardous. While this suggests that "fine tuning" is impossible, it does not rule out the scope for modest attempts to "coarse tune" the level of activity.

In this simple framework, movements in unemployment can be caused by shifts in aggregate demand which lead to cyclical unemployment, and by movements in the price or wage-setting schedules which are associated with a change in equilibrium unemployment (defined as the level of unemployment associated with full wage and price adjustment). How much of the movements in unemployment is attributable to each sort or disturbance? If we can answer this then we might also get some idea about the scope for activist macroeconomic policies. Studying the causes of the rise in unemployment has, of course, been a huge academic industry in the last decade or so and demand movements have been one of the factors extensively studied. Rather than survey this literature in detail (see Bean, 1994b, for such a survey) I instead report the results of a simple exercise using vector autoregressive techniques which conveys the flavor of this literature. This has the virtue of imposing relatively little in the way of additional untested conditioning assumptions and of obviating the need for objective measures of supply-side variables like union power. However, it turns out that the end results are consonant with those obtained
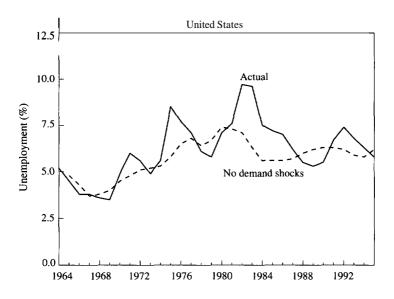
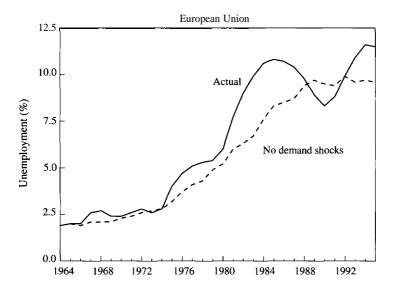using more traditional structural econometric approaches.

My vector autoregressions contain just three variables: inflation; capacity utilization; and the (logarithm of the) unemployment rate.[2] The data are annual, the sample period (after allowing for lags) runs from 1964 to 1995 (OECD projections are employed for 1994 and 1995), and the two regions studied are the United States and the European Union (EU). In addition to two lags of each variable and a constant, each equation contains dummies for the aftermath of the two oil price shocks, the first taking the value of unity from 1974 to 1976, the second from 1980 to 1983. These are added in recognition of the fact that this sample is dominated by adverse shocks, concentrated particularly in these periods. However, in subsequent analysis the contributions of the dummies are treated as though they are part of the equation error, that is, as part of the exogenous driving shocks.

As is well known, the estimated residuals from a vector autoregression will in general be a linear combination of the underlying, and economically interesting, disturbances. Thus the residual in the unemployment equation will generally reflect the impact of both demand and supply shocks. In order to recover these underlying disturbances some additional assumptions must therefore be made. Here I assume that contemporaneously disturbances to the wage and/or price-setting schedules impinge entirely on inflation and their effect on activity only comes through with a lag. Since the residuals to the inflation and capacity utilization equations are virtually uncorrelated, this provides virtually the same identification as assuming that disturbances to demand impinge only on activity in the short run with the effects on inflation only coming through later. In effect it means that in Figure 1, Panel B, the short-run aggregate demand schedule is rather steep and the short-run aggregate supply schedule is rather flat. In addition to these supply and demand disturbances, the model implicitly contains a third disturbance, most reasonably thought of as a labor force shock which is assumed in the short run to impinge on neither inflation nor capacity utilization.[3]

Chart 1 displays the time series for U.S. and EU unemployment respectively, together with counterfactual simulations from the model in which there are assumed to have been no demand shocks. It is clear

Chart 1
Effect of Demand Shocks on Unemployment
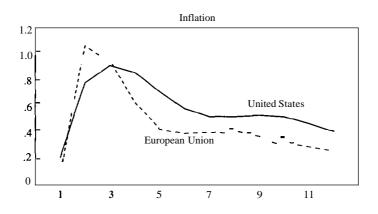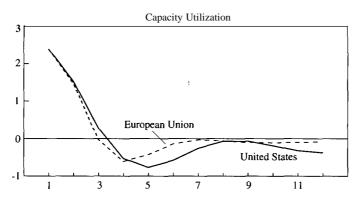
United States

European Union

that the United States fits the conventional picture beloved of macro-economic textbooks quite well, namely movements in unemployment are primarily cyclical fluctuations around a relatively constant equilibrium, or natural, rate of unemployment. In the European Union by contrast, while the contribution of demand shocks is not negligible, it is supply-side disturbances that appear to be the dominant cause of the recent rise in unemployment. Although the precise details of this analysis may not be completely robust to changes in the identifying assumptions, it is in line with the vast bulk of existing empirical work using more traditional econometric methods. For instance, **Layard, Nickell,** and **Jackman** (1991) find that, in the absence of nominal demand shocks, unemployment in the European Union would have averaged about 2.3 percent in the 1960s and 6.8 percent in the 1980s (based on Table 14, p. 436); the corresponding numbers from the vector autoregressive analysis are 2.1 percent and 7.5 percent. These simulations would appear to suggest that, while unemployment in the United States is currently near its equilibrium rate, unemployment in the European Union is about two percentage points higher than the equilibrium rate,[4] and that there is a correspondingly small margin for activist macroeconomic policies to reduce it.

The response of inflation, capacity utilization, and unemployment in each country to an expansionary demand shock are plotted in Chart 2; (the EU responses are scaled so as to generate the same first-period effect on nominal demand as in the United States). Two points are worth noting. First, even though the effect on capacity utilization is similar, the effect on inflation in the United States is rather more drawn out. This is indicative of a common finding in the literature that nominal inertia tends to be somewhat greater in the United States than in Europe (see Bean, 1994b, for fuller discussion). A corollary is that, given the inside and outside lags associated with the operation of policy, there is in general somewhat more opportunity for countercyclical stabilization measures in the United States than in Europe.

Second, and more significant for understanding the behavior of European unemployment, the effect on unemployment is considerably more long-lasting in Europe (the response in the United States even switches sign after five years, but this may simply be sampling error). This is despite the fact that capacity utilization is back to normal levels.

Chart 2
Response to a Demand Shock

Inflation

Capacity Utilization

Unemployment

This is indicative of the significant persistence mechanisms that are thought to be present in European labor markets.

Persistence mechanisms

Despite the massive research effort that has gone into investigating the causes of the rise in European unemployment, the basic model underlying Figure 1 has been found wanting in that the current high unemployment rates cannot be explained either by cyclical factors— the degree of nominal inertia is just not high enough to explain the sustained increase in unemployment--or by exogenous shifts on the supply side. In regard to the latter, the effects of the deterioration in the terms of trade following the two oil price shocks, changes in tax rates, the productivity growth slowdown, benefit levels, minimum wages, union power, high real interest rates, increased mismatch, demographics, and a host of other factors have all figured. While some of these have been found helpful in explaining particular episodes, neither singly nor as a group do they seem to be able to account for the continuous high unemployment levels. Rather in addition there appear to be persistence mechanisms present that lead today's equilibrium unemployment rate to be positively related to yesterday's realization of unemployment. As a consequence, temporary disturbances, to either demand or supply, can have long-lasting (or even permanent) effects. The presence of these mechanisms blurs the simple-minded distinction between demand and supply factors because demand shocks end up having longer-term supply consequences.

These persistence mechanisms are usually introduced into macroeconomic work and policy analysis by adding into the Phillips curve or wage equation a term in the change,[5] as well as the level, of unemployment (in the case of full hysteresis it is only the change that appears). Assuming these mechanisms operate in a symmetric fashion, the implication for both disinflation and stabilization policy is that it pays to keep unemployment closer to its long-run equilibrium rate than in the absence of the persistence mechanism (see Layard, Nickell, and Jackman, 1991, p. 525). Consequently, it pushes one toward favoring a gradualist strategy to disinflation and a more aggressive attitude to stabilizing unemployment in the face of shocks, essentially because allowing unemployment to rise a lot today has adverse effects

on the short-run equilibrium unemployment rate in subsequent periods.

The presence of these persistence mechanisms, which are embedded into the equations of the vector autoregressions, imply that one cannot simply identify the gap between the actual and the "no-demand-shock" unemployment rates in the European Union as indicating the margin of unemployment that can be eliminated through demand management policies alone. This is because adverse demand shocks *have* occurred in the past and this will have acted to raise the equilibrium unemployment that prevails in the short run today. (The underlying long-run equilibrium unemployment rate that obtains once all the persistence mechanisms have worked their way out will not be affected unless full hysteresis is present.) Consequently, there will be a limit to the speed at which the gap between the actual unemployment rate and the "no-demand-shock" unemployment rate in Europe can be eliminated through more expansionary macroeconomic policies without re-igniting inflation. Furthermore this approach is overly mechanistic in assuming the persistence mechanisms are symmetric in the sense of operating in the same way in the face of expansionary shocks as to contractionary ones. In practice they are quite likely to be either asymmetric and/or nonlinear, depending on the source of the persistence.

There are four main classes of persistence mechanisms that have been proposed in the literature, two of which operate on the supply (wage-setting) side of the labor market and two on the demand side. The first of the supply-side persistence mechanisms relies on insider membership dynamics and is due to Blanchard and Summers (1986) and Lindbeck and Snower (1988). They argue that the presence of hiring and firing costs gives the existing workforce at a firm bargaining power and an ability to push wages above market-clearing levels. The existing workforce will then try to push up wages, subject to not pricing themselves out of a job. However, if there is an unexpected contraction in demand, and wages and prices do not respond immediately, then employment will fall. The key assumption is that only those left—the "insiders"—will have a say in subsequent wage negotiations. If demand subsequently recovers they will prefer to push for higher real wages than in the *status quo ante* rather than allowing employment to return to its initial position, (subject to the constraint that if wages get *too* high a firm might find it profitable to sack all its

workforce and start anew). The key to whether this mechanism operates in reverse or not would seem to rely on whether the insiders are aware of the reversal of the demand shock. If they are, then other policies would be required alongside a recovery in demand to ensure that it was simultaneously associated with an increase in employment and thus in insider membership (see the section on incomes policies).

The second supply-side persistence mechanism operates through the characteristics and behavior of the unemployed rather than the employed. Phelps (1972) was one of the first to cite the possibility of such a mechanism when he suggested that unemployment leads to reduced rates of skill formation and weakens work habits. On the face of it, it is not clear why such a reduction in worker productivity should lead to higher unemployment, rather than lower wages. However, Blanchard and Diamond (1994) have developed a more subtle version of the story in which firms are assumed to use the unemployment history of potential workers in order to rank them in order of desirability. Because the newly unemployed will have a better chance of being reemployed than the long-term unemployed, other things equal, wages tend to be higher when ranking occurs because the bargaining position of those with jobs is enhanced. Furthermore, and most importantly, persistence can be quite long because the reduction in the perceived average quality of the unemployed that occurs in the face of a contractionary shock will also lead firms to open fewer vacancies so perpetuating the problem (Pissarides, 1992). The mechanisms in operation here seem to be entirely reversible and there is no reason for expecting asymmetries in the response to contractionary and expansionary shocks.

A different explanation of persistence that also focuses on outsider behavior emphasizes the job-seeking behavior of the long-term unemployed, rather than their skill characteristics and the attitudes of employers (Layard and Nickell, 1987). Prolonged lack of success in finding a job leads the long-term unemployed to give up searching, believing that it is a futile exercise, while at the same time they adjust to living on unemployment benefits and earnings from the "black" economy. As a result, the "effective" labor force shrinks. However, a recovery in the demand for labor will not automatically lead to these discouraged workers re-entering the effective labor force, unless it is

accompanied by active labor market policies that keep the long-term unemployed in-touch with the labor market. So here again asymmetries are a possibility.

Turning to the demand side of the labor market, the presence of hiring and firing costs means that firms will only take on extra labor if they expect the demand for it to be long-lived. Consequently if firms are unsure of the permanence of any recovery then they will be disinclined to expand employment. It is often asserted that high levels of firing costs are to blame for the increase in European unemployment. This cannot be correct on average because firing costs should *reduce* the variability of employment, but should not much affect its average level. But the presence of firing costs can explain why employment gets stuck around a particular level for some while (Bentolila and Bertola, 1990). This is because hiring and firing costs create a "zone of inaction" within which the firm is neither hiring nor firing. Thus if firms have generally been shedding labor in response to a contraction in demand or an increase in labor costs, they will not immediately start taking labor back on as soon as demand starts expanding or labor costs begin to fall, but wait until the recovery has proceeded beyond a threshold level that among other things depends upon the degree of uncertainty. This zone of inaction thus generates both nonlinearities and asymmetries in the behavior of unemployment.

The final persistence mechanism operates through the capital stock. Consider Figure 1, Panel A, and suppose there is an increase in wage pressure that shifts the wage-setting schedule, WW, up. Equilibrium employment falls. However, the intersection of medium-run labor demand, NN, with WW now lies above the long-run labor demand schedule, N*N*, along which capital is also allowed to vary. The mechanism that brings the economy back to long-run equilibrium is capital decumulation which shifts NN in until NN, N*N*, and the new WW curves all intersect at the same point. This process of capital decumulation is associated with further increases in unemployment. As stated, there is no reason for this process to be either irreversible or asymmetric. However, an extra dimension is added if the possibilities for substituting capital for labor are limited.[6] The effect'of an increase in wage pressure, or a negative demand shock, is to lead to a fall in employment and capital being left idle. If the adverse shock is

maintained, capital decumulation will set in. However when the shock is reversed employment possibilities will be limited by the availability of capital, however low wages may fall. Employment may thus fall rapidly in the downswing, but the speed of recovery in the upswing will be governed by how quickly the capital stock is built up. There is again an asymmetry in behavior.

The various persistence mechanisms thus have rather different implications for the extent and speed to which the gap between actual unemployment and "no-demand-shock" unemployment can be eliminated, and thus also for the short-run room for maneuver for macroeconomic policies. In my view the empirical evidence tends to favor outsider disenfranchisement ahead of insider membership dynamics—for instance, the degree of unemployment persistence across countries seems to be positively related to the duration for which benefits are payable, but not to the degree of unionization (Layard, Nickell, and Jackman, 1991, pp. 433-4; Bean, 1994a)—but there certainly may be some instances where insider membership effects are important, for example, in Spain (Bentolila and Dolado, 1994). The same cross-country evidence also points to the importance of firing costs. Capital constraints seem not to have been an important persistence mechanism in the past—business surveys do not suggest that firms have been constrained by a shortage of capital in recent years—but this might no longer be the case if a sustained and rapid growth in demand were to occur. The bottom line seems to be that, even if appropriate labor market measures are introduced, it is going to be very difficult for policymakers to judge what the current short-run equilibrium unemployment level is. I shall return to this issue later.

Supply effects of macroeconomic policies

We have just considered the possible mechanisms whereby shifts in aggregate demand have longer-term effects on the equilibrium unemployment rate. However macroeconomic policy instruments can also have more immediate effects upon supply. Aside from the obvious channels whereby government spending on infrastructure and training affect the demand for, and supply of, labor, there are a number of other routes worth mentioning briefly. First, the level of taxes will affect the wedge between the cost of labor to the firm and the consumption

value of the worker's wage after tax. In terms of Figure 1, Panel **A,** if we identify the real wage on the vertical axis with the real value of the wage to the worker, or consumption wage, an increase in any of payroll, income, or consumption taxes would result in an increase in labor costs at a given consumption wage and thus a downward shift in the labor demand schedule, NN, and a decline in employment. Second, movements in the terms of trade will also affect this wedge because what matters to the firm is the cost of labor relative to the price at which it can sell its product, whereas what matters to the worker is the purchasing power of the wage which includes, presumably, imported goods. **A** depreciation of the currency thus raises the product wage at an unchanged consumption wage. In terms of Figure 1, Panel A, there is thus again a downward shift in the labor demand schedule and a decline in employment. Since a fiscal expansion can be expected to lead to a real appreciation as net exports are crowded out, it will simultaneously reduce the size of the wedge and thus expand employment.

The impact of the wedge — particularly taxes — has received quite a lot of attention in the unemployment literature. However, in my view its role tends to be overstated. What matters crucially in the two experiments just considered is whether the reservation wage is also affected. Now the reservation wage will be determined not only by the level and availability of unemployment benefits but also by the level of existing savings, by the workers' expected future earnings against which borrowing may be possible, and by the possibility of support from other members of the household. **A** permanent deterioration in the terms of trade or a permanent increase in consumption taxes should also reduce the real value of the reservation wage by an equal amount. As a consequence, the wage-setting schedule will also shift downward nullifying. the effect on employment. **A** permanent increase in income or payroll taxes would have some effect because neither of them affect the consumption value of past savings and current unemployment benefits (assuming these are not taxed), but the consumption value of future earnings — which are arguably the most significant component of the reservation wage — would still be reduced.[7] Furthermore if we are in a region where the wage-setting schedule is fairly steep, most of the effect will be shifted onto wages rather than employment anyway.

The other mechanism whereby macroeconomic policies have supply-side effects is through the real interest rate. An increase in the real (post-tax) interest rate raises the cost of capital and leads to capital decumulation and declining employment demand. (In Figure 1, Panel A, N*N* shifts down and NN shifts inward over time.) In addition, Phelps (1994) has pointed to a number of other channels whereby increases in real interest rates can shift both the labor demand schedule down and the wage-setting schedule up, in both cases increasing unemployment. Thus macroeconomic policies associated with increased real interest rates, such as higher budget deficits and debt, can have adverse consequences on employment. Such considerations are obviously of less concern to a small economy with a negligible effect on world interest rates than to a large economy like the United States. These real interest rate effects may be an important part of the unemployment jigsaw, but more research here would be useful.

Macroeconomic policies to support supply reforms

What is an accommodating policy stance?

The presence of persistence mechanisms which are not easily put into reverse limits the scope for macroeconomic policy to reduce unemployment in Europe even though demand shocks may have played some part in creating it in the first place; it is not a trivial matter to put Humpty-Dumpty back together again. However, as I indicated at the outset I am in favor of a "two-handed approach in which expansionary aggregate demand policies are adopted *alongside* the necessary improvements to supply—in other words a broadly accommodating approach. However, this begs the question of what exactly constitutes an "accommodating" policy in this context.

On the face of it "accommodating" might seem to imply keeping the inflation rate steady at its present relatively low levels. Certainly such a definition would appeal to many central bankers. Faster demand growth when there is economic slack, coupled with the prompt adjustment of policies to avoid any rekindling of inflation once recovery is under way—the first policy recommendation of the OECD jobs study—also seems to amount to much the same thing. Is there anything more to be said? I think the answer is "yes."

By way of providing a benchmark let us start by looking at the historical experience after the Great Depression. In the United States between 1933 and 1939 real output rose at an average annual rate of 6.2 percent while civilian unemployment declined from 24.9 percent of the workforce to 9.9 percent. The annual inflation rate averaged 3.8 percent over this period, compared to -6.4 percent over 1929-33. In the United Kingdom, where unemployment levels peaked at something nearer that currently seen in Europe today, real output grew at an annual rate of 3.8 percent between 1932 and 1939 while unemployment fell from 15.6 percent of the workforce to 5.8 percent. Inflation averaged an **annual** 1.5 percent compared to -2.2 percent over 1929-32. Assuming that current labor force trends continue, a reduction in unemployment in Europe to around 5-6 percent by the end of the decade would seem to require an average annual growth rate in the region of 4 percent. Conditional on the implementation of appropriate labor market reforms, such a rate of growth is more likely to materialize if policy is appropriately accommodating. The historical experience suggests that accommodating in this context might actually involve some acceleration in inflation. Now, of course, both the causes of the unemployment and the inflationary background are both rather different from that of the interwar years so direct extrapolation is inappropriate. But does theory suggest anything on this score?

Over the years there has been considerable discussion over the appropriate targets for macroeconomic policy, especially monetary policy. **A** sizable group of economists, who have advocated explicitly targeting nominal income (including Meade, 1978; **Tobin,** 1981; Brittan, 1981), and those who favor the use of monetary targets, would presumably argue that in the absence of precise knowledge of movements in the velocity of circulation this is what they are trying to achieve in any case. The good operating properties of a nominal income rule in the face of shocks to private spending and portfolio shifts is well known, something it shares with a policy of targeting the price level (or inflation). In Bean (1983) I argued that a nominal income rule also has good operating properties against supply (technology) shocks in an environment where money wages move sluggishly and the wage-setting schedule is relatively steep. This is because under nominal income targets an unanticipated beneficial technology shock is associated with lower prices than would other-

wise have been the case, and thus also higher real wages than would otherwise have been the case. This rise in real wages is something that is required in equilibrium and when wages are sticky it is most efficient to let it happen through a somewhat lower price level. By contrast a price or inflation target would not allow this to occur and so lead to an excessively large boom.

This might seem to suggest that supply-side improvements to the labor market ought to be accompanied if anything by a rather more restrictive policy stance than implied by stabilizing forces or inflation. However supply-side reforms that improve the functioning of the labor market are not the' same as a technology shock. Most of the measures discussed at this conference can loosely be thought of as ways of shifting the wage-setting schedule downward and to the right. The new level of equilibrium unemployment must then be associated with *lower* real wages than would obtain without the supply reform.[8] If money wages are at all sticky this could nevertheless be swiftly brought about through an *increase* in prices (relative to what was anticipated when the money wage was set). Thus beneficial supply-side developments within the labor market might best be accompanied by an increase in inflation in order to generate a positive price "surprise;" an appendix spells out the analysis more formally. Note, importantly, that this increase in inflation should not engender higher subsequent wage inflation because while inflation is faster than expected by wage bargainers, it is offset by the beneficial effects of the supply-side reform.

In case readers think I have lost leave of my senses in advocating more inflation, it is useful to put some ballpark numbers on the quantitative magnitudes involved. A reasonable estimate for the short-run wage elasticity of the demand for labor is around unity.[9] Conse-quently in order to generate extra employment of 5 percent, the real wage would need to be 5 percent lower than otherwise. With a predetermined money wage this would require a price level 5 percent higher. However, in practice any beneficial effects from labor market reforms are likely to come through only gradually. A reduction in wage pressure corresponding to a decline in equilibrium unemploy-ment at the rate of one percentage point a year seems around the best that can be hoped for. Assuming the implications of these reforms for

the path of real wages are not built into nominal wages at the outset—
and if they *are,* then no special action is called for anyway —then the
required change in real wages could be accomplished by an inflation
rate just one percentage point higher than otherwise would have
occurred. This is fairly small beer, and well within the likely control
error for any inflation target. So in practical terms, governments and/or
central banks may not go far wrong in following the objective of
stabilizing the inflation rate, although they might do well to err on the
side of laxity.

Uncertainty about the equilibrium rate of unemployment

We have seen that there is still considerable uncertainty about the
quantitative importance of the various possible causes of the rise in
European unemployment. As a consequence, the quantitative impact
of labor market policies on the equilibrium unemployment rate is also.
rather uncertain. This uncertainty is greatly compounded by the oper-
ation of the various persistence mechanisms, which may or may not
be easily reversible. Consequently during any recovery, policymakers
are likely to be faced with considerable uncertainty as to the prevailing
equilibrium rate of unemployment, and therefore also to the appropri-
ate rate of expansion of nominal demand to secure their inflation
target. How should policymakers take cognizance of this?

If the world were nice and linear so that a one percentage point
reduction in unemployment produced the same absolute change in
inflation as did a one percentage point increase in unemployment, and
the authorities were indifferent as to the direction of any policy
error,[10] then the answer is that it would not matter much. Policy should
simply be set according to the "certainty-equivalent" rule whereby the
equilibrium unemployment rate is treated as though it is known and
equal to the policymaker's best guess of its magnitude, that is, to its
expected value. It is not obvious why the authorities objective function
should be locally asymmetric, but the world certainly may not be
linear. In particular many economists and policymakers probably take
the view that a given fall in unemployment tends to have a stronger
upward effect on inflation than the downward effect of an equivalent
increase in unemployment. The old-fashioned Keynesian view that
nominal wages were upwardly flexible but downwardly rigid is a

particular variant on this. The wording of the first policy recommen-
dation of the OECD jobs study, namely that "policy should focus on
assisting recovery through faster noninflationary growth of domestic
demand where there is substantial economic slack, while policies
should be adjusted promptly to avoid a rekindling of inflation when
recovery is well under way" could for instance be construed as
subscribing to the doctrine of a nonlinear response of inflation to the
amount of economic slack in the economy. From an empirical per-
spective there are also good reasons for suspecting such a nonlinear
response as wage-equations or Phillips curves with a nonlinear trans-
formation of the unemployment rate (such as the logarithm or the
reciprocal) frequently outperform models that just contain the level.

Uncertainty now can have important consequences for the setting
of policy because any temporary reduction in unemployment below
the equilibrium rate, and with it any increase in inflation, may have to
be followed in due course by an even larger increase in unemployment
above the equilibrium rate to squeeze the extra inflation out of the
system. It is reasonable to believe that this uncertainty about the
equilibrium rate will diminish with time and experience. As a conse-
quence, an optimizing policymaker concerned to minimize the total
cumulative unemployment associated with maintaining the existing
inflation rate will tend to err on the side of caution now by setting a
somewhat tighter policy in which the unemployment rate is higher
than her best guess (that is, conditional expectation) of the underlying,
but presently unobservable, equilibrium unemployment rate. This is
a straightforward application of Jensen's inequality and is discussed
more formally in an extended footnote.[11]

Just as with the appropriate definition of what is an "accommodat-
ing" policy, it is helpful to have some idea of orders of magnitude.
This depends very heavily on the degree of nonlinearity involved in
the response of inflation to activity. Since a number of studies suggest
the level of wages is quite well explained by the logarithm of the
unemployment rate, for example, Blanchflower and Oswald (1994),
this seems a natural benchmark to take. Suppose the authorities'
conditional expectation of the equilibrium unemployment rate is 8
percent with a standard deviation of 2 percent, which seems a reason-
able value for the extent of policymakers' uncertainty. Then the

optimal setting of policy today should be to generate an unemployment rate of $8\frac{1}{4}$ percent (see footnote 11 for details). So just as with our discussion of defining an accommodating policy to complement a set of labor market reforms, the practical implications of uncertainty about the equilibrium rate are fairly modest. (This would not be the case if the wage-setting equation involved a very highly nonlinear response of wage inflation to the unemployment rate.)

There is, however, a caveat to this argument. The story above relies on the assumption that the policymaker's knowledge about the value of the equilibrium unemployment rate is not affected by her particular choice of policy action today; over time she learns more about the state of the economy, but the speed at which that knowledge accrues is not related to her own decisions. In practice, given the imprecision with which econometric relationships are formulated and estimated, it will be difficult to infer the equilibrium unemployment rate associated with relatively stable inflation if the economy is operating with unemployment a long way above that level. Indeed in the extreme case where unemployment above the equilibrium rate exerts no downward pressure whatsoever on inflation, a high unemployment rate would tell the policymaker nothing about the equilibrium rate (other than that it is not even higher). The only way to learn about the limits to demand expansion in this case would be to push unemployment down until the point at which inflation starts to take off. In other words a more expansionary policy may have a payoff in generating experimental knowledge about the limits to such policy.

Fiscal constraints

I now turn to a consideration of the potential sources of demand growth and the limitations on fiscal and monetary policies. The first thing to be noted is that the introduction in Europe of effective labor market policies susceptible of reducing unemployment by five percentage points by the end of the decade, would, at unchanged real interest rates, imply an equiproportionate increase in the capital stock. With a capital-output ratio of around 4 this implies a total increase in investment of roughly 20 percent of one year's output, or assuming it is spread over five years a boost to investment of about four percentage

points of output a year. This is simply the converse of the adverse
effects of the decline in investment in the late 1970s and early 1980s
and would more than absorb the extra output resulting from the
supply-side reforms. In practice, one might expect the increase in
investment to be somewhat smaller than this, both because of some
upward pressure on global interest rates and the extra jobs created may
be of rather low capital intensity, for example, in the services sector.

   This raises the attractive prospect of a recovery that is, on the
demand side, investment led. However, it would be imprudent to rely
on this, especially in the early stages when the impact of any reforms
may not yet be clear to producers. Likewise although permanent
income should rise as a result of reforms, it may not be immediately
reflected in higher consumption. In that case is there any scope for
fiscal action? Here the room for maneuver does not look very wide
with all OECD countries, except Japan, presently running not only a
budget deficit (amounting to 4 percent of GDP across the OECD as a
whole and 6.1 percent for Europe) but also a structural budget deficit,
that is, correcting for the automatic effects of the cycle on taxes and
spending (amounting to 2.8 percent of GDP for the OECD and 4.1
percent for Europe). However, the room for maneuver depends criti-
cally on not only the current level of potential output, but also the
prospective rate of growth. Simple reorganization of the government's
budget identity tells us that the rate of growth of the debt-output ratio,
b, is just

$$\hat{b} = r\text{-}n + d/b$$

where d is the government's primary deficit (including seignorage
revenue) as a fraction of output, *r* is the real interest rate, *n* is the rate
of growth, and a hat denotes a growth rate. The latest OECD forecasts
(OECD, 1994) include medium-term projections for OECD public
sector debt and deficits (incorporating some near-term fiscal consoli-
dation). The basic reference path involves an average growth rate until
the end of the decade in the range of $2\frac{1}{2}$ to **3** percent. Under this
scenario the OECD debt-GDP ratio stabilizes around 73 percent. But
a slightly less optimistic projection of growth at a rate $\frac{1}{2}$ percent less
a year produces a debt-GDP ratio that is rising steadily and is about
ten percentage points higher by the end of the decade. This reflects
both the slower growth of the denominator of the debt-GDP ratio and

the fact that slower growth tends to lead to a more pessimistic outlook for the primary deficit itself because taxes are lower and transfers higher.

Now a successful program of structural reforms should be compatible with a medium-term growth rate significantly faster than the OECD's reference scenario. Other things equal, faster growth should thus not only see debt-GDP ratios stabilizing, but actually declining quite rapidly. If a modest fiscal expansion today is required to achieve this growth, then surely it ought to be nothing to worry about. The difficulty is that there may in effect be multiple expectational equilibria present. On the one hand there is a virtuous equilibrium with a temporary fiscal expansion and buoyant medium-term growth. On the other hand if the financial markets are pessimistic about the effects of the structural reforms on the medium-term growth prospects, they may regard the fiscal action as unsustainable and inevitably associated with yet higher debt-output levels in the medium term. This will push up long-term interest rates and have adverse effects on the level of aggregate demand today. This in turn will postpone — perhaps indefinitely — reaping the benefits of the structural reforms. In the present context there is a good chance that the latter case is the relevant one. This suggests (1) that the scope for fiscal action to expand demand is limited in the short term and (2) that any fiscal action is more likely to be successful if it is explicitly temporary.

Exchange rates and monetary policy

If budgetary positions leave little scope for fiscal action,[12] in the short term at least, the burden of maintaining an appropriate level of aggregate demand must rely on monetary policy. In the European Union, however, the scope for independent national monetary policies is limited by the operation of the exchange rate mechanism of the European Monetary System (EMS). As a result of the exchange market turmoil of 1992-93 the previously tight plus or minus $2\frac{1}{4}$ percent fluctuation bands have been broadened to plus or minus 15 percent for all except Germany and the Netherlands, while sterling has left the mechanism altogether. This gives countries considerable *de jure* national monetary autonomy even without resorting to realign-

ments. However *de*facto a number of countries-especially **France**—
have not used the new-found monetary freedom to the full and instead
kept exchange rates close to the central parities. One view is that
maintaining a zone of exchange rate stability in this way will help to
put the EMS back on the road to monetary union, as envisaged in the
Maastricht Treaty.

Is this altogether wise, or in other words, is exchange rate flexibility
a desirable feature of the transition back to reasonable levels of
unemployment? Suppose appropriate supply-side reforms are imple-
mented in a particular country, what should happen to monetary policy
and the exchange rate? Certainly the supply of goods and services
should expand as a result of these measures. As these measures are
presumably supposed to be permanent in their effect, permanent
income and consumption should also rise, so that private saving
should not be much affected. However, higher activity should reduce
budget deficits so that national saving will probably increase some-
what. But on the other side of the fence we have seen that we should
probably also expect an investment boom to materialize in due course.
During the early phases of a recovery one would expect the savings
effect to dominate. Given the lack of scope for fiscal action, maintain-
ing an appropriate level of aggregate demand will thus tend to require
a loosening of monetary policy and with it a nominal and real depre-
ciation. However, as the effects of the supply reforms become more
entrenched and investment begins to take off, the opposite policy will
be required, namely tighter monetary policy and a nominal and real
appreciation.

Since member countries of the European Union are likely to proceed
with labor market reforms at differing speeds, there seems to be good
reason for permitting fluctuations in nominal rates as an efficient way
of achieving the appropriate movements in real rates. However, the
size of these required movements should be kept in perspective.
Nothing that is contemplated here rivals the effects on equilibrium
real exchange rates of German reunification, and all of them should
be readily achievable within the wide plus or minus 15 percent
fluctuation band. The danger arises if policymakers seek to confine
European monetary policies to a straitjacket by pressing for an early
return to formal narrow fluctuation bands—although it is doubtful

whether such bands would be sustainable in any case--or by pushing ahead to premature monetary unification.

Enhancing the effectiveness of macroeconomic policies

Policy coordination

I conclude with a brief discussion of other actions that may enhance the effectiveness of macroeconomic policies, specifically policy coordination and incomes policies. On the first of these the OECD jobs study suggests that "countries should use the policy coordination process to ensure that'the setting of macroeconomic policy is more consistent across countries...At times this may involve a common strategy, but in the current situation...international cooperation does not require them all to be pushing in the same direction...at the same time." It is not entirely clear what is meant by "consistent" in this context ("coherence" appears in a similar context somewhat later in the same paragraph) and as it stands it seems difficult to imagine anything more vacuous!

During the early 1980s a burgeoning literature appeared on international policy coordination; see for example, Buiter and Marston (1985). This literature focused on the international externalities of macroeconomic policies in the form of demand and terms of trade spillovers. Despite the elegance of some of the theoretical developments, however, the quantitative magnitude of the spillovers that policy coordination was supposed to internalize appears to be negligible between the major trading blocs. Worse, even where the spillovers are quantitatively more important, for example within Europe, there is ambiguity over even the sign of the impact of the spillovers on the value of the policymakers' objective function (Bryant and others, 1988). Consequently it may be difficult to know whether the effect on uncoordinated policymaking is to lead to policies that are over or under-expansionary.Given that policymakers are as uncertain over the way the world works as academic economists, the prospects for meaningful practical policy coordination do not look good (Frankel and Rockett, 1988).

Are there any obvious reasons for thinking active macroeconomic

policy coordination is likely to be an important ingredient in any strategy to lower OECD unemployment? Certainly it cannot be an issue as far as the major trading blocs are concerned because most trade is within blocs rather than between them. Even within Europe I am doubtful that policy coordination is anything other than a rather marginal issue, provided that countries have freedom of maneuver with respect to monetary policy. The only potential problem comes in the short run, if the appropriate supply reforms in one country are not swiftly accompanied by increased domestic consumption and investment. In that case an increase in net exports is required and with it a real depreciation, most easily brought about through a monetary relaxation. Since this will in the short run also reduce the demand for foreign goods, and hence employment abroad, it may prompt other countries to level charges of "social dumping," especially if the supply-side reforms lead to a redirection of foreign direct investment away from them and into the reforming country. But the biggest danger here is that "policy coordination," in the guise of inflexible exchange rates, may actually prevent the desirable policies from being undertaken in the first place.

Incomes policy

Traditionally, incomes policies have been thought of as a counterinflationary strategy, but it is perhaps more correct to think of them as a particular supply-side policy that reduces wage pressure and thus also reduces the equilibrium rate of unemployment. The role for a reform of the wage-setting process in achieving a lasting reduction in equilibrium unemployment will be considered by other contributors to the conference. Here I want to briefly note the possible role for a temporary incomes policy to enhance the effectiveness of any expansion in aggregate demand.

Incomes policy, particularly those of a rather *dirigiste* nature, have a bad reputation among both academic economists and policymakers. There are two reasons for this. On the one hand they limit the action of market forces in directing labor from declining to expanding sectors of the economy, and thus reduce economic efficiency. On the other hand they have usually proven difficult to enforce for more than a short period as individual groups of workers find ways around the

controls. When the policy collapses the economy is no better off than before. Only in small economies, such as the Nordic countries and Switzerland, have centralized forms of wage setting shown any durability, presumably because in such economies it is easier to discourage individual groups from seeking to free ride on the restraint of others.

In the past, incomes policies have often been invoked when unemployment has been at historically relatively low levels. A temporary incomes policy may however be useful in economies where unemployment persistence due to insider membership dynamics is important. The key here is somehow to increase the pool of insiders who are responsible for wage negotiation. An incomes policy can prevent the existing pool of insiders from pushing up wages in the face of an expansion in demand, and instead lead to an increase in employment. Provided the new hires become part of the group of insiders, then subsequent wage pressure will be reduced and the increase in employment should be self-sustaining without the continual application of incomes policy and absent further unanticipated shocks.

It could be objected that this is an inferior policy to removing the features that give the insiders bargaining power in the first place. However while some of these, such as firing costs, may be susceptible to government regulation, others, such as the presence of firm-specific skills and the ability of the insiders to harass or refuse cooperation to new hires, are not. Furthermore even when government action can attack the source of insider power directly, it may be politically difficult to do so. In such circumstances temporary controls on incomes may be a useful second-best policy.

A country where I think this may prove useful is Spain. There administrative approval is required for collective dismissals affecting more than 10 percent of the workforce and, severance·.payments of twenty days' wages per year of service (forty-five:days' wages in the case of "unfair" dismissals) are required. These firing costs give the incumbent workforce considerable bargaining power, which is further underpinned by the system of collective bargaining under which agreements at the sectoral level provide a floor for subsequent negotiations at the firm level. From 1984 firms were, however, allowed to hire workers on fixed-term contracts of six months' duration (renew-

able up to five times) which were not subject to the same restrictions. By 1993 roughly a third of those in employment were engaged under this sort of temporary contract.

On the face of it, these temporary contracts are the sort of thing that the OECD jobs study endorses and indeed they have led to increased labor market flexibility in the sense that total employment is now more variable than before. However, as Bentolila and Dolado (1994) document, the effects on unemployment have not been as straightforward as one might expect. One might expect the presence of workers on temporary contracts to undermine the position of permanent workers, who are effectively the insiders in this economy. However, by providing a buffer of variable employment at the margin and thus reducing the layoff probability for permanent workers, they in fact seem to have had the effect of enhancing the bargaining position of the insiders. And unemployment in Spain has remained the highest in the European Union.

The latest (1994) reforms have done away with temporary contracts except for apprentices. However, severance pay requirements remain at their existing levels. Reducing these to more reasonable levels would probably help to reduce unemployment in the medium term— not by making employment more flexible, but by reducing worker bargaining power. However, this is politically difficult to implement when unemployment is high, because its immediate impact would probably be to increase unemployment further. Instead a temporary incomes policy — probably in the form of a floor and a ceiling on wage settlements in order to give some local flexibility--coupled with a demand expansion and a credible commitment to reduce firing costs once unemployment was falling, could make the transition to an economically preferable outcome politically feasible as well.

Conclusions

Despite the fact that adverse demand shocks share part of the blame for the rise in European unemployment, macroeconomic policies alone can carry only a little of the burden in reducing it. The most difficult task facing policymakers now is devising and implementing appropriate, and possibly politically difficult, supply-side reforms.

Once this is done, however, macroeconomic policies can play a useful supporting and cementing role by ensuring that the full benefits of structural reform materialize quickly. Such a supporting macroeconomic strategy will involve sustained robust growth and should aim at maintaining existing inflation rates, or even permitting a mild, but temporary, acceleration. Politicians and central bankers should therefore not be unduly alarmed by continuing strong growth in the wake of structural reform. Although such robust growth would help to solve many of the current fiscal difficulties, there seems little room for fiscal action to support demand in the short run. Instead, monetary policy must bear most of the burden. Given that successful reforms will tend to become self-sustaining in due course via their effect on investment, the appropriate monetary policy is likely to involve initial loosening and subsequent tightening. Finally in some countries a temporary incomes policy may prove a useful adjunct in overcoming unemployment persistence due to insider membership effects.

APPENDIX
Aggregate Demand Policies with a Labor Market Reform

Output is given by the technology

(A1) $y_t = (1-a)\ell_t + u_t$

where y_t is the logarithm of output, ℓ_t is the logarithm of employment, and u_t indexes the level of technology. Competitive labor demand is then

(A2) $w_t - p_t = b - a\ell_t + u_t$

where w_t is the logarithm of the wage, p_t is the logarithm of the price level, and $b = \ell n(1-a)$.

The wage-setting schedule is

(A3) $w_t - p_t = c + d\ell_t + v_t$

where v_t indexes the degree of wage pressure. The money wage is set at the start of the period to equilibrate labor demand and wage-setting in expectation

(A4) $w_t = Ep_t + \phi_0 + \phi Eu_t + (1-\phi)Ev_t$

where Ep_t denotes wage-setters' expectation of p_t at the start of the period (which may, but need not necessarily, be rational), $\phi_0 = (ac+bd)/(a+d)$ *and* $\phi = d/(a+d)$. Substituting the wage into equation A2 and then the resulting employment level into equation A1 gives output as

(A5) $y_t = \beta [(p_t - Ep_t) + b - \phi_0 - \phi Eu_t - (1-\phi)Ev_t] + (1+\beta)u_t$

where $\beta = (1-a)/a$. Equilibrirum output under full information, y_t^*, is

(A6) $y_t^* = \beta(b-\phi_0) + [1+\beta(1-\phi)]u_t - \beta(1-\phi)v_t$

Hence the deviation of output from equilibrium is

(A7) $(y_t-y_t^*) = \beta[(p_t-Ep_t) + \phi(u_t-Eu_t) + (1-\phi)(v_t-Ev_t)]$

Hence in order to stabilize output, the authorities would need to respond to a reduction in wage pressure (a fall in v_t) by increasing the price level through expansionary policies.

Endnotes

[1]Since the real wage exceeds the reservation wage and price exceeds marginal cost if firms have some market power, both workers and firms will be jointly willing to supply the required increase in output so long as wages and prices cannot be adjusted.

[2]The reason for using the logarithm is the likely convexity of the wage-setting schedule, and reflects the fact that in Europe a given movement in capacity utilization in the 1960s was associated with a much smaller movement in the unemployment rate than during the 1980s.

[3]These assumptions correspond to the contemporaneous recursive ordering: capacity utilization, inflation, unemployment. With demand shocks assumed to have no contemporaneous effect on inflation the ordering becomes: inflation, capacity utilization, unemployment. Other, non-recursive decompositions have been investigated without altering the main message.

[4]The "no-demand-shock" unemployment rate is not strictly the same as the equilibrium unemployment rate. because sluggish wage and price adjustment will mean that supply-side disturbances do not have their full impact on unemployment immediately. However, the general tenor of the results are not affected by this caveat.

[5]Suppose the Phillips curve is

(1) $\pi_t = \alpha(u^*_t - u_t) + \pi_t^e$

where u_t is unemployment, u^*_t is equilibrium unemployment, π_t is inflation, and π_t^e is expected inflation. The equilibrium unemployment rate follows the process

(2) $u^*_t = \beta\bar{u} + (1-\beta)u_{t-1}$

where $\bar{u}$ is the long-run equilibrium unemployment rate. Substituting into the Phillips curve gives

(3) $\pi_t = \alpha\beta(\bar{u} - u_t) - \alpha(1-\beta)(u_t - u_{t-1}) + \pi_\tau^\varepsilon$

[6]In the context of the diagram, the labor demand schedule, instead of being downward sloping, is an upside-down and backwards-facing L.

[7]Empirical evidence also suggests that it is the change, rather than the level, of the wedge (or its components) that matter. See for instance, Newell and Symons (1986) who in across-country study of sixteen OECD countries, report that **43** percent of any tax or terms of trade change is shifted onto product wages in the short run, but an average long-run effect of almost exactly zero.

[8]One might object that our earlier analysis demonstrates that in the long run, when capital is variable, no fall in real wages need occur. However, in the short run, capital is *not* variable, and furthermore, the Increase in profitability associated with the decline in real wages will probably be necessary to elicit the extra investment that should occur subsequently.

[9]The wage elasticity conditional on the capital stock is actually the ratio of the elasticity of substitution between capital and labor to capital's income share. For a Cobb-Douglas technology this should be in the range **3-4.** With adjustment costs to labor present, a somewhat smaller value

would **be** appropriate for evaluating a short-run elasticity. Much of the empirical work on the aggregate demand for labor actually suggests a ***long-run*** wage elasticity of around unity; in Bean **(1994b),** however, I argue that these studies are unlikely to have uncovered the true wage elasticity and instead estimate a combination of the labor and capital demand schedules.

[10] For instance if preferences were quadratic in inflation and unemployment.

[11] As a simple example, suppose that inflation, π_t, is generated by the accelerationist Phillips curve

(1) $\pi_{t+1} = \pi_t + f(u_t, u^*)$

where u_t is unemployment, u^* is equilibrium unemployment, $f_1 > 0$, $f_{11} < 0$, and $f(u^*, u^*) = 0$. There are two periods $(t=1,2)$, inflation starts at zero (that is, $no = 0$) and must also end at zero $(\pi_2 = 0)$. Thus

(2) $f(u_1, u^*) + f(u_2, u^*) = 0$

The equilibrium rate, u^*, is uncertain during period $t=1$, but that uncertainty is resolved before the start of penod $t=2$. The authorities then pick current unemployment, u_1, in order to minimize the expected cumulative level of unemployment, $u_1 + u_2$, subject to equation 2. The associated optimality condition is

(3) $E[f_1 (u_1, u^*)/f_1(u_2, u^*)] = 1$

where E denotes the expectation operator. In the absence of uncertainty about u^*, this is satisfied at $u_1 = u_2 = u^*$. However, with uncertainty, $u_1 > u^*$ is generally optimal.

As a particular (relevant) example, let $f(u, u^*) = \alpha \ln(u^*/u)$. Then equation 2 implies that $u_2 = (u^*)^2/u_1$ while equation 3 becomes $E[u_2/u_1] = 1$. Hence

(4) $u_1 2 = E[u^{*2}] = \{E[u^*]\}^2 + Var[u^*]$

[12] But I certainly do ***not*** rule out the possibility of deficit-neutral actions to improve the structure of the tax and spending system. In particular, moving toward an income support system that subsidizes work rather than idleness is highly desirable.

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Commentary: The Role of Demand Management Policies in Reducing Unemployment

Stanley Fischer

Charles Bean has written an interesting and thought-provoking paper on two topics: the first is whether demand management policies have a role in stabilizing unemployment; and the second is on the potential role of demand management policies in reducing European unemployment in the remainder of the 1990s.

Is there a role for stabilization policy?

Bean is skeptical about the ability of policymakers to stabilize unemployment. He argues that while, in principle, policymakers could stabilize output and unemployment around their equilibrium values, in practice, all the familiar obstacles to perfect stabilization—especially lags and uncertainty about the structure of the economy and the way individuals form expectations — lead them to believe that "activist policies to eliminate such fluctuations [are] hazardous."

Of course, no one proposes policies that would attempt to eliminate rather than moderate business cycle fluctuations. We need also to recognize that policymakers try to keep both employment and inflation close to their target levels. If one then asks whether policymakers *can* and *should* attempt to stabilize the business cycle, the answer is yes.

That is what central banks try to do, often quite successfully. No central bank should be inactive in the face of a major disturbance;

indeed, it's even difficult to know how to define inactivity. Even if fine tuning is out, coarse tuning is not. In fact, Bean discusses such activist policies in the second half of his paper.

Bean's discussion of stabilization policy raises three issues that I would like to pursue. First, in several places he analyzes the implications of the nonlinearity of the Phillips curve. This is a worthwhile question, because the evidence suggests that the short-run Phillips curve is nonlinear: a one percentage point reduction in an already low unemployment rate will push up inflation more than a one percentage point increase in a higher unemployment rate will reduce inflation.

How should this affect'policy? Bean shows in an interesting footnote that in the presence of a nonlinear tradeoff, the authorities should aim for a higher unemployment rate than the natural rate, because a positive shock that reduces unemployment will have a larger effect on inflation than a negative shock of the same size. Bean shows for a logarithmic example that the effect is quantitatively insignificant— but that, of course, depends on the extent of the nonlinearity.

Bean's discussion opens up a way for the quality of macroeconomic policy to affect the average rate of unemployment. Suppose that the Phillips curve is nonlinear, for example that the inflation rate is driven by the divergence between the logarithm of unemployment and the logarithm of the natural rate. Then, even if the log of unemployment is on average equal to the log of the natural rate, the average level of unemployment will be larger the greater the variance of unemployment. This result thus produces the intuitively appealing result that countries that conduct stabilization policy better will have a lower average unemployment rate.

Second, the paper raises but does not settle the important question of what the presence of persistence mechanisms implies for stabilization policy. Suppose that an adverse shock increases unemployment, and that any short-run increases in unemployment translate in part and gradually into an increase in the non-accelerating inflation rate of unemployment (NAIRU). Suppose that the monetary authority can reduce unemployment in the short run through expansionary monetary policy, at the expense of an increase in inflation. Then I conjecture

that optimal monetary policy will be more expansionary in response to a given unemployment increase when there is persistence than when there is not. The argument is that by moving more aggressively, the monetary authority can cut off the higher long-term unemployment that would otherwise result. But that is just a conjecture, and the answer must depend in part on nonlinearities in the Phillips curve and on the formation of expectations.

Third, Bean emphasizes that uncertainty about the natural rate or the NAIRU severely complicates policy. This argument is put into perspective if we focus on the NAIRU rather than the natural rate, and realize that the policymakers can judge where they are by watching for early signs of increasing inflation. It is thus not clear that the shifting NAIRU poses a special problem for macro policymakers.

The role of demand management in Europe in the 1990s

The paper's main focus is on what should be done now to reduce European unemployment. Bean accepts with little discussion the argument put forward in the OECD report that policy should be vigorously expansionary until the economy comes within reach of the NAIRU.

The paper seems to give an indication of the excess of the actual over the natural rate of unemployment in Chart 1, which suggests about 1.5 percent. However, the no-demand shock locus in Chart 1 does not, in fact, correspond to the NAIRU. Other estimates suggest that European unemployment is currently about 2.5 to **3** percent above the NAIRU, which gives ample room for more expansion in Europe.

Bean's main interest is in aggregate demand policies as unemployment reaches the NAIRU. He accepts the diagnosis that the NAIRU can be brought down through supply-side policies; these are discussed briefly but the details are not important for purposes of this paper. The major recommendation of the paper is that monetary policy should accommodate the increased growth and declining unemployment that the supply-side measures should produce.

In discussing these issues, Bean very usefully takes us back to the

literature of the early 1980s on European stagflation. The diagnosis then was that Europe suffered from real-wage resistance, that European real wages were too high, and that there was a wage gap that had to be cut to restore full employment. We can interpret the modern discussion of supply-side reforms as explaining why there may be real-wage resistance and what policies can be adopted to reduce it.

Bean calculates that real wages would have to drop 5 percent to reduce the unemployment rate by five percentage points. If that is all it takes, then Europe will not have to go too far down the road of increasing inequality which several papers at this conference warn is the result of an American approach to the labor markets.

Bean's preferred strategy is to move as fast as possible on labor market reforms, while recognizing that they are politically difficult and will therefore take time to implement. At the same time, macroeconomic policy should be expansionary. Ideally, fiscal expansion should help power the recovery; it would then be throttled back as growth picked up and investment took over. Monetary policy would be sufficiently accommodating, not only to allow for the more rapid growth of real income, but also to produce a bit more inflation so that the real wage could decline.

But this strategy is ruled out, because there is no room for fiscal expansion. Full-employment deficits are too large in Europe, and most European governments are rightly planning to reduce them over the next few years. So expansionary fiscal policy is not available.

That leaves monetary policy as the only other aggregate demand policy. There would be no dispute that monetary policy should accommodate the increased growth that comes through the expansion of supply. Bean calculates that output would grow about 1 percent per year more rapidly, implying that money growth should be that much faster.

But should monetary policy also be used to try to reduce the real wage, by permitting more inflation? Before answering that question, let me diverge to discuss the two different approaches that the paper takes to the likely behavior of the real wage. The argument for inflation

assumes that the real wage should decline. But in another part of the paper, Bean argues that with the real interest rate unchanged, invest-'ment will grow massively; the same argument would imply that the real wage would not change at all. In that case, there would be no need for the inflation.

I believe that lower real wages--compared with what they would otherwise have been—will be needed in Europe. Nonetheless, I doubt that the slightly higher inflation policy makes sense. The same labor market reforms that are designed to reduce unemployment should also increase wage flexibility—they should reduce European real wage resistance, and presumably, also make nominal wages more flexible.

Since the adjustment that is being considered is not one that will cut real or nominal wages, but only require them to grow more slowly than they otherwise would have, it hardly seems necessary to ask for more inflation. Nor is Bean very firm in arguing for inflation, for he concedes that an extra 1 percent would probably not make much difference to employment.

In the end, Bean's discussion of macroeconomic policy in Europe for the remainder of the decade is an appeal to the central bankers to avoid cutting off the recovery prematurely. It is not a request for higher inflation, but rather an argument that the growth potential of a Europe enjoying a supply-side recovery may be as high as 4 percent a year.

If the supply-side measures are undertaken, central banks should not be alarmed by growth that looks high by the standards of the last decade. Rapid growth by itself would not be a good reason to reduce money growth or raise interest rates. Rather, central bankers should judge the supply potential of the economy by the behavior of the inflation rate—and they should be prepared to tighten policy when inflation threatens. They will surely be prepared to do that.

Commentary: The Role of Demand Management Policies in Reducing Unemployment

Takatoshi Ito

The paper by Charles Bean is an excellent survey on how demand management policies may be beneficial in reducing unemployment, in the context of high, persistent unemployment among European countries. Professor Bean at the outset argues that in order to reduce the unemployment rate to a level socially acceptable (in Europe), policies are needed on both the demand and supply side. I keenly share the author's view that the supply side is very important, too. However, the major focus of the paper is the demand side of the labor market, and so are my comments.

My comments consist of two parts. First, I will make comments directly related to Professor Bean's paper, and second, I will reflect on the Japanese unemployment situation.

One concrete policy recommendation in the paper is to "accommodate" monetary policy, even tolerating inflation. Four questions, which I think crucial in evaluating the policy recommendation, are as follows: (1) What is the nature of persistence in the European unemployment? (2) What can we learn from past stimulus episodes? **(3)** Will "accommodative" monetary policy lower permanent unemployment? (4) Can we learn from policy experiments?

Although Professor Bean compares European unemployment behavior to that of the United States, the paper does not mention the

Japanese situation. In fact, other papers in this conference also mention in passing paragraphs how low the Japanese unemployment level is without giving serious thoughts on why that is maintained. However, it is interesting to see how Japan has managed to keep the unemployment rate so low for the entire postwar period, and is currently coping with the longest recession (or the second longest, depending on which month the trough will be recorded by the Economic Planning Agency) in its postwar history.

Comments on Professor Bean's paper

On persistence mechanism

The first question I would like to raise is how unemployment persistence in Europe has come about. "Persistence" seems obvious from the time series of the unemployment rate, in that "persistence mechanisms appear to be present that lead today's equilibrium unemployment rate to be positively related to yesterday's realization of unemployment." The nature of persistence certainly has important implications when we consider different policy options.

Roughly speaking, there are two channels of persistence: supply-side driven persistence and demand-side driven persistence. First, persistence may occur due to labor market conditions alone. The unemployed workers lose the chance to earn experiences, depreciating their human capital. Hence, job specifications that apply to them become narrower, thus making job matching more difficult. Another possibility, suggested in the paper, is that once the pool employed (insiders) becomes smaller (in a recession), they will try raising wages rather than expanding employment when aggregate demand increases.'

Second, a decline in aggregate demand may contribute to persistence. This is a familiar Keynesian multiplier process with complication. Unemployment causes workers' income to decline, then lower income reduces aggregate demand, which will further reduce employment by lowering the level of production (and increasing the capacity utilization). The interaction between (lower) production and unemployment is at the heart of the Keynesian unemployment argument. Moreover, this vicious cycle may last several years, longer than a

normal cyclical downturn, if a financial crisis grows out of a recession. The typical example of this type is the Great Depression.

Whether persistence is supply-side driven or demand-side driven is important, when we discuss policy issues. If it is supply-side driven, then structural policies should be a centerpiece of policy to combat high, persistent unemployment. Aggregate demand policy becomes crucial in lowering the unemployment rate only if the vicious cycle is in the process. If persistence is demand-driven, then the next crucial question is whether the process is reversible.

On policy implication

Relevant episodes? In order to formulate policy for lowering per-sistent unemployment, what can we learn from past stimulus episodes?

With a section on the nature of persistence in mind, I was struck by a gap between a cautious, broad analysis and one concrete policy recommendation in the paper. When more "accommodative" (or tolerant-to-inflation) policy is recommended, the argument seems to be anchored only on the Great Depression episode: "The historical experience suggests that accommodating in this context might actually involve some acceleration in inflation." If the Great Depression and the 1930s is invoked for policy, it should be shown that the current condition is similar in some sense to the Great Depression. Is there systemic financial risk due to asset deflation (possibly in the United Kingdom, the Scandinavian countries, and Japan) comparable to that during the Great Depression? Are there beggar-thy-neighbor policies, either by currency policy or protectionist tariffs which hinder recovery of the major industrial countries in the 1990s? These questions with regard to the possible parallel in history have to be carefully discussed before any such historical episode is used for policy recommendations.

When inflation tolerance is advocated, it should be recalled how we all combatted seemingly ever-increasing inflation in the 1960s and 1970s. A consensus in the literature is that inflation causes more inflation (controlling for unemployment) by increasing inflation *expectation.* When Professor Bean says, "In order to generate extra employ-ment of 5 percent, the real wage would need to fall by 5 percent. With

a fixed money wage, this would require a price level 5 percent higher," it should be pointed out that the required price increase is not an annual rate of 5 percent, but 5 percent ***above and beyond*** the expected inflation rate. A surprise in inflation will, in turn, raise an expected rate of inflation. Hence, one needs ever-increasing inflation to produce additional employment. This will sooner or later cause a spiral inflation. To some extent, this was a lesson from experience in the United States and some European countries. (In an appendix, I will construct a very simple framework to integrate the idea of unemployment persistence with the traditional Phillips curve.)

Scenarios. I think that whether we successfully lower the natural unemployment with demand-side policy (with symmetric hysteresis) depends on the relative speed of inflation expectation learning and the hysteresis adjustment.

Let me explain this using an example. Suppose that the inflation and unemployment rates were 2 percent and 12 percent, respectively, in a hypothetical country of Euro-Land in 1993. Let us take an accommodative policy, lowering the ***current*** unemployment rate by 2 percent to 10 percent, at the cost of increasing the inflation rate by 2 percent (as a surprise) to 4 percent this year. The ***natural*** rate of unemployment goes down, assuming that hysteresis works symmetrically downward. Let us suppose that the ***natural*** rate goes down by 1 percent by the end of this year. That is, inflation will not be accelerating in 1995 if the unemployment rate is kept at the new natural rate of 11 percent.

(Case 1) Now think of a case where the expectation learning is very fast. If the inflation expectation increases at the same rate as the current new inflation rate, the expected rate of inflation will be 4 percent in 1995, and wage contracts, the interest rates, and the exchange rate will reflect this new expected rate. Then it is possible to stay at an 11 percent unemployment rate, only with a 4 percent inflation rate ever after 1995.

(Case 2) Alternatively, suppose a case where expectation learning is very slow for some reason. If the inflation expectation in 1995 did not adjust to the inflation level (4 percent) of 1994 at all, but remained at the old 1993 level (2 percent), then the situation is much more

favorable to policymakers of the Euro-Land economy. By dropping the inflation rate back to 2 percent in 1995 (agreeing to expected rate), the economy retains the 11 percent unemployment rate with 2 percent inflation ever after 1996.

These alternative scenarios illustrate merits and shortcomings of "accommodative" monetary policy to lower the natural unemployment rate.

In sum, success in lowering the unemployment rate without permanently increasing inflation will depend on *relative* speeds of *natural* unemployment rate reduction (following the actual unemployment rate) and of inflation *expectation* learning (following the actual inflation rate). The faster the inflation expectation learning, the less desirable the outcome.[2]

Let us propose a different hysteresis mechanism and policy option. Suppose, again, that the current natural unemployment rate is 12 percent. Would it be a case that the economy has to be stimulated (by aggregate demand management) to a point that the actual unemployment is below 12 percent in order to lower the natural unemployment rate? Or, would the unemployment rate of 12 percent to 11.5 percent, if sustained for several quarters, push down the natural unemployment rate?

If a national unemployment rate is 12 percent, the unemployment rate is not usually uniform, across-the-board 12 percent. The discrepancies across regions and different industrial sectors may be significant, and only an average rate is 12 percent. Hence, by sustaining the actual unemployment rate at 12 percent for several quarters, labor may move, albeit sluggishly, from one town to another and from one job skill to another. Thus, structural unemployment will be reduced. In other words, the "natural" unemployment rate, with all hysteresis reasons, may be reduced even if the actual unemployment rate is at the natural unemployment rate or at a level slightly above that. If this scenario is true, a sustained growth is preferred to a dash to high growth, only to be followed by a sudden tightening.

Hence, a steady course of demand management of keeping the

unemployment rate near the natural rate (or keeping a slack in the economy to a reasonable level) is important. It may be dangerous to over-stimulate (beyond the natural unemployment rate), because it inevitably invites inflation. We have many episodes of this kind in the last three decades, sometimes mistaking the level of the natural unemployment rate, or sometimes deliberately taking advantage of a short-run boom.

Policy *experiment*

The third question in the paper, I would like to raise, is whether we could learn from a policy experiment, how much "accommodation" of monetary policy is possible before inflation starts.

Usually, uncertainty is invoked to put caution on accommodating policy, because policies without precise knowledge may add more noises to the economy. However, in the section on uncertainty, Professor Bean recommends a more "accommodating" policy because that will make the policymaker learn how much inflation must result from lowering the unemployment rate. "The only way to learn about the limits to demand expansion in this case would be to push unemployment down until the point at which inflation starts to take off."

The difficulty in this "experiment," however, is that initial inflation would be harmless, precisely because it was not expected. But stretching luck to the point when inflation "starts to take off" may be dangerous. When policymakers recognize that inflation is here, it is too late, and inflation expectations may already have shifted upward. (The Phillips curve shifts up, or a change in n^e.)

Moreover, once the public learns that the government is experimenting for learning the structure of the economy, inflation expectation formation will start to change (and a will be different) much quicker, by learning when policymakers try to push their luck. We unfortunately would not learn from the experiment, because firms, workers, and households in the economy start to change their behaviors as the policymakers change their behavior after "learning." (The Lucas critique will come back to haunt the policymaker.)

Why is Japanese unemployment so low?

It is well-known, and in fact pointed out in the papers in this conference, that Japan keeps a low and stable unemployment rate, compared to the United States or most European countries.[3] The unemployment rate in Japan has been fluctuating between 2 and 3 percent since the mid-1970s. A closer look at the labor statistics reveals that the youth unemployment rate and the youth participation rate are much lower in Japan than the United States or European countries; long-term unemployment is much lower in Japan than in European countries; and the participation rate among men over age 55 is higher in Japan than the European countries.

Many factors contribute to this performance.[4] Widespread bonuses, overtime adjustment, and annual recontracting of wages make hours and total compensation quite flexible, responding to demand and supply shocks. Supply shocks are quite quickly reflected in man-hours and gross compensation, which is the basis for stability in employment. A worker's career path and lifetime compensation schedule also helps to cut frequent job changes and temporary layoffs. Many of them are achieved in the internal (intra-firm) market. Deferred payment, in the form of a lump sum, retirement severance pay, and a steep age-earning profile, keeps workers (apparently)"loyal" to a firm, and, in return, the firm heavily invests in what appears to be "firm-specific" skills. A longer tenure with rotation makes workers versatile in that company. Sectoral shocks can be absorbed by shifting workers across job skills and geographical locations, but within the company. Subsidies to the "depressed" industries to prevent layoffs are more emphasized to unemployment benefits as a safety net. Minimum wages vary geographically and across job types, but in general remains low enough not to be binding. The unemployment benefit is low and limited in duration in Japan compared to European countries.

These structural reasons outweigh any aggregate demand management in contributing toward stable employment in Japan. However, it should be also pointed out that a low unemployment rate is accompanied by a low inflation rate (since the mid-1970s). In particular, Japanese monetary policy in the aftermath of the second oil crisis is generally viewed as successful tightening to have nipped potential

inflation in the bud. This commitment to a low inflation rate probably contributed to a low, stable unemployment rate in Japan throughout the 1980s.

So, Japan is no welfare state and monetary policy was prudent, and the low unemployment rate was the result. But, a puzzle remains. The Japanese experience seems to defy the unpleasant tradeoff that Krugman posed in his paper of this conference, income inequity or high unemployment. There was no significant increase in inequality of income during the 1980s. Moreover, there are some studies that show that the skill/education premium narrowed in the 1980s. (However, there is a sign of widening inequality in asset holdings due to asset price inflation in the second half of the 1980s.)

The situation is not that simple in the 1990s, even in Japan.

As the Tokyo stock prices tumbled from the peak (of approximately 40,000 in the Nikkei 225 index) in December 1989 to a trough of about 15,000 in August 1992, the Japanese economy headed to a period of burst bubble. Problems associated with a familiar, cyclical Keynesian recession were compounded by asset deflation. Many real estate companies, financial institutions that lent to those companies, and firms and individuals who bought into stocks and real estates as a part of portfolio investment suffered a major loss. Idle capacity resulted, and aggregate investment became very low. The current recession started in April of 1991 and may become one of the longest ones in the postwar history of business cycles. The economy looked to be picking up the pace in the spring of 1993, but a recovery was faltered by yen appreciation during the summer of 1993. Some indicators again showed a strong recovery this spring, but the yen again appreciated beyond 100 yen/$1 U.S., and some fear that it might once again delay a strong recovery.

In one of the longest recessions, which started in April 1991, most Japanese firms have resisted the temptation of laying off workers so far. A safety mechanism of long-term commitment is still working, although many firms say that they "hoard" unnecessary workers. How long the firms will retain idle workers is a sensitive question in Japan. Some companies are encouraging voluntary, early retirement. Many

companies drastically reduced new recruits. Is this a sign of trouble ahead for the Japanese workers? Will Japanese youth have difficulties finding a good job for many years to come?

Some also point out the trend of "hollowing out" in Japan. This year's White *Paper* by the Economic Planning Agency devoted one chapter on the fear of hollowing out, (but denied a real danger). Yen appreciation encouraged major export companies to set up factories and other operations abroad. As the psychological barrier of 100 yen/$1 U.S. was broken, confidence in continuing exports has been shaken. The production costs, counting workers' salaries and rents for factories and headquarters, skyrocketed, especially in terms of the dollars, in the second half of the 1980s in Japan. Obviously, the movement toward abroad reduces demand of labor in Japan. Will hollowing out reach a point where the Japanese unemployment rate will constantly go up like the unemployment rate in the 1980s in Europe?

These questions are obviously interesting and will be answered in the next decade or so.

Appendix

On persistence mechanism, a technical remark

One of the implications from an analysis of the impulse response function of the **VAR** analysis is described as follows: "Persistence mechanisms appear to be present that lead today's equilibrium unemployment rate to be positively related to yesterday's realization of unemployment." This statement has two major channels which may be interesting to distinguish.

First, the results may suggest that present unemployment causes next period's unemployment either by shrinking the size of "insider" workers or by depreciating human capital, that is, employable skills of the unemployed. If this is the case, then a **VAR** is not needed, but it suffices to specify a single equation with the unemployment on the left-hand side, with lagged unemployment and other labor market factors (such as minimum wages, union density, and so on) as explanatory variables.[1] The aggregate demand certainly does not play an important role in causing unemployment. One indication of this in a **VAR** system would be to find a large (say, 0.8 to 0.9) coefficient on the lagged unemployment rate in the unemployment equation. The structural, or (labor) supply side, considerations are more important, both from an analytical purpose and from policy purposes.

Second, another scenario is that unemployment causes workers' income to decline, then lower income reduces aggregate demand, which will further reduce employment by lowering the level of production (and increasing the capacity utilization). The interaction between (lower) production and unemployment is at the heart of Keynesian unemployment, as opposed to classical unemployment. In this case, the large effect of unemployment on unemployment is caused by the multiplier process involving coefficients of unemployment in the capacity utilization equation and of capacity utilization in the unemployment equation.

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[1] See, for example, estimates in Adams and Coe (1990) for the United States, and Coe (1990) for Canada.

One could check which explanation is more plausible by looking at the magnitude of coefficient on lagged unemployment in the unemployment equation in the VAR system. If it is large, then the first explanation is more plausible. Another way for checking is to compare the simulation by a single equation with the result in the paper (Chart 1). If the simulated "natural" rates of unemployment by the two methods are similar, then the first explanation is more plausible. I would urge the author to do additional simulations to determine which story is more plausible. Empirical work can be further extended seeking an explanation for persistence. In other words, although the VAR is used primarily to show that the high unemployment is not only by cyclical factors, a structural interplay can be analyzed more carefully.

Elaboration in a Phillips curve framework

Let me elaborate on the idea I presented in the Phillips curve section.

Phillips curve: a textbook presentation

Let us start with an old-fashioned Phillips curve with specification which can be later related to Professor Bean's VAR:

(A1) $\quad \log u_t = \log u^n - \beta \pi_t$

where u_t is the unemployment rate at period t; u^n is the natural unemployment rate (constant), and π_t is the inflation rate at period t. The old-fashioned Phillips curve is a tradeoff relationship from which the policymaker can choose according to preference. As the inflation rate can be regarded as a policy variable (which the government can choose with precision), any point on the curve can be chosen as an economic position for any duration of time.

Next, we specify the expectation-augmented Phillips curve, where only a surprise part of inflation can reduce unemployment:

(A2) $\quad \log u_t = \log u^n - \beta(\pi_t - \pi^e_t)$

where π^e_t is the expected inflation rate (where expectation is presum-

ably formed in period *t-1*). Under a very general assumption that learning in expectation formation is fast enough, the actual inflation rate cannot deviate from expectation forever. Any **sustainable** combination of unemployment and inflation is on the vertical line through u^n. In this sense, the long-run Phillips curve is said to be vertical.

In general, inflation expectation is a function of past inflation rates. Depending on assumptions on how expectation is formed, equation **A2** gives different implications for short-run policy.

(A3a) $\pi^e_t = \pi_{t-1}$

static expectation

(A3b) $\pi^e_t = \alpha\pi^e_{t-1} + (1-\alpha)\ \pi_{t-1}$

adaptive expectation

where $a = I$ implies no learning and close to old-fashioned Keynesian case (with a constant deviation), and $a = 0$ implies static expectation. There are two more well-known specifications of expectation in the literature:

(A3c) $\pi^e_t = \alpha\pi_{t-2} + (1-\alpha)\pi_{t-1}$

extrapolative expectation

(A3d) $\pi^e_t = \pi_t - \varepsilon_t$

extreme rational expectation.

In the case of extreme rational expectation, there is no room for policy, and the actual unemployment rate randomly deviates from the natural rate. In the case of adaptive expectation, for example, policy (choosing π) will cause interesting dynamics of π and u. The unemployment rate can be lowered only at the cost of raising inflation expectation, which in turn can be lowered only with a recession in the future. Once actual inflation expectation becomes extremely high,

only a severe recession can bring down the expected rate of inflation to normal.

Now if we can introduce a dynamic policy (or political) utility function, then we may solve the "optimal" policy path. Let us say,

(A4) $U = U(\pi_t, \pi_{t+1}, \pi_{t+2}, ...; u_t, u_{t+1}, u_{t+2}, ...)$

policy utility function.

Then, if one does not dislike future inflation very much, one may justify reducing unemployment in the short run. So far, it is well-known.

Introduction of hysteresis in unemployment

Suppose now that unemployment exhibits "hysteresis" for some reason (possible reasons being discussed in Professor Bean's paper). This can be simply modeled as natural unemployment rate, u^n, being a function of past unemployment experiences.

(A5a) $u^n_t = u_{t-1}$

(unit-root) hysteresis

This is a case of narrow-sense hysteresis, where any step in unemployment results in the change in the natural rate. If the inflation policy is (close to) random, or if the Phillips curve slope is very steep, the unemployment rate will exhibit a (near) unit-root property.

(A5b) $u^n_t = \gamma u^n_{t-1} + (1-\gamma) u_{t-1}$

adaptive hysteresis

where $\gamma = 0$ implies (A5a) and $\gamma = 1$ implies traditional assumption of constant natural unemployment rate.

(A5c) $u^n_t = \gamma u_{t-2} + (1-\gamma) u_{t-1}$

extrapolative hysteresis

A simplified expectation-and-hysteresis augmented Phillips curve, can be described by combining equations A2, **A3b**, and **A5b**.

(A2) $\log u_t = \log u^n - \beta(\pi_t - \pi^e_{t)}$

Phillips curve

(A3b) $\pi^e_t = \alpha\pi^e_{t-1} + (1-\alpha)\,\pi_{t-1}$

adaptive expectation

(A5b) $u^n_t = \gamma u^n_{t-1} + (1-\gamma)\,u_{t-1}$

adaptive hysteresis

Now, given policy utility function equation A4 with a structure of equations A2, **A3b**, and **A5b**, one can solve an optimal inflation path. This time, however, a short-run stimulus (an increase of π for only one period) has a better chance to be justified, because a short-run stimulus, lowering unemployment temporarily, has an added bonus to reduce unemployment *permanently* through equation **A5b**. This effect is amplified if expectational learning is slower (a being closer to 1) and/or if hysteresis is stronger (y being closer to 1). In fact, in the extreme case where $a = 1$ and $\gamma = I$, the system of equations A2, **A3b**, and A5b collapses to the. old-fashioned Phillips curve, that is, the downward sloping Phillips curve represents a long-run relationship as well. Hence, the validity of this case depends on estimates of a and y.

High, persistent unemployment would result if an adverse supply shock hit, that is, a one-time shock in π, followed by tightening to aim at reducing inflation. However, if both a and γ are close to 1, then unemployment becomes high, and persistent, without reducing inflation (or shifting back the Phillips curve by reducing inflation expectation).

Another possibility is that if inflation learning is faster, but **hyster-**

esis is weak, any attempt to reduce unemployment by tolerating inflation becomes a dangerous policy which results in stagflation.

Now this exercise shows that an attempt of introducing the hysteresis argument to a well-known, expectation-augmented Phillips curve will bring back more discretionary policy in the **expectation-augmented** Phillips curve model. The validity of stimulus depends on estimates of a and γ.

Now so long as expectation and hysteresis are functions of past π and u, the system of equations can be described as a VAR system with π and u variables. This may be a good way to justify a VAR regression (without capacity utilization). If specifications are carefully chosen, then estimates for a and γ can be recovered from VAR. For example, combine, equations A2, A3c, and A5c:

(A2) $\log u_t = \log u^n_t - \beta(\pi_t - \pi^e_t)$

(A3c) $\pi^e_t = \alpha\pi_{t-2} + (1-\alpha)\,\pi_{t-1}$

(A5b) $u^n_t = \gamma u_{t-2} + (1-\gamma)\,u_{t-1}$

Then, the unemployment rate becomes a function of past unemployment rates and inflation rates (by substituting equations A3c and A5b into A2). This becomes a building block for the VAR.

Next, the inflation rate can be modeled as a reaction function of the policymakers:

(A6) $\pi_t = \delta_1\pi_{t-1} + \delta_2\pi_{t-2} + \delta_3 u_{t-1} + \delta_4 u_{t-2}$

This gives the second equation in the two-variable VAR. This way, a VAR system is semi-structured using the idea of unemployment hysteresis. Estimates of the VAR will give us some idea, whether inflation learning is faster or working down natural unemployment is faster.

Endnotes

[1]More detailed explanations of supply-side factors are found in Bean (1994, JEL).

[2]Technically speaking, scenarios are described as follows: The policy can be used to run up the short-run Phillips curve, increasing inflation and lowering the unemployment rate. Now, if the Phillips curve shifts up--because of the expectation adjusting to a surprise in the inflation rate — faster than the natural unemployment rate (a vertical non-inflation-accelerating line) shifts left, then a whole exercise becomes a futile effort. On the other hand, if the natural unemployment rate goes down faster than expectation learning, then it may be worthwhile tolerating inflation for a while. In this sense, advocating an incomes policy at the end of the paper may go hand-in-hand with the accommodation advice. However, it is not immediately clear from the paper that usual problems with incomes policy—how to deal with necessary *relative* price changes, how to avoid a rush immediately before or after the incomes policy, and so on--can be avoided. Alternatively, one can think of a case where inflation is not necessary for lowering the natural unemployment rate, when the Phillips curve does not shift up even after the actual inflation exceeds the expected rate. A crucial auestion is how much "accommodation" is needed to lower the natural unemployment rate, yet avoiding inflation.

[3]See Tables 1 and 2, Figures 1 and 2 in Bean (1994, JEL).

[4]See Ito (1994, Chapter 8) for the details.

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Commentary: The Role of Demand Management Policies in Reducing Unemployment

Welfare State Unemployment: A Comment

Allan H. *Meltzer*

Charles Bean has written an informative discussion of unemployment that brings to a larger audience some parts of his comprehensive discussion of European unemployment (Bean, 1994).
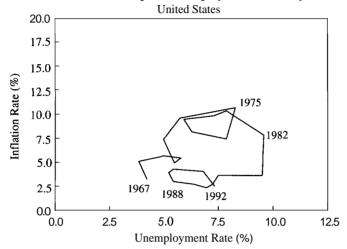
His current paper also discusses the role that policy might take to reduce unemployment. I will put policy issues aside initially to concentrate on the causes of unemployment. I begin by stating and commenting on four main points about the causes of unemployment that I draw from his work, particularly his survey paper.

Why European unemployment rose

First, most of the increase in unemployment within the European Union is on the supply side. Chart 1 in Bean's conference paper, and his earlier survey paper (1994, Figure 2), show that the steady-state unemployment rate rose from less than $2\frac{1}{2}$ percent in the late 1960s to about 10 percent twenty years later. Bean's chart, reproduced as Chart 1, shows that the unemployment rate at any rate of inflation is higher in all countries but, outside the European Community (EC), the increases are modest. The rise in the EC is almost a constant rate of increase over a fifteen-year period. Since the rise in the unemployment
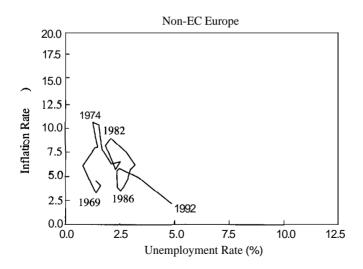
Chart 1
Unemployment and Inflation

Bean: European Unemployment: A Survey

United States

Non-EC Europe

Chart 1
Unemployment and Inflation
continued

Bean: European Unemployment: A Survey

European Community

Japan

rate is mainly on the supply side, it is not "Keynesian unemployment." I suggest that a better name is "welfare state unemployment."

A distinguishing difference between welfare state and Keynesian unemployment is that the former, unlike the latter, cannot be reduced **permanently** by policies that increase aggregate demand. Welfare state unemployment raises the natural rate of unemployment. Bean's (1994, p. 575) survey suggests that the natural rate has increased in the last twenty years in the United States, Europe outside the EC, Japan, and in the EC. The increase in the rate for the EC, however, is orders of magnitude greater than in the other regions. I concentrate on this long-term rise.

Second, cyclical fluctuations in aggregate demand play a much smaller role. Bean's data suggest that, at its worst in the mid-1980s, cyclical unemployment was $2\frac{1}{2}$ percent, so the unemployment rate, in the EC or European Union (EU), would have been less than 5 percent instead of more than 10 percent had welfare state or supply-side unemployment remained at the late 1960s level.

Third, Bean concludes that there is no accepted explanation of the rise in European unemployment. His survey suggests that economists have worked hard investigating many plausible explanations without reaching a firm conclusion. The explanations include the oil price shocks, changes in the terms of trade, slower productivity growth, higher and longer-lasting unemployment benefits, and minimum wages. Some of these explanations are incomplete as they stand. The lasting effects of productivity growth, oil shocks, and changes in the terms of trade should be on real wages, not unemployment, and any effect of the oil shocks should have reversed when real oil prices fell.

Other, more inventive economists, have proposed fanciful explanations of persistence or, as some prefer, hysteresis. In one popular version, workers are said to lose their skills when they remain unemployed. Such explanations neglect some facts. Much of the rise in unemployment is not the result of employed workers losing jobs. Unemployment in the EU is heavily concentrated among new entrants. In Bean's words (1994, p. 576): "The high levels of unemployment in

the European Community are thus associated primarily with the reduction in the probability of finding a job, rather than an increased likelihood of losing one." Further, to reach the remarkably low unemployment rates of the 1950s and 1960s, the labor force absorbed the generation that experienced the depression of the 1930s and the war in the 1940s. This generation had no problem finding and keeping jobs in the 1950s and 1960s despite a lengthy absence from the labor force.
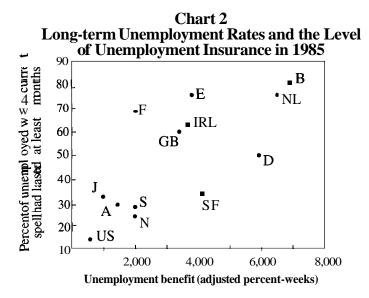
Fourth, Bean's (1994) survey suggests that most of the research on the role of the welfare state has concentrated on unemployment benefits and taxation. He dismisses these policies as an explanation of an increased steady-state unemployment rate.

Bean recognizes (1994, pp. 592 and 602) that the duration of unemployment benefits is indefinitely long in several EC countries that now have high unemployment rates, whereas the duration of benefits is limited in the Nordic countries (and the United States) where unemployment rates rose much less in the 1980s.[1] He dismisses any long-term effect of taxes and permanent benefits by arguing that the two should be offsetting on an individual's choice of labor and leisure. His argument is that leisure depends on permanent income. Higher taxes reduce permanent income but the higher benefits restore the loss. In Bean's model, the permanent effects on unemployment cancel (1994, p. 589).

I believe that the error in this argument is the fallacy of aggregation. Taxes on earned income or labor income (whether assessed on employers or employees) are paid by those who work. Unemployment benefits are paid to those who are idle. Hence work or effort is discouraged and leisure or idleness is encouraged. Or, workers move into the underground economy. Permanent benefits that cannot be taken away (to use a now familiar phrase) have a double effect on the unemployment rate if paid for by taxes on earned or labor income. Far from canceling, the two effects are reinforcing.

Burda (1988, p. 407) studied the relation between the duration of unemployment benefits and the proportion of the unemployed out of work for six months or longer. Chart 2 reproduces his data. The correlation between long-term unemployment and duration of benefits

Chart 2
Long-term Unemployment Rates and the Level
of Unemployment Insurance in 1985

Note: A = Austria, B = Belgium, D = West Germany, E = Spain, F = France, GB = Great
Britain, IRL = Ireland, J = Japan, N = Norway, NL = Netherlands, S = Sweden, SF =
Finland, US = United States

is 0.75 for 1985 based on across-section of Organization for Economic
Cooperation and Development (OECD) countries. At the time, dura-
tion of.benefits was unlimited in the United Kingdom, Belgium, the
Netherlands, Germany, and Spain, and two and one-half years in
France, compared to twenty-one and one-half weeks in Switzerland,
thirty weeks in Austria, and thirty-four weeks in the United States.
These differences help to explain the differences in unemployment
rates and the duration of unemployment in the EC compared to
non-EC Europe and the United States.

Permanent unemployment benefits and taxes on labor income are
not the whole story. They are only one of the contributions of the
welfare state to unemployment.

Role of the welfare state

Three features of the welfare state are important for the steady-state
unemployment rate. To have a significant effect on measured unem-
ployment, benefits must be (1) comprehensive, (2) independent of the

amount of work performed, and **(3)** permanent or of long duration. Not all benefits are of this kind, so correlations of tax rates or transfer payments are not likely to be relevant or revealing.

At least since Burda's (1988) study, the duration of benefits has been recognized as important in the analysis of unemployment compensation. Bean's survey brings this work up to date. Duration of benefits explains part of the difference in measured unemployment rates within Europe or between the EC and the United States. Less attention has been paid to other aspects of the welfare state. Many studies of the response of unemployment to the welfare state concentrate on the effect of taxes. Taxes distort the individual's labor-leisure tradeoff and increase the measured unemployment rate. This effect is one of many distortions but, if benefits are not comprehensive and permanent, the effect appears to be relatively small.

Analysis of the effect of a negative income tax and in-kind benefits suggests why the permanent, comprehensive benefits of modern welfare states distort labor-leisure choices and increase measured unemployment rates (Meltzer and Richard, 1985). Decisions to work are less affected if benefits are not comprehensive. For example, giving food stamps, housing allowances, or other in-kind transfers reduces employment less than an equivalent payment of cash. Beneficiaries must work to purchase the goods and services not provided by the welfare state. A cash equivalent payment, therefore, reduces the incentive to work. The more comprehensive and durable the benefits, and the more they are independent of labor force participation, the larger is the reduction in employment. The extreme case is a cash transfer, or negative income tax, paid permanently as an entitlement. The effect is diluted if benefits can be sold, but housing allowances, health care, and education are difficult to sell.

The United States has housing allowances, food stamps, and some medical care, but cash payments for welfare recipients are small relative to the average wage, and unemployment benefits are not permanent. In countries with permanent unemployment benefits that are a large share of the average wage, the unemployed also receive a variety of in-kind transfers independent of their work history. Health care, housing allowances, and schooling for children supplement the

permanent cash payment. Studies that neglect these differences in welfare state benefits are likely to mismeasure the role of the welfare state in reducing labor force participation and increasing the equilibrium unemployment rate. This is particularly true in some European countries where unemployment has much lower turnover than in the United States. Bean (1994, Table 2) reports that in 1988 long-term unemployment was 55 percent of total unemployment in the EC, and 7 percent in the United States.

Sweden illustrates some of the problems in assessing the role of a welfare state. Sweden has a comprehensive welfare state on most measures. Cash benefits to the unemployed, however, are paid for less than one year. Training and retraining programs, and special programs for disabled workers, absorbed between $1\frac{1}{2}$ to $2\frac{1}{2}$ percent of the labor force from 1985 to 1990. This is close to the share of the labor force that is reported as unemployed, so reported unemployment rates were understated relative to countries with smaller training programs.[2]

The Swedish example is one reason for mismeasurement of unemployment rates. A more widespread problem is the difference in government hiring or overmanning in state-owned firms.

Two frequent criticisms of this line of reasoning are that the welfare state antedates the rise in unemployment rates, and some welfare states have not experienced the rise in unemployment rates reported for the EC. Bean's survey paper shows average unemployment rates for nineteen of the twenty-three countries in the OECD during sub-periods from 1969 to 1992. In the first sub-period, 1969-73, the range of average unemployment rates was from less than 1 percent to nearly 6 percent, and the unweighted average was 2.5 percent. By 1986-92, the bottom of the range had increased almost to the 1969-73 average. The average rose to 7.7 percent, and the range to 2.3 percent to 18.1 percent. The average unemployment rate increased in all nineteen countries.[3]

More importantly, the data suggest that relative positions were not very different in the two periods. A rank correlation coefficient between countries' average unemployment rates in 1969-73 and 1986-92 is 0.66, significant at the 1 percent level. The median percentage

increase is *270* percent.[4] Many countries in the EC are close to the median increase and show about the same percentage increase as such non-EC countries as Austria, Finland, and Norway. While it is true that eight or nine countries above the median unemployment rate in *1986-92* are in the EC, the same is true for six of the nine countries above the median unemployment rate in *1969-73.* The prior existence of welfare states does not pose a problem if the size and scope of welfare states increased in rough proportion to their levels in *1969-73.*

Social benefits rose in many of the European countries in which unemployment increased. Alesina and Perotti *(1994)* compiled data on social expenditures as a share of GDP in the EC for *1960* and *1988.* These are shown in Table 1 for eight countries. Also shown are the changes in the unemployment rate for the same countries using data for *1969-73* and *1986-92* from Bean *(1994).* Except for Ireland, the rise in the unemployment rate correlates well with the increase in welfare spending.

Table 1
Changes in Social Expenditure as a Percentage of GDP and Changes in the Unemployment Rate

Country	Changes in Social Spending/GDP[1] *1988/1960*	Change in Average Unemployment Rate *1986/92 - 1969173*
Spain	4.30	15.4
Denmark	2.64	9.8
France	2.40	7.3
Belgium	2.25	6.5
Italy	2.18	4.8
United Kingdom	2.03	5.6
Germany	1.46	4.6
Ireland	1.20	9.8

Sources: Alesina and Perotti (1994), Bean (1994).
[1]Social expenditure includes sickness, disability, old age, unemployment, family allowance, maternity. vocational training, and housing.

The data are not for the same period, so caution is in order. Also, data are not available for the full sample. Nevertheless, the increase in unemployment is not unrelated to the increase in welfare spending.

Policy issues

Bean looks with more favor than I on monetary manipulation, demand stimulus, and temporary incomes policy as an aid to reducing unemployment. He opposes policy coordination even within Europe. And he sees little scope for demand-side fiscal policy to increase demand because most countries have large deficits relative to GDP. His main policy recommendation is for supply-side reforms, but he is not very specific about the particular reforms he favors. He proposes modest monetary stimulus and incomes policies to support the transition to the new steady state at lower unemployment rates.

Bean recognizes — indeed emphasizes — that both policymakers and economists face considerable uncertainty about the prevailing equilibrium rate of unemployment. In the face of this uncertainty, it seems wrong to suggest that policymakers should increase uncertainty about the future price level by engaging in monetary fine tuning or try to fool workers and owners into thinking real demand is higher than it is. A coherent, consistent, well-articulated monetary policy to achieve zero expected inflation in each country seems a better way to take advantage of the latitude provided by current exchange rate bands and floating rates.

I believe Bean dismisses fiscal action too quickly. Reductions in transfers payments could be financed by equivalent reductions in taxes on labor. Since those who receive the transfers and those who bear tax burdens are not the same, incentives to work can be increased by reductions in taxes and benefits. The dynamic effects on aggregate output and income would lower the deficit.

This suggestion, like many other proposals for supply-side policies, raises political issues about redistribution. Welfare state policies are chosen, or at least supported, by voters. The economic equilibrium that sustains a high measured unemployment rate appears to be not just an economic but a political equilibrium. The unemployed and
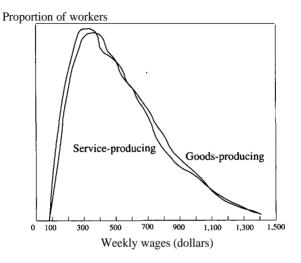
their legislative representatives do not demonstrate or demand reductions in taxes and transfers to increase employment. Most often they ask for increased transfers financed by taxes on earned income. Such policies increase measured unemployment or the number of "discouraged workers." Demands for reductions in welfare state benefits come mainly from those in the middle and upper income groups who pay taxes in excess of the benefits they receive. Typically the latter demands exclude the transfers received by the taxpaying groups.[5] Most politicians act as if they doubt that a majority of their constituents favor reductions in comprehensive benefit programs.

Finally, a few words about the alleged tradeoff between low-paying service jobs and higher unemployment rates discussed in other papers at this conference. During the last election campaign in the United States, some economists and their friends in the media misled the public by promoting the idea that many of the 20 million jobs created during the 1980s were low-paying service sector jobs. A different version of the same idea is that the United States has kept unemployment rates low by replacing high-paying jobs in goods producing industries with low-paying service sector jobs.

Chart 3 compares the distributions of weekly wages in goods and service producing industries in 1992. The two distributions overlap to a considerable extent. This should dispose of the false notion that service sector jobs are low-paying jobs and, with it, the idea that most of the new jobs created in the 1980s were low-paying jobs.[6] The policies of the 1980s drew people into the labor force where many developed the skills and work experience essential for increasing lifetime income.

Chart 3
Wage Distributions, Goods and Services, 1992

Proportion of workers

Weekly wages (dollars)

Source: Federal Reserve Bank of Cleveland calculations based on data
from U.S. Department of Labor, Bureau of Labor Statistics.

Endnotes

[1]Increases in unemployment rates in Sweden and Finland in the 1990s have not lasted long enough to be described as persistent.

[2]In 1993-94, Swedish unemployment rates rose to about the European average. The number of workers in training programs rose also but less than proportionally. (Ministry of Finance, 1993, p. 48)

[3]Data are not available for Greece, Luxembourg, Portugal, and Turkey.

[4]Since several countries reported unemployment rates below 1 percent for 1969-73, the mean percentage change is misleading.

[5]For models of this political-economic equilibrium with taxes and redistribution, see Meltzer, Cukierman, and Richard (1991).

[6]As Kosters (1994) shows, the main reason for the recent shift in income distributions is the higher premium for college-educated workers in the 1980s.

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The Role of Monetary Policy:
Where Does Unemployment Fit In?

*Donald **T. Brash***

I have been asked to focus on the pressures and constraints on monetary officials resulting from chronically high unemployment.

We all know that unemployment is one of the biggest problems facing most Organization for Economic Cooperation and Development (OECD) countries. We also know that there are strong demands on policymakers to provide solutions.

But responsible policymakers must recognize the limits of the policies they have at their command. Even with the best of intentions, some policy approacheshave the potential to end up doing more harm than good. To apply such policies just to be seen to be doing something would be very irresponsible indeed.

Most economists now accept that there are clear limits to what monetary policy can do to help lower unemployment. Monetary policy does have a clear part to play, and an important one. But it is not a tool we should use directly to stimulate growth or employment. Experience has taught us that such an approach will not work. On the contrary, it can be very damaging.

The best contribution monetary policy can make to growth and employment is to maintain stability in the general level of prices.

However, the wishful thinking that often underlies attempts to use

monetary policy to stimulate activity and employment has not disappeared. Within public and political circles alike there is still a belief that monetary policy could do more to reduce unemployment than simply dealing with inflation. To those holding that view, focusing monetary policy upon price stability can appear a very callous approach.

As you may know, the Reserve Bank of New Zealand now has a clear and very distinctive mandate to maintain price stability. You will not be surprised to learn that people often criticize our monetary policy framework for not paying adequate attention to unemployment.

Today I would like to give you some insights into the way this issue has developed in New Zealand and how the Reserve Bank has responded. I would also like to explain why the monetary policy framework in New Zealand plays an important role in reducing pressures on the central bank to influence employment in ways that will ultimately prove unsuccessful.

Monetary policy: What did the past teach us?

To begin, I think it is useful to review the main lessons we have learned about the role of monetary policy over the past two decades. Unless we keep those lessons firmly in mind, we run the risk of repeating the mistakes most countries made over that period.

At one time or another, governments around the world have tried to use monetary policy to achieve almost every conceivable economic objective, and some social objectives as well. Economic growth and employment have often been high on the list of objectives for monetary policy.

New Zealand's experience over the 1970s and early 1980s provides as good an example as any of this shotgun approach to monetary policy. The former Reserve Bank legislation, in place until 1989, required that monetary policy be directed toward enhancing economic and social welfare. In doing so, attention was to be given to promoting the highest level of production, trade, and full employment, and to maintaining a stable price level.

The act did not define these objectives. Moreover, the Reserve Bank was given little operational independence to achieve them. Legally, the responsibility for monetary policy rested almost entirely upon the minister of finance.

Given the multiple goals, and the lack of any real accountability framework, ministers of finance faced little discipline in the conduct of monetary policy. As the theory of political economy might predict, there was an overriding tendency to use monetary policy to stimulate the economy. The fiscal stance over this period was also expansionary, with large and persistent fiscal deficits.

Despite the expansionary macroeconomic policy, New Zealand's growth performance over the period fell well below the OECD average. The unemployment rate, which is estimated to have been as low as 1 percent in the early 1970s, trended upward to just over 5 percent by the early 1980s. That upward trend was temporarily broken in 1984, due to a significant further stimulus, and a reduction in real wages arising from a wage and price freeze.

The expansionary nature of macroeconomic policy resulted in high and variable inflation. The Consumer Price Index (CPI) increased fivefold in New Zealand between 1970 and 1984. Among the OECD group of countries, prices over the same period increased "only" threefold.

New Zealand's experience over this period helped to teach us many lessons about the conduct of monetary policy that other countries have also learned.

The unemployment-inflation tradeoff

It is clear that we were asking monetary policy to do things it could not. Stimulating activity worked for short periods in the sense of increasing both output and employment. Ultimately, however, the only enduring result was high inflation. Monetary stimulation was no safeguard against unemployment. In economic parlance, there was no stable, long-run Phillips curve that we could exploit to help improve economic growth or employment prospects.

It is worth recalling that Bill Phillips, a fellow New Zealander, never claimed that there was an exploitable policy tradeoff when he originally uncovered the unemployment-wage relationship.

It would be misleading to assert that our poor growth record and the emergence of unemployment over this period were simply the result of following inflationary policies. Clearly, other factors were also at work. Our highly regulated economy was unable to adjust efficiently to changes in the global economy.

But inflation made matters worse. By impeding the efficient operation of markets over a long period, inflation appears to have worsened both growth and employment prospects. Our lackluster growth performance would certainly suggest that.

Internationally, of course, there is a growing body of evidence suggesting that inflation hinders growth. By implication, it also hinders employment prospects.

Our experience strongly supports this international evidence that monetary policy is best directed toward a single goal—the maintenance of stability in the general price level. That objective is the best contribution monetary policy can make to growth and employment prospects.

Central bank structure

New Zealand's experience can also teach us much about the appropriate structure of a central bank.

A central bank must be given a clear mandate to maintain price stability. But it also needs the operational independence to pursue that goal. Without it, political incentives are likely to pressure governments to direct monetary policy toward real sector objectives that it cannot sustainably meet.

But even operational independence is not enough. In order to ensure the central bank delivers on the price stability goal, it must also be made fully accountable for its performance.

Putting the lessons into practice: the New Zealand monetary policy framework

We have attempted to apply these lessons to the monetary policy framework in New Zealand. Starting from late 1984, the incoming government directed the central bank to begin reducing inflation. The government passed a new Reserve Bank Act in 1989 to formalize that objective. The act came into force in early 1990. The act makes the achievement and maintenance of stability in the general level of prices the only focus of monetary policy.

The act itself does not define "stability in the general level of prices," but requires the minister of finance and me to negotiate a Policy Targets Agreement, or PTA. This defines price stability quantitatively. Thus it becomes a clear target to which we can be held accountable. The current target is for the maintenance of twelve-monthly consumer price inflation between 0 and 2 percent. The PTA is renegotiated whenever a governor is appointed or reappointed. Both the minister of finance and the governor must be satisfied that the specific target is consistent with the act before signing the agreement.

Price stability, as defined, was first achieved in 1991, around seven years after we were first directed to pursue low inflation. We have maintained inflation within that 0 to 2 percent range ever since.

Many people, in New Zealand and abroad, were surprised at the passage of the Reserve Bank Act. They were also intrigued that the act received unanimous support from both major political parties.

Politicians' support for the Reserve Bank Act reflects very considerable political courage on their part. Implicitly, they have recognized that the long-term benefits of pursuing price stability outweigh whatever political benefits there are from using monetary policy to meet short-term objectives. Given the continued pressures politicians find themselves under to do more about unemployment, and the widespread belief in an inflation/employment tradeoff, the broad political support for the act is remarkable indeed.

Pressures on the monetary authorities
Recent trends in *unemployment*

Over most of the period during which we were reducing inflation, the New Zealand economy experienced a recession in activity. That reflected not only the influence of disinflation, but also the adjustment pressures caused by microeconomic reform on a scale probably unprecedented in the OECD in the last four decades.

At about the time we achieved price stability in 1991, the economy entered a recovery phase and has continued to strengthen since. Over the year to March 1994, the economy grew by 5.3 percent.

The unemployment rate, which continued to rise during the disinflation period, has fallen from a seasonally adjusted peak of 10.9 percent in September 1991 to 8.4 percent in June 1994. Total employment has grown by nearly 4 percent over the past year.

Most forecasters expect the unemployment rate to fall further over the next few years as economic growth continues. Increases in the labor force, and a rise in the labor force participation rate associated with growth in job opportunities, are expected to partly offset the decline in the unemployment rate, but despite this, we, ourselves, are expecting the unemployment rate to be around 8 percent by early next year.

But even 8 percent unemployment is still uncomfortably high and most New Zealanders, and indeed most New Zealand policymakers, want to see it further reduced.

The role of the policy framework

Does the New Zealand monetary policy framework shield the bank from pressures from politicians and others to "do something" about unemployment? I would like to give an unequivocal "yes" to that question, but 1 can't. You probably wouldn't believe me if I did. But the framework undoubtedly helps to reduce those pressures.

Our framework is certainly very effective in discouraging us from

diverting from the price stability objective when implementing monetary policy. The PTA establishes a clear target against which I am accountable. If the bank were to succumb to pressures that jeopardized that target, we would soon be required to explain why.

As governor, I am personally accountable for our monetary policy performance. If we fail to meet our inflation obligations under the PTA, the act makes it possible for the minister of finance to dismiss me. That threat places an important discipline on me not to target anything other than price stability.

The process of accountability is carefully formalized under the legislation. We are required to produce monetary policy statements at least once every six months, explaining our policy actions. These policy statements mean that our actions are subject to close scrutiny not only by the government, but also by the financial markets and other interested bodies.

Each monetary policy statement is followed shortly after by a hearing conducted by the Finance and Expenditure Committee, a parliamentary committee consisting of both government and opposition members — rather like the congressional committee before which Mr. Greenspan regularly appears. The committee can ask the bank for further information about our **performance**.

Inevitably, the financial markets are an important arbiter of our performance. If our words or actions suggested we had been pressured, or were going soft on the inflation target, interest rates could be expected to rise quickly. That in itself could be harmful to employment.

Since the passage of the Reserve Bank Act in 1989, indeed since late 1984, there has been no attempt by any government to influence the implementation of monetary policy. On occasion, temptation must have been strong. In late 1990, for example, just before a general election, the bank felt it necessary to firm monetary conditions to ensure continued progress toward the price stability goal in the face of an expansionary fiscal stance. I'm sure that no government wants that just before an election.

Under a clause in the act, the government has the power to direct the bank to focus monetary policy on some objective other than price stability. However, that instruction has to be in public (by means of an Order-in-Council), and in most circumstances, that makes it politically unattractive.

The public communications function

In the long run, the monetary policy framework can only survive if people widely support it. Within the business sector, especially among farmers and manufacturers, there is growing recognition of the benefits of price stability.

Among the general public, support is also growing. People are beginning to see that it is possible for stable prices, economic growth, and job creation to go hand-in-hand, and for more than just a fleeting period.

However, the policy framework has always had, and still has, its critics. They have attacked the framework for its exclusive focus on price stability and argued for a wider mandate that pays more attention to unemployment.

Among those to have criticized the framework have been a former prime minister, and leaders of several of the smaller opposition parties. The Council of Trade Unions, unemployed workers groups, church leaders, many academics, and some media and talk-back hosts have also questioned the framework.

The critics are keen to see the inflation target diluted, with the bank pursuing some kind of employment target as well. Implicit in that call is the notion of a long-run, exploitable, Phillips-type relationship.

Many of the public share that view. In March 1994, the *National Business Review* (the most widely read business weekly in the country) published a poll on the Reserve Bank Act. The poll, known as "The NBR-Consultus Poll," asked people if they would support a change to the act to include the reduction of unemployment as one of the bank's objectives.

Sixty-two percent of those polled said they **would** support such a change. The remainder was about equally divided between opposing the change and being unsure about it. In the same poll, however, 80 percent of those polled admitted to knowing "hardly anything" or "not that much" about the existing act.

One of the bank's most important functions has therefore been to try and build a wider constituency for the price stability objective. Most people can accept that inflation imposes significant costs on the economy and society. But people also need to be convinced that attempting to trade off just a little more inflation for a little less unemployment, however tempting, just isn't a workable proposition.

Since the late 1980s, the bank has operated a very active public communications program. We undertake a substantial program of speeches and presentations for a wide variety of public groups. The bank also briefs politicians and members of the media on the policy framework.

When presented with the facts, most people are prepared to at least consider the merits of our monetary policy approach. And there are many compelling facts that we can point out to people in those presentations.

The first is that unemployment in New Zealand had become a deep-seated problem long before we embarked on the price stability goal, despite a sustained period of monetary stimulation. Clearly, structural factors outside the ambit of monetary policy were at work.

We can also highlight the international experience pointing to the absence of an inflation-employment tradeoff or a long-run Phillips curve. And we can cite the growing body of empirical evidence that suggests inflation is actually harmful to growth. The high degree of international agreement on these issues is strong support for our monetary policy approach.

Building support for the policy framework has been no easy task. Nor can we claim to have finished that task.

Our public communications role needed to begin while inflation was being brought down. Throughout that period, unemployment was rising steadily, partly reflecting the disinflationary pressure needed to lower inflation.

In those circumstances, the message that price stability would be beneficial to growth and employment was bound to meet with resistance. The public made its own assessment of the costs of disinflation. Having made that assessment, people could easily believe that price stability, once achieved, would also be costly.

The bank has always acknowledged openly that disinflation involved employment costs. We also note that it is difficult to quantify those costs given all the other influences on unemployment at that time. A key message in our speeches during disinflation was that the employment consequences would be reduced, the sooner wage and price setters realized that we were absolutely committed to lowering inflation.

Among the economics profession and elsewhere, there is still considerable debate on the costs of disinflation and whether the costs of "going the whole hog" are worth incurring. For New Zealand, those costs, whatever they were, have now been incurred.

The bank, therefore, stresses to people that forsaking price stability now would at some point require those costs to be paid again, unless we were prepared to tolerate high inflation indefinitely. Clearly, the higher one assesses the costs of disinflation, the less attractive a return to high inflation becomes.

Public support for price stability has not been helped by the silence, and sometimes the outright criticism, of some of the major beneficiaries of price stability. Their criticisms, while often unrelated to unemployment, have reinforced the idea among some people that price stability has very few benefits.

To illustrate: During the high inflation era of the 1970s and 1980s, real, post-tax interest rates on savings were typically negative. As in most other countries, savers in New Zealand pay tax on their entire nominal interest earnings, not just the real component.

As inflation has fallen, real, after-tax returns have improved. But people have suffered from money illusion. As nominal interest rates have fallen, savers have commonly perceived themselves to be worse off than under high inflation. Many of those on interest incomes, such as the retired, have been vocal critics of price stability. Their confusion has certainly not helped public support for price stability.

Unemployment and monetary policy: Some common issues

Apart from those critics who still hold to a rather simplistic Phillips-curve view of the world, there are three other strands of criticism surrounding the monetary policy framework in New Zealand.

First, some critics argue that the bank achieved price stability too early, and as a result, incurred unnecessary costs in terms of output and unemployment. The original PTA required us to achieve price stability by 1992. At the end of 1990, this deadline was changed to 1993. In fact, we achieved a 1 percent rate of headline inflation (and a 1.7 percent rate of underlying inflation) in 1991.

The bank has openly acknowledged that we did get to our target earlier than intended and that that *may* have resulted in additional costs. But that conclusion is by no means clear. Recent work by writers such as Laurence Ball and others suggests that the optimal speed of disinflation may actually have been faster than the seven years we took. A case can therefore be made that by getting there a little early, we avoided some of the employment costs which would have been involved by a still more prolonged disinflation. The jury is still out on this issue.

Second, some critics hold that employment prospects could be improved if only the Reserve Bank were prepared to tolerate a lower New Zealand dollar. Since a lower exchange rate would, it is argued, enhance the competitiveness of exporters and import substituting industries, activity and employment would be enhanced also. This is, of course, an open economy variation on the familiar argument that monetary policy is capable of a sustained stimulative effect on employment and growth.

Given New Zealand's relatively open economy, the nominal exchange rate is clearly an important influence on the inflation outlook. The bank has been quite open in stating that it must hold a view on the exchange rate that is consistent with price stability. That view is made with reference to the many other factors feeding into the inflation process. While, in practice, we can often tolerate quite wide fluctuations in the exchange rate, we cannot be indifferent to its moving beyond those limits.

Our ability to influence the nominal exchange rate means that we can certainly affect the real exchange rate in the short term. But economic theory and our own experience tell us that attempts to drive the real exchange rate down will be successful for only as long as it takes people to realize the inflationary consequences of a lower nominal exchange rate. In other words, our capacity to beneficially influence the real exchange rate is limited to our capacity to fool people, or for however long it takes for sticky prices to change.

Historically, depreciations in the New Zealand dollar have simply reflected relative price changes between New Zealand and its trading partners due to inflation. A depreciating dollar has not been associated with sustained improvements in our real exchange rate. For example, over the twenty years from 1970 to 1990, the Zealand dollar depreciated (on a trade-weighted basis) by just over 50 percent. Over this period, prices in New Zealand rose by just over twice as much as those in our major trading partners.

A third concern of critics relates to the definition of the price stability target itself. Price stability is defined in the PTA as consistent with year-on-year increases in the CPI of 0-2 percent. It is sometimes held that the 0-2 percent definition is either "too low," "too narrow," or both. Maintaining the target is said to be unnecessarily costly in terms of output and employment.

Is the inflation target centered around "too low" a midpoint? We don't believe so. Over the three-and-a-half-year period during which inflation has been maintained within the target, the economy has entered a sustained growth phase. This is hardly convincing evidence that we have impeded growth or employment.

As best we can tell, the center of the target —1 percent — appears to correspond to genuine price stability once the various sources of bias in the CPI are allowed for. In the bank's view, there should be no ongoing employment costs of maintaining that target, provided wage and price setters are confident that we will, on average, deliver that outcome and adapt their behavior to that reality.

It is sometimes posited, by Lawrence Summers for example, that some low, positive target rate of inflation is more appropriate than price stability so that real wages are able to fall over the economic cycle if required. Downward nominal wage rigidity is seen to limit real wage adjustment when inflation is zero.

As I have argued elsewhere, with price stability, nominal wages are likely to grow at the trend rate of productivity growth over the business cycle so that real wage movements are able to fall below trend without nominal wage cuts. It simply requires forgoing some of the nominal wage increase that would otherwise occur due to productivity increases.

Moreover, nominal wage stickiness, where it exists, is surely a feature of an individual's employment contract. It is much less likely to apply in an average sense. Most firms are able to reduce the *average* nominal wage without having to cut the wage of any incumbent employee. The replacement of highly paid retirees and resignees with lower-paid recruits, and a reduction in the remuneration steps that accompany promotions, are all ways of capping or reducing the nominal wage bill without resorting to outright pay cuts.

Those supporting a *wider* target band often point to a potential instrument instability problem under the current target. Because of the imprecise nature of the monetary policy tools at our disposal, they say policy adjustments may become erratic as we attempt to keep from over- or undershooting the target. Accordingly, monetary policy may cause unnecessary gyrations in economic activity, perhaps to the detriment of employment.

Moreover, it is argued that, under a narrow target, the Reserve Bank may often be forced to act before it has sufficient information on the outlook for inflation. Thus inappropriate policy actions may be taken

because inflationary movements will often be misread.

Is the current price stability target too narrow? On the evidence to date, I would have to say no. The bank has successfully maintained inflation within the 0-2 percent range since 1991. During that time we have not been led to make frequent or erratic adjustments to policy . settings. I readily concede, however, that the framework is still young. It is yet to be tested over a full economic cycle.

It appears to me that widening the target so that we wait longer before adjusting policy is an argument that can easily be overdone. There is a long international history of having waited too long before acting when inflation emerges. As a result, the costs of correction have often been accentuated. A target that limits the scope for policy adjustments to be deferred can thus actually minimize the resulting costs of correction.

I should also mention that a clause within the **PTA** recognizes explicitly that it may not be appropriate to contain the'CPI inflation rate within the 0-2 percent target at all times. That clause recognizes that when certain shocks beyond the direct control of policy occur, it may not be worth incurring the output and employment costs of trying to offset them.

These shocks include large terms of trade movements, and changes in indirect taxes and government charges. In addition, interest rates are measured directly in New Zealand's CPI. A significant movement in interest rates may thus provide grounds for allowing the inflation rate to move outside the 0-2 percent range. (To do otherwise would, of course, create an absurdity: a tightening in policy that led to an increase in interest rates would increase measured inflation and provoke a further tightening in policy, and so on.)

We are, of course, expected to account for and explain cases where headline inflation does temporarily leave the range. The presumption is that we will meet the target most of the time.

Inflation expectations and policy credibility could both be seriously damaged from the move to a wider target or if the target was shifted

upward. Those in the financial markets could conclude that the real aiming point for inflation had become the upper portion of the new target. That perception could complicate the maintenance of price stability. And interest rates would almost certainly rise in response to higher expected inflation. That would do nothing to help employment.

From my comments, it should be clear that I am not by any means persuaded of the merits of a change to the target: at a technical level, the issue is relatively minor, but the likely change in perceptions caused by a widening of the target range could well damage growth and employment rather than the reverse.

Concluding comments

Little did Bill Phillips know, when he uncovered his **unemployment-**wage relationship, of the unfortunate effect his discovery would have on the conduct of monetary policy for decades afterward. It is rather ironic, given Phillips' own view that the relationship was of little policy relevance. With many having been brought up on the Phillips curve, there are always likely to be pressures on monetary authorities to tolerate just a little more inflation to help unemployment. New Zealand's monetary policy framework plays an important role in shielding us from that temptation.

Reducing unemployment is now the most important economic and social objective in many OECD economies. People understandably ask what the monetary authority can do to help. By aiming monetary policy squarely at maintaining price stability, there is much we can do.

By aiming monetary policy elsewhere, we would not only damage the economy and its capacity to generate sustainable employment, we would also distract attention away from where the real solutions to unemployment lie—in labor market reform, in training and retraining, and in the reform of the relationship between wages and benefits.

Commentary

Nigel Lawson

It seems to me that there are two key facts which we need to bear in mind about high unemployment because they are central to any analysis of possible remedies. One is the striking difference between the experience of the United States and the experience of the European Community (EC)—the great trend rise of unemployment in the European Community, which has not occurred in the United States at all. And the other is the fact that this trend rise occurred quite a while ago, basically from 1974 to 1984, and as far as I can recall, was completely unpredicted. Over the past ten years, if you roughly.cyclically adjust, there is no discernible trend rise at all in unemployment from 1984 to 1994, whether you look at the European Community or the Organization for Economic Cooperation and Development (OECD) as a whole. That is no cause for complacency because the level is too high, but it is still something which we need to take into account, I believe.

I think Professor Lindbeck is correct in stating that the rate of start-up of new businesses is an important consideration in preventing high unemployment, certainly in the United Kingdom and even more so in the United States. It is interesting to note the difference between the high start-up rate in the United States and the lower start-up rate in Europe. One reason for this is a cultural difference, which is one of the hardest things to tackle of all. In most of Europe, it's certainly true of the United Kingdom, if someone starts up a business and it fails, there is a social stigma that makes it very, very difficult for them a

second time. In the United States, that is much less true. That cultural difference, I think, has played quite a large part in the better record in the United States than in Europe in business start-ups.

I think privatization in the United Kingdom has undoubtedly added to the flexibility of the labor market in quite a significant sector of industry. This is true whether you look in terms of hiring and firing policies of employers or whether you look in terms of the behavior of the trade union leaders. You don't catch that in studies looking at what happened before privatization and what happened after privatization because a lot of the change took place once companies had been identified for privatization, and they were preparing themselves for privatization — preparing themselves for the cold, hard world of the private sector. Those academics that have looked before privatization and after privatization and have come up with no significant increase in flexibility of labor markets are thus looking at the wrong thing. Precisely how much effect this has had on the natural rate of unemployment I wouldn't dare to answer.

The high rate of economic growth in the United Kingdom in the late 1980s was something neither predicted nor intended. The economy behaved in a different way from what everybody was forecasting or intending — and indeed from what the statistics at that time showed. I make that point because it does lead me to conclude that the ability of governments to fine tune is rather less than is implied in part of Professor Bean's prescription.

If I were to have the temerity to sum up this morning's proceedings, it would be in a very tentative way. But I think that there is a clear consensus to which Paul **Krugman** alluded in his paper. The consensus is that the unemployment problem which we face generally, and which Europe perhaps faces in particular, is overwhelmingly a supply-side and structural phenomenon rather than a problem with demand defi-

ciency or Keynesian unemployment. Supply-side and structural reme-
dies are, therefore, required to reduce unemployment. There has been
some reluctance, which I regret, to spell out these remedies because
some of them are uncomfortable — almost by definition, or if they had
not been uncomfortable, they would have been introduced long ago.
The reluctance to spell out these painful structural remedies is regret-
table in part because I don't know where politicians and policymakers
are going to get their guidance from if these things aren't spelled out
clearly. Certainly this consensus which is here today among the
economists is not yet a consensus among policymakers, politicians,
and opinion-formers outside the economics profession. So perhaps a
little more injudiciousness is required.

Reducing Supply-Side Disincentives to Job Creation

Dale T. Mortensen

At least since Friedman's (1968) American Economic Association Presidential address, macro and labor economists have recognized that a certain level of unemployment is a "natural" consequence of dynamic friction that accompanies the process by which workers are allocated and reallocated among employment opportunities. Friedman (1968) summarizes his famous definition of the natural rate as follows:

> The "natural rate of unemployment," in other words, is the level that would be ground out by the Walrasian system of general equilibrium equations, provided there is imbedded in them the actual structural characteristics of the labor and commodity markets, including market imperfections, stochastic variability in demands and supplies, the cost of gathering information about job vacancies and labor availabilities, the costs of mobility, and so on.

That the mere existence of unemployment need not imply economic inefficiency is implicit in this definition. So is the lack of an equivalence between the natural rate and some ideal or optimal unemployment rate. To put the point another way, reforms that reduce equilibrium unemployment may or may not increase economic welfare.

Still, there seems to be a presumption that natural rates are too high, particularly in most of the economies of Europe. Two culprits are

typically identified in the literature, labor market policies intended to compensate for lost earnings as a consequence of unemployment and excessive market power in the hands of employed worker "insiders." According to Layard, Nickell, and Jackman (1991), the large differentials in unemployment rates that prevail across the principal industrialized economies can be attributed to differences in unemployment insurance (UI) systems, wage determination mechanisms, and active labor market policies. Specifically, they find that a particular parameterization of cross-country differences in wage-setting institutions, UI policies, and job creation subsidies explain 91 percent of the variation in unemployment rate averages over the 1983-88 time period across the principal nineteen Organization for Economic Cooperation and Development (OECD) industrial countries. The work of Layard and others is representative of a large literature that reports estimates of the quantitative impact of various labor market policies and institutions on unemployment. Although this literature provides important guidance concerning the possible importance of supply-side factors that influence the level of job creation, the contributions have one common failing: no estimates of the effects of possible reforms on measures of economic welfare, more meaningful than the unemployment rate itself, are ventured.

A review of the evidence on the disincentive effects of labor market policies is presented in the paper. However, the principal purpose is to present quantitative results for a set of computational experiments involving hypothetical reforms of the unemployment insurance system, the payroll tax, employment protection policy, and active labor market policy.[1] The calculations underlying the result reported are derived from an equilibrium model of labor market dynamics, developed by Mortensen and Pissarides (1994) and extended and calibrated by Millard and Mortensen (1994), which is specifically designed to shed light on the issue of the level and distribution of costs and benefits of labor market policy. The intent is to provide information about which of these might be effective as a means of reducing unemployment and improving the efficiency of the labor market without adverse distributional consequences.

What are job creation disincentives?

Layard and others (1991) find that cross-country unemployment rates are positively associated with the liberality of UI benefits and the extent of collective bargaining coverage and are negatively related to the degree of coordination in the wage determination process and to government expenditures that aid job recruiting and training. Although the authors recognize that variation in unemployment rates do not necessarily reflect differences in economic welfare, they argue that the effects of UI and labor bargaining power are likely to yield "too much" unemployment, particularly in Europe. Hence, their recommendations for the United Kingdom include a limitation on the duration of UI benefits, a strong "willingness to work" test as a condition for the receipt of benefits, and an active labor market policy focused on those expected to have long unemployment spells. Active policies include adult training, recruiting subsidies, public employment as the "employer of last resort," and wage subsidies.

Hamermesh (1993) also considers the effects of various labor market policies on unemployment and reviews much of the literature available on the subject. Arguing that labor market participation is relatively inelastic, he concludes that payroll taxes used to finance social security and some portion of unemployment insurance are primarily shifted to wages with small effects on employment. In his view, empirical evidence suggests that the UI system contributes to both the duration and incidence of unemployment and increases participation. His analysis of the effects of a hiring subsidy and employment protection legislation in the context of an adjustment cost model leads him to conclude the former increases both job creation and job destruction while the latter decreases both. Although the net effect of either policy on unemployment is not clear a priori, he argues that employment increases in response to a subsidy and decreases with the cost of firing.

An extensive empirical literature exists on the effects of UI benefits on unemployment duration, much of which is summarized in Layard and others (1991) and in Devine and Kiefer (1991). Contributors to this discussion generally conclude that more generous benefits induce longer unemployment spells. Although estimates of the elasticity of

the mean duration of an unemployment spell with respect to the UI benefit range between 0.03 to 1.44, they tend to cluster around 0.4. One very striking result is the effect of the typical six-month limitation on the duration of UI benefits which characterize UI in most of the United States. Meyer (1990) found that the unemployment hazard rises markedly as unemployment benefits are exhausted. When controlling for this effect, his estimate of the duration elasticity with respect to the benefit was 0.6. Although many authors attribute the effect of benefits on unemployment duration to the diminished incentive to search when benefits are paid conditional on remaining unemployed, matching models suggests that the causality runs through the wage to a disincentive effect on job creation as well.

Feldstein (1976) argues that UI encourages layoffs but the effect is offset to the extent that the tax used to finance benefits is paid by the employer and is experience rated, that is, set to reflect the unemployment history of the employer's workforce. Brechling (1981) and Katz and Meyer (1990) provide evidence for the first assertion in the case of manufacturing while more recently Anderson (1993) and Anderson and Meyer (1993) confirm the second for a variety of industries. Indeed, the Anderson and Meyer estimates of the elasticity of the job separation flow with respect to the layoff costs induced by the experience rated portion of the UI tax average about 0.09. However, because an experience rated UI tax also represents a cost of separation, it can be expected to affect job creation adversely as suggested by Burdett and Wright (1990). There is little direct evidence on this point although the literature on employment protection policy supports the contention.

Employment protection policy in Europe either imposes financial penalties on the employer, mandates severance pay, or requires costly procedural delay in order to lay off a worker. Except for the rather weak advanced notification requirement law passed in 1988, there is no mandated federal job security policy in the United States. However, state courts and legislatures have placed limitations on the "employment-at-will" doctrine in recent years which have the effect of imposing an implicit firing cost on employers. (See Kruger, 1991.) As already noted, theory suggests a negative impact of employment protection provisions on both job creation and job destruction so that

the effect on unemployment is unclear a priori. Not surprisingly the empirical evidence is mixed. Lazear (1990) finds that increasing severance pay by one month reduces employment per head about 0.4 percent and reduces the labor force participation rate by 0.3 percent. As a consequence, the unemployment rate rises by 0.1 percent. The results of Bentolila and Bertola (1990) suggest that increases in firing costs decrease employment. Abraham and Houseman (1993) find that unemployment is reduced by employment protection policy but also recommend a hiring subsidy to ameliorate the adverse effects on job creation.

Excessive real wage demands are also blamed for unemployment rates that are too high. Modern theories of unemployment that embody this argument include bargaining theory, "efficiency wage" theory, and "inside-outsider" theory. Layard and others (1991) find that higher unemployment rates reflect more extensive collective bargaining coverage in their empirical cross-country study. However, their results also suggest that centralization and coordination in the bargaining process tends to offset this effect. They explain their findings by arguing that worker bargaining power is proxied by the extent of collective bargaining but that in more coordinated and centralized wage determination mechanisms, some account of the general equilibrium disincentive effects of higher wages on job creation is taken.

A simple model of job creation and job destruction

The computational experiments conducted here are based on a model of job creation and job destruction developed by Pissarides and Mortensen (1994) which is extended by Millard and Mortensen (1994) to account for the effects of labor market policy. In this framework, job creation is the outcome of a two-sided matching process in which workers and employers engage in search and recruiting activity. An essential implication of the existence of friction in the job-worker matching process is that wages are determined by some form of bargaining in which the outside option of being unemployed plays the role of determining the sensitivity of the wage to market conditions and rent sharing makes the wage paid by an employer sensitive to that firm's labor productivity. There is also considerable room in this framework for the influence of "insiders" on the wage of the kind

emphasized in the work of Lindbeck and Snower (1989) as well as "efficiency wage" effects. These features, together with forward looking decisions by employer and worker participants, determine the natural rate of unemployment.

In the model, job creation is viewed as a decision by an employer to seek a new worker for the purpose of engaging in productive activity that can be expected to generate future profit. Job destruction is reflected in a different employer's decision to terminate an existing employment relationship because the expected profitability of productive activity no longer justifies its continuation. Because the model permits heterogeneity in job-worker match productivity, job creation and job destruction take place at the same time in the aggregate as documented by the recent empirical work of Davis and Haltiwanger (1990, 1992). Furthermore, unemployment in the model reflects the process of reallocating labor from less to more productive economic activities. Mortensen (1994) has shown that this model contains propagation mechanisms capable of capturing the salient features of worker and job flow responses to movements in labor productivity over the business cycle. As the model recognizes both imperfect competition in wage determination and friction in the process that reallocates workers from less to more productive jobs, it implies a reduced formed relationship between unemployment and labor market policy parameters as well as parameters that reflect the relative market power of workers and employers in the wage bargaining process of the type estimated by Layard and others (1991).

Because the model accounts for the forward looking nature of both the decision to initiate and to terminate an employment relationship, the principal equations are quite complicated. Although the essential relationships are reported in the mathematical appendix, the reader is referred to Millard and Mortensen (1994) for the details of the derivations. In order to gain an insight into how labor market policy and wage formation institutions are likely to affect unemployment in the model, the basic properties are sketched below. Fortunately, the essence of the model can be represented intuitively with the aid of two curves that resemble demand and supply relationships.

Productive activity is the purpose of job-worker matches which are

formally equivalent to the concept of an establishment or a firm in the model. Although all workers are assumed to be identical, the relative value of product of a specific match changes from time-to-time in a stochastic manner, an assumption which reflects the unforeseen nature of changes in taste and technology that affect the competitiveness of any existing producing firm. When new matches form, the best current information about which activities are most likely to be profitable in the future is used to determine what will be produced. These assumptions generally imply that new matches are more productive than old and that every match will eventually become unprofitable. Formally, the idiosyncratic shock to productivity implicit in this specification is modeled by supposing that new values arrive with frequency λ and are distributed according to the cdf $F(x)$, that is, idiosyncratic match productivity is a Markov jump process with positive persistence. Hence, the rate at which existing employment relationships are destroyed, equivalently *unemployment incidence,* is $Inc = 6 + \lambda F(R)$ where R is *reservation productivity* and 6 is a parameter reflecting other exogenous reasons for job-worker separation. The reservation productivity is the endogenous value of match productivity below which expected future profitability no longer justifies continuation of any employment relationship.
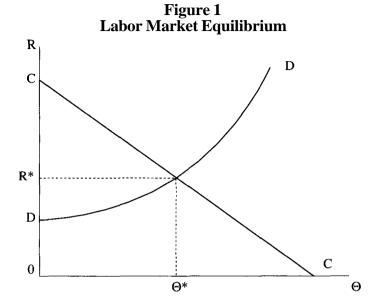
An employer's intention to form a match is signaled by posting a job vacancy. The total cost of recruiting new workers is proportional to the number of vacancies posted. The rate at which vacancies are filled depends on the number of vacancies and the number of workers seeking employment in newly created jobs through a relation which has become known at a *matching function.* Analogous to a production function, a matching function is a relationship between the search and recruiting inputs provided by workers and employers respectively and a resulting flow of new matches, the output. Under familiar regularity conditions and a constant returns to scale assumption, the rate at which unemployed workers are matched with vacant jobs, called the *unemployment hazard,* is an increasing and concave function of the ratio of vacant jobs to searching workers denoted a $m(\Theta)$ where Θ represents the vacancy to searching worker ratio. The endogenous variable is a measure of *market tightness* and $Dur = 1/m(\Theta)$ is the average *duration of a completed unemployment spell.* In the model, market tightness is

determined by a free entry condition which requires that the expected present value of future profits less cost of training attributable to filling the marginal vacancy equals the recruiting cost flow required to fill a vacancy.

Unemployment in the model, although a consequence of the transaction friction embodied in the matching function, reflects a continual process by which workers are reallocated from less to more productive activity. The dynamics of unemployment are easily expressed in terms of the notation introduced above. Letting the unit interval represent the available labor force, the flow into unemployment is the product of the employment hazard and the fraction employed, that is, $(6 + \lambda F(R))(1-Un)$ where Un is the fraction unemployed. The flow out of unemployment is the product of the unemployment hazard and the fraction unemployed, that is, $m(\Theta)Un$. Hence, the *equilibrium or steady-state unemployment rate,* that which equates the two flows, is approximately equal to the product of the incidence of unemployment and the duration of an unemployment spell. Formally,

$$Un \approx \frac{Un}{1-Un} = \frac{\delta+\lambda F(R)}{m(\Theta)} = Dur{\times}Inc.$$

Because neither worker nor employer can instantaneously or costlessly find an alternative match partner in the market modeled, a match surplus exists equal to the capital value of the match less the sum of the values attributable to seeking alternative match partners. In this context, wage determination is a bilateral bargaining problem which divides this surplus between employer and worker. A specific solution to the problem is not specified in the Mortensen/Pissarides model simply because wage determination institutions vary so much from one industry to another and across countries. Wages can be determined in a highly noncentralized way by bargaining between individual worker and employer pairs as is common in the United States. Bargains between employer and union associations at various levels, the plant, the industry, or even the nation, are common in many other industrialized economies and some manufacturing industries in the United States. In a few countries such as Australia and New Zealand, the public at large as well as representatives of labor and management

Figure 1
Labor Market Equilibrium

are included in the bargaining process. One can expect the extent and use of worker market power to differ across these alternative institutional settings. In the formal model, the workers' share of the quasi-rents associated with an existing match, denoted by β, is regarded as a parameter with value reflecting the extent and use of worker bargaining power. According to Layard and others (1991), the value of β is likely to be higher in more unionized economies but lower the more centralized is the bargaining process.

The two endogenous variables of the model, reservation productivity R and market tightness O, are somewhat analogous to "price" and "quantity" respectively in the standard supply and demand framework. The equilibrium pair of values is determined by two relationships that are respectively downward and upward sloping as illustrated in Figure 1. (The mathematical representations of these curves are presented in the mathematical appendix.) Specifically, employers post vacancies in numbers that equate the cost of recruiting with the expected future profits attributable to hiring a worker. As the latter declines with reservation productivity, this condition implies the

downward sloping relation between market tightness and reservation productivity labeled CC in Figure 1. Reservation productivity is determined in large measure by the wage. Because the wage received by workers in any rational bargaining outcome is sensitive to the value of the outside option of searching for a job while unemployed, the wage in a marginal job increases with market tightness. Hence, the productivity at which employers can no longer expect profits in the future, the reservation productivity by definition, increases with market tightness. This positive relationship between R and Θ is illustrated by the curve labeled DD in Figure 1. The equilibrium pair of values, labeled (R*,Θ*) in Figure 1, lies at the sole intersection of the two curves. The labels remind the reader that the curve CC represents the job creation decision while DD reflects job destruction.

The qualitative effects of policy and wage determination on unemployment

Specific labor market policies and wage formation institutions affect the position of one or both of the curves in Figure 1. Hence, hypothetical changes in either shift the curves and the associated equilibrium reservation productivity and market tightness pair. For example, an increase in UI benefits increases the value of the unemployment option to workers. As a consequence, the wage paid increases at every value of market tightness which induces an upward shift in the job destruction relation, DD in Figure 1. As the job creation condition CC is not directly affected, at least when the benefit increase is assumed to have no effect on taxes, the equilibrium reservation productivity rises. As the increase in R induces a movement up along the CC curve, the equilibrium rate of job creation as reflected in market tightness, Θ , is adversely affected. Hence, unemployment rises because both its incidence and the duration increase.

An increase in worker bargaining power, reflected in the share of match surplus received by the workers represented by the parameter β, has the same effect on the job destruction relation DD as an increase in the UI benefit because the wage paid increases with β at every value of Θ. However, an increase in the workers' share also decreases future profitability, so that CC shifts to the left. For both reasons, equilibrium

market tightness falls but the effect on the equilibrium reservation productivity is ambiguous. In other words, other things equal, the theory suggests that unemployment spell durations are longer in economies in which workers receive a larger share of match surplus although the difference in spell frequency is unclear.

Although any increase in a payroll tax, such as that used to finance social security in the United States and most European countries, is shifted to workers to some extent by a decrease in the wage, the incidence of the tax is shared between worker and employer given a bargaining model of wage determination even when worker partici- pation is perfectly inelastic. By implication, the wage plus tax bill increases with the payroll tax rate which in turn implies that DD shifts up in Figure 1 in response to an increase in the tax rate. Because expected future profitability also falls with the tax, CC shifts down. Hence, the qualitative effects of a payroll tax are similar to those of an increase in the workers' share parameter.[2]

Employment protection policy is represented in the formal model as a tax on layoffs. Under the assumption that employers must pay this tax when a worker is let go, an increase implies a decrease in the productivity at which layoffs occur. Were there no other effects, the resulting shift down in the DD curve in Figure 1 results in a decrease in reservation productivity and an increase in market tightness induced by the movement along the downward sloping CC curve. However, an employer when contemplating job creation takes account of the possibility that the job will be destroyed in the future, a contingency that will require payment of the tax. Hence, an increase in the firing tax reduces the future profitability of a current vacancy, that is, CC in Figure 1 also shifts down. If this direct effect of the tax offsets the indirect effect of the movement along the CC curve induced by the shift in DD, the result can be a reduction in job creation as well as job destruction. The existing empirical evidence seems to suggest pre- cisely this outcome although the net effect on unemployment is unclear both in theory and practice.

Active labor market policy is incorporated in the model as a subsidy to the employer per new worker hired, an arrangement similar to the New Jobs Tax Credit of 1977. The direct effect on job creation of a

hiring subsidy is to reduce the cost of hiring which shifts CC every-
where to the right in Figure 1 given reservation productivity. Because
this shift induces movement up along the job destruction condition
DD, the net effect is an increase in market tightness as well as an
increase in reservation productivity. Because the effects of a hiring
subsidy on unemployment duration and incidence tend to offset one
another, the net qualitative effect on the equilibrium unemployment
rate is ambiguous. The positive effect on job destruction was used as
an argument against the original jobs credit even though it reflects
more rapid replacement of less with more productive jobs.

Of course, an analysis of the effects of possible policy reforms on
only unemployment is incomplete and can be misleading. The bottom
line must include evidence on whether economic benefits can be
attributed to the reform proposed. Because the productivity of the
employed is endogenous as well as the level of employment in the
model, aggregate net output does not always move with the level of
employment. For example, a hiring subsidy both encourages job
creation and job destruction. However, because the new jobs are more
productive than those destroyed, labor productivity and the wage of
those who remain employed increases. Hence, the overall economic
welfare of workers can increase even if the net effect on employment
were negative. Conversely, employment protection policy may reduce
unemployment but yet decrease worker welfare as well because such
a policy reduces the rate at which low productive jobs are replaced by
more productive ones.

The imputed interest on the present value of future aggregate output
net of recruiting and training investments, ***permanent income*** denoted
as ***Y,*** represents the principal measure of aggregate economic welfare
of interest. Indeed, from a purely economic point of view, any policy
reform that increases this measure is socially optimal in the sense that
the gains to winners exceeds costs to losers. However, compensation
of the losers by the winners is not always possible because implemen-
tation of the needed transfers is either technically or politically infea-
sible. To obtain some insight in the distribution of costs and benefits
associated with any reform, the effects on the permanent income of
workers, denoted as W, are also reported. These measures of economic
welfare are defined in the mathematical appendix. For those who wish

to study the definition, equation A10, note that aggregate permanent income increases with reservation productivity and decreases with market tightness given the unemployment rate. The first positive partial effect is due to the fact that average productivity increases with reservation productivity. The fact that total cost of recruiting and training increases with the ratio of vacancies to searching workers explains the sign of the second.

Estimates of the quantitative effects of proposed policy reforms

Numerical estimates of the effects of unemployment insurance, the current tax on payroll, a firing tax, and a hiring subsidy on unemployment and economic welfare are reported in this section. The policy parameters of the model include the social security or payroll tax rate denoted as π, the UI benefit replacement ratio p, the maximum UI benefit period τ, a parameter ε representing the degree to which the UI tax is experience rated, a firing tax ϕ, and a hiring subsidy ψ. For the purpose of the calibration of the model, these parameters are set at values that approximate current U.S. policy. Specifically, the value $\pi = 0.15$ reflects the fact that employers and workers together pay 15 percent of labor earnings as social security taxes.[3] The mandated weekly benefit replacement ratio is 50 percent of prior weekly earnings and the maximum duration of benefits is six months in the United States. However, the actual fraction of laid-off workers who receive UI benefits is much lower because not all qualify for benefits and because not all those who do qualify claim benefits. In our model, the estimates of fractions eligible for UI, fractions ineligible by reason, and take-up rates for the 1977-1987 period reported by Blank and Card (1991, Table I) suggest that roughly 50 percent of laid-off workers would either not qualify or would not apply. Hence, when appropriately interpreted as the product of the replacement ratio and probability of receipt of benefits, one obtains the parameter value $p = 0.25$. As the period of the model is one quarter, the six-month maximum benefit period typical in most of the United States, the maximum benefit period parameter is $\tau = 2$. Anderson and Meyer estimate that an employer can expect to pay sixty cents of each additional dollar of UI benefits received by an employee in the form of higher future UI

taxes. In other words, the degree to which the UI tax is experience rated is reflected in the parameter value $\varepsilon = 0.6$. Finally, the baseline values of the firing tax and the hiring subsidy used for the purpose of calibrating the model are zero, reflecting the current lack of either in the United States.

A real rate of interest r of 1 percent per quarter and an exogenous rate at which workers quit to unemployment δ of 1.4 percent per quarter and quit to take a different job $qm(\Theta)$ of 5.6 percent per quarter are values consistent with available empirical information. The elasticity of the matching function with respect to vacancies $\eta = \Theta m'(\Theta)/m(\Theta)$ is set equal to 0.6, the estimate obtained for the United States by Blanchard and Diamond (1989). As the average wage is 78 percent of maximal output in the model, the fact that earnings plus benefits averaged \$31,200 per year in 1990 (See *Statistical Abstract of the United States, 1993,* Table No. 666) implies maximal output per quarter in 1990 dollars equal to \$10,000. Survey information reported in Hamermesh (1993) suggest that \$3,000 and \$2,500 in 1990 represent reasonable estimates of the cost of recruiting and training a worker respectively. Letting output in the most productive job serve as numeraire, these figures and the fact that the average duration of an unemployment spell in the United States is roughly equal to three months imply recruiting and training cost parameters of $c = 0.3$ per vacancy per quarter and k = 0.25 respectively.

Although estimates of rent sharing coefficients closely related to β are positive and highly statistically significant in the empirical wage equation literature, the typical point estimate is quite small. See Blanchflower, Oswald, and Sanfrey (1993). However, Abowd and Lemieux (1993) argue that these estimates are badly biased downward for a variety of reasons. Their estimate obtained using Canadian manufacturing data and an instrumental variable approach is 30 percent. Although noncooperative bargaining theory implies a 50 percent share and insider-outsider arguments suggest even larger values for the share, $\beta = 0.3$ is assumed for the purpose of the calculations that follow. The reader is warned that the results are sensitive to the choice of workers' share.

A uniform productivity distribution is assumed of the form $F(x) = (x-\gamma)/(1-\gamma)$. Direct observation provides little information about the value of leisure b, the rate at idiosyncratic shocks arrive λ, and the minimum productivity parameter γ. Given the other parameter values, these were selected so that the steady-state implications of the model are consistent with the average unemployment spell duration (one quarter) and unemployment incidence rate (7 percent per quarter) experienced in the United States over the recent past and with available evidence on the elasticities of unemployment incidence with respect to firing cost (0.09) reported by Anderson and Meyer (1993). The baseline parameter values used in the calculations that follow are summarized in Table 1.

Table 1
Baseline Parameter Values

Interest rate r = 0.01 per quarter	Payroll tax: π = 0.15
E to U transition rate: δ = 0.016 per quarter	UI replacement ratio: ρ = 0.25
E to E transition rate: q = 0.054 per quarter	UI benefit period: τ = 2 quarters
Matching elasticity: η = 0.6	UI experience rate: ε = 0.60
Recruiting cost: c = 0.30 per quarter	Firing cost: ϕ = 0
Training cost: k = 0.25	Hiring subsidy: ψ = 0
Worker's share: β = 0.3	
Value of leisure: b = 0.32 per quarter	
Product shock arrival rate: λ = 0.10 per quarter	
Minimum productivity: γ = 0.63 per quarter	

As a check, one can compare the model's quantitative implications for behavioral responses to policy at these parameter values with econometric estimates in the literature. For example, Layard and others (1991) find that a 1 percent increase in the UI replacement ratio is associated with an increase in the unemployment rate of 171100th of a percentage point using cross-country OECD data. This model at baseline parameter values implies a slightly smaller but positive response of 0.14 percent. Furthermore, the model's implied elasticity of the average duration of an unemployment spell with respect to UI

benefits is *0.5,* near the middle of the range of estimates found in the literature.

Computed changes induced in equilibrium unemployment and welfare measures by different labor market policy reforms are reported in Table 2. The effects reported in each row are those induced by the particular reform specified in the first column of the table. The effects of each reform on the unemployment rate, on the duration of an average unemployment spell, and on unemployment incidence are reported in columns two, three, and four respectively. The changes in economic welfare measures, permanent aggregate income and labor earnings plus transfers received per labor force participant per year, are found in the last two columns of the table.[4]

The estimates in the first row of Table 2 reflect the effects of a hypothetical experiment in which the UI benefit replacement ratio is reduced by half. At baseline parameter values, the model implies that the unemployment rate would be reduced from the current *6.5* percent average to *5* percent by this reform. The disincentive effect of UI benefits on job creation is illustrated by the fact that the duration of a typical unemployment spell would fall from three months to less than 2.4 months. Because job destruction is hardly affected, average labor productivity is not changed much by the reform.

Because any reduction in UI benefits would encourage the creation of new jobs but would have little effect on job destruction, aggregate output would increase were benefits reduced. According to the model, net aggregate output would increase by *$265* per year per labor market participant were UI benefits reduced by half. Given the 120 million current participants in the U.S. labor market as either employed or job seeking workers, the aggregate income benefit of the reform would be about $31 billion per year. However, the reform would also involve a massive redistribution of income away from workers. Indeed, in the absence of other compensation, average worker permanent income would drop by over $26 billion annually, the difference between the incomes of those who would become employed as a consequence of the reform less the unemployment benefit income losses of those who would remain unemployed.[5] Furthermore, these calculations fail to account for the insurance value of the safety net provided by UI.

Table 2
Unemployment and Welfare Effects of Labor Market
Policy Reforms

Reforms	ΔUn Rate (%)	ΔDuration (months)	ΔIncidence (% per qtr.)	ΔOutput/ Participant (1990 $/yr.)	ΔEarnings/ Participant (1990 $/yr.)
50% cut in UI benefits	-1.48	-0.61	-0.31	$265	-$219
50% cut in UI benefit period	-0.78	0.33	-0.14	$145	-$ 83
Fully experience rated UI tax	0.19	0.23	-0.30	-$ 94	$42
50% payroll tax cut	-0.66	-0.26	-0.16	$116	-$ 54
One month wage fire tax	0.52	0.90	-1.14	-$400	-$ 02
One month wage hire subsidy	-1.26	-0.90	0.94	$277	$322

Although the figures suggest that UI is a costly income transfer mechanism, it may well be an efficient insurance scheme. In any case, the magnitude of the income redistribution implied by the model clearly indicates the political resistance that would meet any proposal to reduce UI benefits.

The limitation on the maximum UI benefit period imposed in the United States and Sweden is often cited as a reason for lower unemployment rates relative to Canada in the first case and to other European countries in the second. Estimates of the unemployment and welfare effects in the United States of reducing the maximum benefit period from its current standard of six months to three are presented in the second row of Table 2. The unemployment rate would fall slightly less than four-fifths of a point according to the model, primarily as a consequence of a one-third month drop in unemployment duration. As in the case of a benefit reduction, aggregate output would increase about $17 billion per year, but worker income would fall some $10 billion annually, as a consequence of the reform. Although limiting the benefit period may well be warranted in Europe as a means

of reducing the incentive to remain unemployment for long periods, this model does not provide strong support for further limitation in the U.S. case in spite of the rather large unemployment effect.

Although considered as a possible reform elsewhere, an experience rated UI tax is currently unique to the U.S. system. The implied effects of fully experience rating the tax, a reform that would require each employer to pay all the UI benefits received by her laid-off employees, are reported in the third row of Table 2. As expected, layoffs would be discouraged but only by a relatively small amount; unemployment incidence would fall from 7 percent per quarter to 6.7 percent. Because increasing the degree of experience rating would be an increase in the effective cost of letting a worker go, job creation would be adversely affected. Although the consequent projected increase in unemployment duration would also be small, about one week, it would more than offset the decrease in unemployment incidence. Hence, the net effect would be a small although probably insignificant increase in the unemployment rate. Again the effects of the reform on aggregate and worker incomes are of opposite sign. These rather ambiguous findings support neither the extension of experience rated tax in the United States nor the adoption of a similar provision in other countries.

The effects of cutting the current 15 percent social security tax by half to 7.5 percent are reported in the fourth row of Table 2. This reform would reduce average unemployment duration by one week as well as unemployment incidence by a small amount. As a consequence of both effects, the unemployment rate would fall by about two-thirds of a point according to the model. However, here too aggregate income would increase but worker income would fall because the payroll tax finances transfers to working households both in fact and in the model. Furthermore, it is not likely that the gain in aggregate income suggested by the model, about $14 billion annually, would justify either the value of the reductions in pensions and health care for the aged needed or the increase in the deficit or other taxes that would be otherwise required to offset the revenue loss attributable to cutting the payroll tax by 50 percent.

Employment protection policies include severance pay, prior notification requirements, procedural requirements for laying off workers,

and firing penalties. As mentioned earlier, considerable controversy over the expected impact of employment protection policy on unemployment exists because of its indirect disincentive effect on job creation. In this analysis, policies designed to discourage layoffs are represented by a financial penalty incurred by the employer when a worker is let go. The effects of a firing tax of this kind equal to $2,500 per worker laid off, one month's pay in 1990 on average, on both the duration of an unemployment spell and on unemployment incidence are quite large.[6] Namely, the impacts reported in the fifth row of Table 2 imply that duration would increase from three to almost four months while incidence would decrease from 7 percent to less than 6 percent per quarter. Because the former is larger in percentage terms than the latter, the net effect implied by the model is an increase in unemployment. In short, the disincentive effect on job creation more than offsets the intended effect of the tax, to reduce unemployment by charging employers for laying off workers. Furthermore, the model implies that the tax would cause a large reduction in aggregate output, $400 per labor force participant per year, and would have virtually no effect on permanent labor income. The decrease in aggregate income is due to both the negative employment effect and to the reduction in labor productivity resulting from the fact that the tax lowers reservation productivity and slows the process by which workers are reallocated to more productive activity.

Active labor market policy is represented in the model by a subsidy to hiring which can either be interpreted as government assistance in the job/worker matching process, government financed training, or as a tax credit per worker hired paid to employers similar to the New Jobs Credit of 1977. In Table 2, the effects of a subsidy equivalent to $2,500 in 1990 per worker hired, the monthly average wage, are reported in the last row. The estimates suggest that a subsidy of this magnitude would reduce the duration of the typical unemployment spell by almost one month but would also increase incidence from 7 percent per quarter to almost 8 percent. Still, the projected net effects on both employment and aggregate income would be positive and relatively large, the unemployment rate would fall by 1.26 points, and aggregate permanent income would increase by $277 per labor force participant or $32 billion annually in the aggregate. The effect on permanent labor income is even larger, an increase of $322 per year per labor market

participant, almost \$39 billion per year in total. In sum, the figures suggest that a hiring subsidy would be justified on efficiency grounds and would also greatly benefit workers, particularly relative to alternative policies that promote employment protection. Indeed, the beneficial effects on unemployment and aggregate output are larger than those attributed by the model to a 50 percent reduction in unemployment benefits while at the same time worker income would increase by \$322 per worker per year rather than decrease.

Marginal dead weight tax losses and subsidy gains

The marginal dead weight loss of a tax is defined as the ratio of the reduction in value of output attributable to the induced distortion of a small increase in the tax divided by the revenue generated by that increase. In other words, it is a measure of marginal cost of the distortion per dollar of revenue generated by the tax. An analogous measure of the marginal gain attributable to a subsidy is the addition to aggregate income per dollar of expenditure. These measures are useful for several purposes. For example, a small subsidy financed with budget balancing increase in the payroll tax is justified on grounds of economic efficiency if and only if the marginal gain per dollar of expenditure exceeds the dead weight loss of an additional dollar of tax revenue. The difference between the dead weight losses associated with two different taxes provides a natural indicator of the more economic means of financing any small increase in expenditure.

In a dynamic context, the relevant measures of net output, tax revenue, and expenditure are the present value of future stream equivalents because the time distribution of reform effects on these streams generally differ. See Judd (1987). For the model at hand, this measure of marginal gain per dollar of hiring subsidy and the analogous measures of marginal dead weight loss of a tax penalty on layoffs and a payroll tax are computed and reported in Table 3 for alternative calibrations of the model. In other words, the estimates reported in each row of the table are for the particular parameter combinations listed in the first column. All parameters other than those listed are set at the baseline values reported in Table 1. In each case, the value of leisure b and the minimum productivity parameter γ are chosen so that

the model's steady-state unemployment duration and incidence match recent U.S. experience given the workers' share parameter β. Hence, the variation in results reported in the table provides a test of sensitiv-

Table 3
Marginal Gain per $ of Hiring Subsidy Expenditure and Dead Weight Losses per $ of Firing and Payroll Tax Revenue

Calibrated Parameter Values	Hiring Subsidy	Firing Tax	Payroll Tax
β = 0.1, β = 0.54, γ = 0.72	0.27	-0.16	-0.10
β = 0.2, b = 0.45, γ = 0.68	0.47	-0.41	-0.07
β = 0.3, b = 0.32, γ = 0.63	0.73	-0.71	-0.06
β = 0.4, b = 0.16, γ = 0.56	1.07	-1.11	-0.05
β = 0.5, b = 0.00, γ = 0.47	1.56	-1.68	-0.05

ity with respect to the uncertainty that exists about the value of β. Finally, the marginal effects of a hiring subsidy, firing tax, and a payroll tax are reported across the remaining three columns in the right panel of Table 3.

To interpret the information reported in Table 3, I begin by considering the marginal effects when workers' share is at its base line value of 30 percent, that is, β = 0.3. The first result reported in the middle row of the table implies that a small hiring subsidy yields an addition to aggregate income of $0.73 per dollar of subsidy provided that lump sum financing were available. The net gain in the absence of lump sum taxation depends on which tax is used to finance the subsidy. As the marginal cost of a dollar of revenue financed with a firing tax is $0.71 and with a payroll tax is $0.06 for these base line parameter values, the hiring subsidy yields a positive net return in either case but a substantially larger one in the case of payroll tax financing, at least at the margin.[7] As an implication of the large differential in the distortions caused by the two taxes at these parameter values, it also follows that experience rating the UI tax is an inefficient device for funding UI benefits. In particular, a net gain in output equal to the

difference, sixty-five cents on the dollar, is realized by reducing the degree of experience rating and financing the revenue loss by a compensating increase in the payroll tax. In sum, the results reported in the third row of Table 3 support the suggestions implicit in the estimates of policy impacts reported in Table 2. Namely, a hiring subsidy does offset the disincentive effects of UI benefits and payroll taxes on job creation. Furthermore, increasing the degree of experience rating and/or adding employment protection measures would discourage job creation and reduce economic welfare.

The other rows of Table 3 suggest that the general conclusions of the computational experiment at baseline parameters are valid for other values of the worker share as well although the magnitudes of the marginal effects do depend on β. In particular, the marginal gain attributable to a hiring subsidy rises steeply with the value of the workers' share of match rent parameter β as does the differential marginal dead weight loss of a firing tax relative to a payroll tax. The reason is that a higher worker share of match surplus reduces the expected return that employers can expect to realize from such an investment. Conversely, if workers' share is sufficiently low, then employers have an incentive to overinvest in job creation. Indeed, in the absence of other distortions, Diamond (1982) and Hosios (1990) have shown that a tax on hiring rather than a subsidy is called for when workers' share is less than one minus the elasticity of the matching function with respect to vacancies. However, even when the workers' share of match surplus is a mere 10 percent, the marginal gain in output per dollar of hiring subsidy exceeds the dead weight loss of a dollar collected through either a payroll or a firing tax.

Concluding remarks

The computational experiments conducted in the paper makes use of the Mortensen and Pissarides (1994) equilibrium labor market model calibrated by Millard and Mortensen (1994) to be consistent with unemployment experience and policy in the United States. The results suggest that the provisions of the UI system have important disincentive effects on job creation. Specifically, the model implies that a 50 percent reduction in UI benefit levels would decrease the

natural unemployment rate in the United States by almost one and one-half percentage points. Although the implied gain in aggregate output attributable to the reform is **$31** billion per year, the projected decrease in worker annual income is also large, some **$26** billion per year. The effects of reducing the maximum length of the unemployment benefit period by 50 percent all have the same signs but are about half the magnitudes. Finally, these figures do not account for the lost value of the safety net provided by UI that would occur were benefit level or period reduced. In short, the redistribution of income away from workers is large and calls into question any suggestion to curtail either the unemployment insurance benefit levels or maximum benefit period in the United States.

Employment protection is sometimes recommended as a means of reducing unemployment even though the net effect of imposing a cost of firing on employers is theoretically ambiguous because of the disincentive that such a cost has on hiring. In a hypothetical experiment in which a firing tax is instituted equal to the average worker's monthly earnings, the model implies a large negative effect on unemployment incidence and a large positive effect on unemployment duration resulting in a small positive net increase in the unemployment rate. Because the creation of more productive jobs are adversely affected and because the continuation of relatively low productivity jobs is encouraged by the policy, annual aggregate net output falls by an amount equivalent to $48 billion in 1990. These results cause concern about the productivity consequences of the recent trend toward more job protection measures in the United States while at the same time provide support for reforms in Europe designed to reduce these kinds of restrictions on labor mobility.

Finally, an experimental subsidy paid to employers for each worker hired of the same magnitude, one month of average earnings, reduces the unemployment rate by **1.26** points and increases aggregate income by **$32** billion per year even though a hiring subsidy induces a higher layoff rate in the model. Furthermore, it is the workers who receive the bulk of the economic benefits of the subsidy as a consequence of both increased employment and wages. Because payroll taxes do not have big disincentive effects in the model, the results of the experiment suggest that the subsidy is productive even if fully financed with

a tax on wages. Indeed, at baseline parameters, the estimated marginal net gain in aggregate income is sixty-five cents per dollar of subsidy financed with a payroll tax after account is taken of the dead weight loss of the latter. These results provide support for active labor market policies designed to encourage job creation.

Mathematical Appendix

The specific formulae underlying the calculations reported in the text are summarized here. The details of their derivations can be found in Millard and Mortensen *(1994)*.

The equilibrium relationship between reservation productivity and market tightness that characterizes the job creation condition, that labeled CC in Figure 1, follows:

$$\text{(A1)} \quad c\frac{0}{m(\theta)} + k - \psi + f(w,\theta,\varphi,\varepsilon,\rho,\tau) = \frac{\bar{\ }}{1+\beta\pi}\left\{\frac{1-R}{r+\delta+qm(\theta)+\lambda}\right\}.$$

The curve labeled DD in Figure *1* represents the following relationship between reservation productivity implied by the job destruction decision

$$\text{(A2)} \quad R + (r+\delta+qm(\theta))\,\varphi + \left(\frac{\lambda}{r+\delta+qm(\theta)+\lambda}\right)\left(\frac{1-\beta}{1+\beta\pi}\right)$$

$$\int_{R}^{1}(x-R)dF(x) = (1+\pi)w$$

where w, the wage on a job of marginal productivity, solves

$$\text{(A3)} \quad w = \frac{\beta(R + (r+\delta+qm(\theta))\varphi) + (1-\beta)g(w,\theta,b,\rho,\tau)}{1+\beta\pi} +$$

$$\frac{(m(\theta)\,(1-q)}{r+\delta+qm(\theta)+\lambda}\frac{\beta\,(1+\beta)\,(1-R)}{1+\beta\pi)^2}$$

The function

$$\text{(A4)} \quad g(w,\theta,b,\rho,\tau) = b + \rho w(1-e^{-(r+m(\theta))\tau})$$

represent the value of leisure plus the UI benefit flow received when

laid off appropriately adjusted for benefit period limitation,τ. Analogously, the function

$$\text{(A5)} \quad f(w, \theta, \varphi, \rho, \tau, \varepsilon) = \varphi + \frac{\varepsilon \rho w[1 - e^{-(r+m(\theta))\tau}]}{r + m(\theta)}$$

represents the total cost of laying off a worker, the firing penalty φ plus the expected tax on the UI benefit stream received by the worker during the subsequent spell of unemployment. Finally, the particular forms of the unemployment hazard and the distribution of idiosyncratic productivity innovations functions used in the calculations are

$$\text{(A6)} \quad m(\theta) = \theta^\eta$$

and

$$\text{(A7)} \quad F(x) = \frac{x-\gamma}{1-\gamma} \quad \forall \ x\varepsilon \ [\gamma, 1].$$

Given equations A1 through A7, one can compute the equilibrium reservation productivity and market tightness pair (R, θ) for any specification of the parameters, such as the baseline values in Table 1.

The dynamic laws of motion for the associated equilibrium level of market employment, represented by N, and the employment density over match productivity, denoted as $n(x)$, are represented by the differential equations

$$\text{(A8)} \quad N = m(\theta) \ (I - N) - (\delta + \lambda F(R)) \ N$$

and

$$\text{(A9)} \quad \dot{n}(x) = \lambda F'(x)N - (\delta + qm(\theta) + \lambda)n(x) \quad \forall \ x < 1$$

Of course, the unemployment rate denoted as Un in the text equals $I-N^*$ where N^* is the steady state solution to equation *A8*. At any date

t, aggregate output net of recruiting and training costs is

(A10)
$$Y(t) = N(t) + \int_{R}^{1} ((x-1)n(x,t)dx + b(1-N(t)) - [c\theta + km(\theta)] \, (1-N(t))$$

where *N(t)* and *n(x,t)* represent the solutions to equations **A8** and **A9** respectively. Finally, permanent aggregate net output (which includes the value of leisure of the unemployed) is defined as follows:

$$(A11) \qquad Y = r\int_{0}^{\infty} Y(t)e^{-rt}dt$$

Note that a change in any policy parameter instantly changes the equilibrium reservation productivity, R, and market tightness, 8, in equation A10, but does not affect the initial distribution of employment. Because this distribution will evolve over time to its new steady state, the marginal effect of a parameter change on permanent net output, Y, is a weighted average of the varying marginal effects on the stream of future values *Y(t), t ε (0,∞).*

The net government transfer per labor force participant at time *t,* total taxes less UI benefit payments and hiring subsidies, is defined by

$$(A12) \quad G(t) = \pi B(t) + \varphi\lambda F(R)N(t)$$
$$- (1-\varepsilon)\rho\left(\frac{1-e^{-r+m(\theta))\tau}}{r+m(\theta)}\right)B(t)\lambda F(R) - \varphi m(\theta) \, (1-N(t))$$

where

$$(A13) \quad B(t) = \omega(1)N(t) + \int_{R}^{1} (\omega(x) - \omega(1))n(x, t) \, dx$$

is the total wage bill at time *t* and where in turn

(A14) $\quad \omega(x) = \dfrac{B\left(x+(r+\delta=qm(\theta))\right)\varphi) + (1-\beta)g(w,\theta,b,\rho,\tau)}{1=\beta\pi} +$

$$\dfrac{m(\theta)\,(1-q)}{r+\delta+qm(\theta)+\lambda} \quad \dfrac{B(1-\beta)\,(1-R)}{(1+\beta\pi)^2}$$

is the wage paid to a worker employed in a job with productivity x. Finally, total earnings (including the value of leisure enjoyed when not employed) and UI benefit payments plus other per capita government transfers received by working participants at date *t* equal

(A15) $\quad W(t) = B(t) + b(1-N(t)) + \rho\left(\dfrac{1-e^{-(r+m(\theta))\tau}}{r+m(\theta)}\right)B(t)\lambda F(R) + G(t).$

Finally, the permanent measure of this stream of labor income and of the stream of government transfers per participant are respectively

(A16) $\quad W = r\displaystyle\int_0^\infty W(t)e^{-rt}dt$

and

(A17) $\quad G = \displaystyle\int_o^\infty G(t)e^{-rt}dt.$

The reform induced changes in welfare measures reported in Table 2 are the changes induced in Y and W as defined by equations A11 and A16 under the assumption that the system is in the old steady state when the reform takes place at time *t = 0* and that the reform is permanent. A marginal gain or loss reported in Table **3** is the ratio of the change in Y divided by the change in G induced by a small change in the relevant policy parameter:

Endnotes

[1]See Kydland and Prescott (1994) fora discussion of the role of the computatronal experiment in economic policy analysis.

[2]Because the only investment in the model is in the form of recruiting and training costs incurred by employers which are expenditures regarded as current expenses for income tax purposes, ordinary income taxes are neutral in this model provided that profits, wages, and UI benefits are all taxed at the same marginal rates.

[3]In the model, bargaining adjusts the wage so that who actually pays the tax is irrelevant

[4]Permanent income is defined as the imputed Interest income on the expected present value of a future stream, that is, an exponentially weighted average of the future stream where the weights reflect time preference. Hence, in each case account is taken of the dynamic paths of future income adjustment to each policy reform.

[5]These calculations account for the'pnvate income effects of the benefit reduction. In particular, the government saving attributable to the UI benefit decrease is assumed to be redistributed equally among all working households as a lump sum transfer. (See equations A12 and A15.)

[6]In light of the fact that the cost of employment protection in the United Kingdom is estimated to be as high as three months' average earnings, the size of this hypothetical tax is not particularly large.

[7]In particular, experiments reported in Millard and Mortensen (1994) suggest sharply diminishing returns to the subsidy which explain its relatively. small impact on. aggregate output in Table 2.

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Commentary: Reducing Supply-Side Disincentives to Job Creation

Martin Feldstein

As I've listened to the presentations and discussion at this conference over the past two days, I have been fascinated by the clear shift in the professional consensus on unemployment that has taken place during the past two decades. Twenty years ago, when I first started writing about how unemployment insurance and other labor market policies increase the rate of unemployment,[1] these were radical ideas that met with a very hostile reaction. As I listen to Paul Krugman and others at this meeting, I'm having a hard time adjusting to finding my views so much in the mainstream of current thinking about unemployment.

Dale Mortenson's paper on the supply-side disincentives to employment provides a very rich and complex analytic approach to discussing possible supply-side policies. He presents an explicit theoretical framework and gives numerical values to its theoretical parameters. Analytic models like this can be helpful in sharpening our economic intuition. They provide insights that would be missed with less formal and less complex specifications. Of course, all models—even complex models like this one—are simplifications. Such simplification is necessary if a model is to be tractable. If the simplifications are chosen well, the model helps to sharpen our insights.

But the simplifications involved in an abstract model like this one mean that we must be very cautious about giving a literal interpretation to the numerical estimates that the model produces. The need for

caution is even greater when, as in this case, the parameter values that are built into the model are very uncertain. Two examples will illustrate the consequences of simplification and of uncertain parameter values.

Hiring bonuses

Professor Mortensen's discussion of hiring bonuses illustrates the way in which an oversimplified description of the economy can lead to inappropriate conclusions. A hiring bonus plan would give employers a payment for hiring a previously unemployed worker. It seems plausible that such a bonus would make it easier for the unemployed to find work and would be a better use of unemployment benefits than continued support for an individual who is not working.[2] It is not surprising that Professor Mortensen and many others therefore favor such hiring bonuses.

In practice, however, a hiring bonus has more complex effects that may make it less desirable or even counterproductive. Studies by the Organization for Economic Cooperation and Development (OECD) show that most of those unemployed who find work with a subsidy would have found a job at roughly the same time even without such a subsidy. Such individuals receive a costly subsidy with virtually no benefit in terms of reduced unemployment. Moreover, many of those with subsidies who do get jobs may simply displace others who don't qualify for subsidies. Again this means costs to the taxpayers with little or no net gain in job creation. A recent OECD review of national experiences with hiring bonuses found that the combination of subsidies for intramarginal jobs (that is, for those who would have found work without a subsidy) and job displacement often account for 80 percent to 90 percent of the participants in hiring subsidy schemes.

There is a further adverse effect of hiring bonuses that is also omitted from the Mortensen model. The availability of a bonus or subsidy when a new job is filled with an unemployed worker encourages employees to take the kind of work — temporary jobs, seasonal jobs, cyclical jobs — that is likely to lead to more unemployment because there is a wage bonus for passing through a spell of unemployment. This lowers wages in these industries and therefore leads to an

expansion of high unemployment types of activities. Hiring bonuses also encourage firms to lay off workers since there is a subsidy that comes with the new hires who replace them.[3]

My judgment is that this more complete picture of the effects of hiring subsidies implies that they are likely to be a very bad use of public funds. If 80 to 90 percent of the apparent success are really wasted dollars that do not add to employment and if the program also creates strong incentives for additional unemployment, it may well be that the net effect is actually to increase total unemployment as well as to raise the cost to taxpayers.

To illustrate the importance of the uncertainty of the parameter estimates, let me focus on one key relation in the Mortensen model: the "matching function" that indicates the extent to which turnover in the labor force leads to increased productivity of the labor force (because new workers are a "better match" for their jobs than old workers) and therefore to higher national income. A great deal could be said about such a relationship. I only want to emphasize that the magnitude of the effect is extremely difficult to estimate. A model that depends on a number of such difficult-to-estimate key parameters can be analytically useful in sharpening our understanding of how results depend on particular parameter values. But it would be wrong to give significant weight to the predictions or the cost-benefit calculations implied by such a model with a particular set of parameter values.

For these reasons, I am inclined to regard the Mortensen paper as potentially helpful to us in understanding some of the many positive and negative channels through which government labor market policies can affect unemployment and overall national income. But I do not regard the specific simulation result as a basis for estimating the likely effects of actual policy changes.

The effects of unemployment insurance

In the remainder of my remarks, I will focus on one labor market policy that has been a particularly important source of the high structural unemployment rate in the United States and other major industrial countries: the unemployment insurance (UI) system. The

UI system deserves our attention not only because of its very important adverse incentives but also because experience shows that useful reforms are possible and that the reduction in unemployment through such reforms can be achieved without increasing the number of people in poverty or adversely affecting the living standard of those who are already poor.

Much of the discussion in Europe about the distorting effects of unemployment insurance rightly focuses on the very long durations of insured unemployment that are possible under European rules. The evidence that limits on duration reduce unemployment is very clear.

In the United States, most of those who enter insured unemployment remain unemployed for much less than the maximum period (which is typically six months). Although reducing the maximum duration would reduce unemployment in the United States, most of those who are unemployed are affected more by the level of benefits than by the maximum duration of benefits.

High replacement rates

In most states, the level of weekly benefits is set at 50 percent of the past weekly wage rate (subject to an upper limit). Many states also pay additional benefits for dependents. Since the late 1970s, unemployment benefits have gradually been subjected to income tax and are now fully taxable under the federal income tax. They are not taxable under the payroll tax and are frequently not taxed under state income taxes. This difference between the taxation of wage income and of UI benefits implies that the UI *net* replacement rate—the ratio. of net-of-tax benefits to net-of-tax wages—is greater than 50 percent. For example, for someone with the lowest federal marginal tax rate, the asymmetry in tax rules implies a replacement rate of 58 percent.[4] Since past wages are likely to be higher than the wage that the unemployed individual will earn on a new job, the net replacement rate relative to potential net wages is greater than 60 percent. It would, of course, be higher if the state provides dependent benefits.

The combination of taxes and UI rules means that an individual who can earn $15 an hour or $600 a week in pretax wages if employed or

receive $300 a week in pretax UI benefits if unemployed, is actually facing the choice between $432 of net wages for working and $255 of net benefits if unemployed. The difference is equivalent to only $4.42 cents an hour or less than a third of the pretax wage.

The adverse incentives are even greater when the individual is potentially eligible for other benefits if unemployed, including the Earned Income Tax Credit, food ,stamps, Medicaid, and housing subsidies. This is particularly important for low-skilled, part-year, and part-time employees.

Consider just the effect of the Earned Income Tax Credit (EITC). This federal program matches wage income up to a certain low limit (depending on family size), then provides a flat annual subsidy, and finally is reduced at a rate of 17 cents per dollar of additional earnings. Most recipients of the EITC are in this phase-out range where it raises marginal tax rates on wage income substantially. Since the receipt of unemployment benefits does not reduce EITC benefits, this creates a much greater disincentive to work for anyone whose alternative to work is UI benefits.

A typical EITC recipient might be a woman who would earn $300 a week in gross wages if she works. An additional week of work would, however, produce additional net income of only $166 because of the combination of the 15 percent personal income tax, the 7.65 percent payroll tax, the 5 percent state income tax, and the 17 percent EITC benefit reduction. An additional week of unemployment would mean a gross benefit of $150 and a net benefit of $128. The net reward for working would be only $38 per week or less than a dollar an hour. The net replacement rate is the ratio of $128 to $166 or 77 percent.

The other income-related federal and state subsidy programs— Medicaid, food stamps, housing subsidies, and the like —reduce the reward for working even more. It is not surprising that unemployment remains high among low-skilled individuals. Such unemployment means that they have lower money income than they would if they worked and that they do not develop the skills and experience that would help them earn more in the future.

Sources of unemployment

The high replacement rates affect not only the duration of unemployment, but also the flow into unemployment. The duration effect is the most direct and obvious: an individual will remain unemployed as long as the value of leisure and the gain from search outweigh the lost net income. The Mortensen analysis focuses on duration, but the other ways in which UI increases unemployment may be at least as important.

Unemployment insurance encourages temporary, seasonal, and cyclical unemployment. Because the loss of a job involves a smaller financial loss to the individual, the additional wage necessary to compensate for the greater risk of unemployment is less. This reduces the cost of firms and industries that inherently provide more seasonal, cyclical, or temporary jobs and therefore increases the market demand for the products of such firms. A stronger experience rating system would reduce this subsidy and therefore the creation of excess unemployment.

A particularly important form of unemployment in the United States that seems to have little counterpart in Europe is "temporary layoff unemployment" in which the individual will return to the job, but is temporarily not working. Such temporary layoff unemployment now accounts for about one-third of all unemployment that is classified as "job loss" (as opposed to quits, new entrants, and reentrants) and about 40 percent of the unemployed who receive unemployment compensation. Because unemployment insurance subsidizes such unemployment and experience rating does little at the margin to discourage it, firms have much more temporary layoff unemployment (rather than adjustments in hours, inventories, and prices) than would be economically efficient.[5]

The deadweight loss

The deadweight loss caused by the distorted incentives of unemployment insurance depends on the extent to which UI benefits change behavior and on the gap or wedge between the marginal product of labor and the net compensation for working that remains when the

individual is eligible for unemployment insurance. The individual I discussed earlier who earns $300 a week before tax but who, because of taxes, the EITC, and UI benefits only gains $38 by a week by working instead of being unemployed has a distorting wedge that exceeds 88 percent of the marginal product of labor.[6]

Such a wedge implies very large deadweight losses from the increased unemployment induced by our UI system. I emphasize that this is the deadweight loss and not just the loss of income. Against that loss of income is balanced the value of unemployment time spent in leisure or in productive job search.

Careful readers of Dale Mortensen's paper will realize that this is not his conclusion. I do not feel comfortable trying to explain the reasons for the difference because I do not understand all of the sources of his estimated increase in productivity associated with unemployment. But I suspect that the difference lies in the simplified structure (which ignores induced job losses) and in differences in the parameter values. Where I see net replacement rates of 50 percent and 77 percent and a deadweight loss wedge of 88 percent, Mortensen summarizes the benefit replacement rate as 25 percent (reflecting a 50 percent statutory rate and a 50 percent participation rate among the uninsured).

Possibilities for reform

The adverse effects of UI used to be worse and need not be as bad in the future as they are today. It is useful to look at a major successful reform of UI that occurred in the United States: subjecting UI benefits to personal income taxation.

When the idea was suggested in the early 1970s, it was deemed to be politically impossible. But such taxation was introduced during the Carter administration on a very partial basis and then expanded to complete taxation under the federal income tax in the 1986 tax reform legislation.

Subjecting benefits to the income tax reduced the replacement rates substantially, particularly for second earners in high income house-

holds. An individual who pays today's 39 percent maximum marginal income tax rate faces a net replacement rate of 63 percent. If benefits were not subject to income tax, the net replacement rate would exceed 100 percent, generating more income for not working than for working!

Studies by Patricia Anderson and Bruce Meyer indicate that subjecting UI to the income tax has been responsible for most of the one-third decline (from 50 percent to 33 percent) in insured unemployment as a fraction of total unemployment (Anderson and Meyer, 1994).

This reform has the virtue that it reduced the highest replacement rates which are the ones that appear to be disproportionately distorting. Moreover, since it only reduced net UI benefits by including benefits in taxable income, it did not reduce net benefits for anyone who is too poor to pay taxes. That experience makes me dissent from Paul Krugman's comment that all policies to reduce structural unemployment are likely to increase poverty.

The experience with taxing UI benefits suggests other possible directions for UI reform that would also improve incentives without creating poverty. One idea would be to treat UI benefits like self-employment income and subject them to the payroll tax and cause them to offset EITC and other benefit payments.

A more radical reform would end the feature of giving more benefits to those unemployed who had previously had above average earnings. A maximum benefit equal to the current average (about $200 a week) would continue to provide protection while reducing the labor market distortion. Moreover, higher income employed individuals would be induced to save more as a reserve to supplement their UI benefits—a good thing in itself. And this could be encouraged by tax-favored unemployment savings accounts that would cost much less government revenue than the current system.

Endnotes

[1]See, for example, Feldstein (1973a, 1973b, 1974, 1975a, and 1976). The first of these studies was prepared for the Joint Economic Committee. Chairman Proxmire was so unhappy with the conclusions that they refused to publish it for several months until they had assembled a group whose critical comments could be included in the same volume.

[2]In the Mortensen analysis, the hiring bonus reduces unemployment by making the uninsured more willing to accept employment rather than through increasing the desire of the firm to hire them. More specifically, the hiring bonus raises the pay that would go to the employee and that increased opportunity cost of unemployment causes the individual to accept employment sooner than he or she otherwise would.

[3]The extent to which the hiring bonus leads to higher wages to the employee (and therefore a greater incentive for employees to seek unstable employment) or to lower net-of-subsidy wages to the firm (and therefore an increased output in unstable industries and a greater turnover of workers) is a standard incidence question that depends on the relative supply elasticities of employees and demand elasticities of firms. If enough firms compete for the subsidized new hires, the effect may be to pass along the entire subsidy to the new hires themselves.

[4]For someone who pays a 15 percent marginal federal income tax, a 7.65 percent payroll tax, and a 5 percent state income tax, an additional dollar of gross wage income results in 72 cents of additional net wage Income. The 15 percent federal tax reduces a 50 percent gross benefit to a 42-cent net benefit. The net UI replacement ratio is thus $42/72 = 0.58$.

[5]See Feldstein (1975b, 1976, and 1978) for a discussion of temporary layoff unemployment and evidence on how it is affected by UI benefits.

[6]The marginal product of labor is the pretax wage plus the employer's payroll tax of 7.65 percent. Thus the marginal product of labor for this individual is $323. The wedge is $1-38/323 = 0.88$.

Commentary: Reducing Supply-Side Disincentives to Job Creation

Assar Lindbeck

The focus of this conference on the supply side of the economy is fine, but we can get more mileage out of the discussion if we zoom in on the interaction between the supply side and the demand side. It was not a sudden deterioration in the supply side of the economy, such as a drastic reduction in the flexibility of the labor market, that triggered the rise in unemployment in the Organization for Economic Cooperation and Development (OECD) countries in the mid-1970s, early 1980s and, again, in the early 1990s. Rather, the proximate causes of the stepwise rise in unemployment in these instances seem to have been the two oil price hikes and the restrictive demand management policy which was pursued, in particular in the early 1980s and 1990s, to bring down the high rate of inflation.

It would seem, however, that earlier existing deficiencies on the supply side, including the consequences for the labor market of various welfare state arrangements, influenced the way in which our economies reacted to these shocks. In other words, my interpretation of events is that various features on the supply side contributed to the propagation and persistence mechanisms of the oil price shocks and demand shocks.

This interpretation is also consistent with the Nordic experience. In spite of very generous unemployment benefits, high hiring and firing costs, and rigid relative wages, unemployment was quite low in these countries until they were hit by severe macroeconomic shocks—in

Denmark in the early 1980s, in Norway in the second half of the 1980s, and in Sweden and Finland in the early 1990s.

There are also other important interactions between the demand and supply sides. Policies aimed at eliminating various rigidities on the supply side of the economy will not result in many new jobs if there are no vacancies to fill. Similarly, expansionary demand-side policies will not result in a larger increase in aggregate employment if the supply side, including the labor market, does not function reasonably well.

Let us look at Dale Mortensen's rich, elegant, and interesting paper in this context. The systematic distinction between the effects of policies on aggregate employment and on economic welfare is particularly useful. Mortensen's flow model of matching, job creation, and job destruction is apparently quite appropriate for the purpose of the analysis, with aggregate employment determined by the equality between the flow of labor into and out of unemployment. The model has some similarity with recently rather popular models (applied in the paper by Bean) in which equilibrium aggregate employment is instead determined by the intersection of a stock-demand curve for labor and a wage-setting curve. The comparative statics analysis in the two models is also rather similar; indeed, Mortensen's basic diagram (Figure 1) may be reinterpreted in terms of a stock-demand curve for labor and a wage-setting curve, with the real wage rate on the vertical axis.

The main difference between the two approaches is, I believe, that the flow approach gives a richer description of the labor market by emphasizing the dynamic processes that go on, including the emergence and the filling of vacancies. The flow approach also provides a disaggregation of the unemployment rate into unemployment incidence and unemployment duration.

It is useful to organize the following comments around Mortensen's quantitative policy experiments. The conclusions from the experiments usually seem quite reasonable, but there are, of course, some problems. The analysis of lower unemployment benefits (Table 2) is flawed by the fact that Mortensen does not respect the balanced budget

constraint (neither ex ante nor ex post). This shows up in the conclusion that workers collectively experience income loss in spite of the fact that net output per worker increases, the reason being the fall in transfers to the unemployed. This conclusion would not survive a balanced budget constraint. For instance, tax reductions or increased transfers (such as child care or pensions) of the same size as the reduction in the unemployment benefit payments, would reverse the conclusion that workers do not gain as a group. The experiment with stricter limits on the duration of unemployment benefits suffers from the same problem. If the balanced budget constraint had been respected, the aggregate income gain for workers would have been larger than in Mortensen's analysis.

The experiment with higher firing costs, representing stricter job-security legislation, results in his model in somewhat higher unemployment and lower income for workers. This is a net effect of the standard result that both firing and hiring are discouraged, which means that aggregate employment tends to be stabilized at approximately the initially existing level — whatever this happens to be.

It is perhaps worth making the obvious point that a policy action that tends to stabilize aggregate employment at the initially existing level has very different welfare implications when unemployment is initially low and when it is initially high, as in Western Europe today. It is also likely that high labor turnover costs have quite different effects when there is great uncertainty about future business conditions than when such uncertainty is small: in the former case high labor turnover costs would be expected to be particularly damaging to new hiring. This suggests that crucial aspects in the analysis are lost if we only look at some average effects over the cycle. The effects would also be expected to differ between large and small firms, with greater effects on the latter.

Mortensen treats the experiment with a shift to fully experience-rated payroll taxes in the unemployment-benefit system in the same way as higher firing costs for labor: both raise the costs of firing and therefore, in an intertemporal framework, also the costs of hiring workers. There is, however, another important aspect of experience-rated payroll taxes, which is lost in a model without systematic

differences between jobs. Strongly cyclical production sectors, such as the building industry, are systematically subsidized in the real world when unemployment benefits are financed by uniform payroll taxes. This is avoided with fully experience-rated fees. The fact that this aspect is neglected in the model should be kept in mind when Mortensen concludes, "Without further study, I cannot recommend this reform (fully experience-rated fees) here or abroad." My point illustrates the limitations, for the purpose of the analysis pursued, of a model with only one type of labor, hence in fact with only one production sector.

Considering the richness that is already embedded in Mortensen's model, it is too much to ask the author to incorporate considerations like these in his formal model. I have made these remarks only to illustrate the dangers of building policy recommendations on models that abstract from potentially important aspects of the problem under analysis.

Subsidies to new hiring of labor look particularly useful in Mortensen's study — interpreted as government assistance in the job/worker matching process, government financed training programs, or outright marginal employment subsidies (for instance in the form of the New Jobs Credits of 1977 in the United States). This is a natural conclusion in this type of model — as in many other labor market models.

It is, however, not quite clear why the new jobs that are created by marginal employment subsidies, as Mortensen asserts, are necessarily more productive than the nonsubsidized jobs that then disappear — an assumption that plays a considerable role in the analysis. After all, the transaction friction embodied in the matching function reflects real resource costs and utility losses. Is it obvious that aggregate productivity will increase in the national economy if the costs to private agents of such frictions are mitigated by subsidies? As I understand them, the hiring subsidies in Mortensen's analysis are really designed to counteract, in a second-best fashion, various distortions that limit the hiring of labor to begin with, such as tax wedges, job security legislation, or unemployment benefits.

It may also have been interesting to study the consequences of

different types of hiring subsidies. For instance, subsidies to training, possibly also to labor-market exchange systems and job counseling, could perhaps be defended by reference to externalities, while this argument may be weaker for outright marginal employment subsidies.

A complication with marginal employment subsidies is that we cannot, in a long-term perspective, take the structure of firms as given. Suppose, for instance, that it is the net additions to the employment level of the firm that qualify for subsidies. Firms may then split into expanding and contracting entities to get marginal employment subsidies. Indeed, experience of policy interventions shows that the ingenuity among citizens to exploit, and cheat with, subsidies is usually underestimated by economists and politicians.

Moreover, in an intertemporal setting, wage bargaining may be influenced by expectations that the government will react to higher unemployment in the future by additional marginal unemployment subsidies. In other words, wage bargaining may be more aggressive not only because of already implemented marginal employment subsidies, but also because of expected subsidies in the future if higher wages create higher unemployment. Large unions may be particularly tempted to engage in such strategic behavior. Might not this mechanism turn such subsidies into a permanent feature?

Perhaps the government may also be forced, by political pressure, to keep giving hiring subsidies year after year to workers who were hired earlier on the basis of such subsidies. After all, the government has taken responsibility for the expansion of employment in the firms. Will citizens then not expect the government to take responsibility for continued employment in these firms as well? If so, the current labor cost may, after a while, differ systematically between sectors and firms with different historical employment paths, which is not likely to be efficient.

According to studies in the 1960s and 1970s, the relation between benefits and costs of active labor market policy in Sweden, in the form of public-sector retraining and public works programs, was quite favorable. Economists in Sweden are today more uncertain about the usefulness of such policies. In particular, empirical studies do not give

strong support for assertions that workers who have attended such training programs have a significantly higher probability of getting a job than workers who have not participated in such programs. (The results of these studies are somewhat uncertain, however, as the researchers may not have been able to avoid selection bias completely, in spite of considerable attempts to do so.) Studies also suggest that people in public works programs largely stop searching for jobs, and that they do not exert any downward pressure on real wages. .

Moreover, when there are very few vacancies, retraining largely fulfills the function of keeping people away from open unemployment, and of helping them qualify for a new round of unemployment benefits. After all, active labor market policy was initially designed to improve the functioning of the labor market in high-employment economies. The idea was to help people swim faster from the unemployment islands to the vacancy islands, partly to limit wage inflation in such economies. In this sense, active labor market policies function best under high-pressure conditions with ample vacancies.

Mortensen also arrives at the conclusion that general employment subsidies improve aggregate employment in the long run, though at very high costs for the government. Symmetrically, a general payroll tax would in the long run reduce aggregate employment. Mortensen's conclusion is reached, I believe, through his assumption that the value of the alternative to income, that is, of leisure, is independent of the real wage. I would rather emphasize some different mechanisms to explain why general payroll taxes (or general unemployment subsidies) influence aggregate employment. First, higher payroll taxes tend to raise labor costs for firms for a while, perhaps even as long as a number of years, because of nominal wage rigidity. During this period, unemployment tends to increase, and various persistence mechanisms tend to prolong this rise in unemployment.

Second, in the case of very broad tax wedges, as exist in many European countries today, wages for low-wage groups cannot always fall in proportion to the payroll taxes. One reason is minimum wages through legislation or wage bargaining. Another reason is that after-tax wages in some cases would have to fall below the reservation wage of these groups to keep labor costs for firms unchanged — the reserva-

tion wage being influenced not only by the evaluation of leisure but also by the return on household production, the level of unemployment benefits, the level of social assistance, and income levels in other benefit systems, such as early retirement.

In conclusion, Mortensen's paper is an excellent one. It is, however, important to compare the supply policies analyzed with alternative supply-side policies, such as policies designed to help the labor market function just as a market, rather than as a system regulated administratively by governments and unions. Obvious examples are a lowering of high minimum wages and the removal of various privileges to labor unions that help them to keep up wages for unskilled workers. Other examples are the removal of barriers to the entry of firms, the mitigation of imperfections in capital markets, and the reduction of tax wedges, in particular in the sector of market production of household services.

It is also necessary to think carefully about the political mechanisms that may be initiated by various policy actions. Otherwise we may, after a while, wind up with policies which the proponents of various policy proposals would never have recommended in the first place. This has happened before. Private agents have much stronger incentives than politicians and public sector administrators to find ways of drawing benefits out of government interventions. The effects of policy interventions, therefore, often turn out to be quite different from the intended ones.

Active Labor Market Policies to Expand Employment and Opportunity

Lawrence F. Katz

All advanced industrial nations appear to be experiencing a jobs problem. There simply appear to be too few decent employment opportunities to go around. This difficulty manifests itself somewhat differently in different countries. But no Organization for Economic Cooperation and Development (OECD) nation appears to have been able to fully escape rising wage inequality (sometimes coupled with declining real earnings for.low-wage workers), weak employment growth combined with secular increases in unemployment, or both of these phenomena.

Over the past two decades or so, most Western European nations have experienced substantial real wage growth that has benefited those who remain employed. But they have also experienced stagnation in employment growth, particularly in the private sector. The consequence has been unemployment rates that have ratcheted up over successive business cycles and persistent long-term unemployment. The unemployment/nonemployment problem has typically been concentrated among less-educated workers and new labor force entrants.

In contrast, the United States has produced relatively buoyant employment growth concentrated in the private sector over the same period. But the United States has also experienced slow real wage growth and a substantial increase in overall wage inequality and in educational wage differentials. The consequent large declines in the real earnings of less-educated and low-paid workers have been associated with

increased family income inequality and growing rates of poverty among working families.

Japan and Sweden are two nations that appeared to be a bit more successful in avoiding a jobs problem during the 1980s. Japan maintained low measured unemployment while expanding employment and experiencing rapid growth in real wages. Until recently Sweden's combination of fairly centralized wage-setting and active labor market policies served to generate an extremely egalitarian wage distribution and persistently low open unemployment. But both Sweden and Japan have faced difficult labor market problems with rising unemployment and signs of increasing inequality from the late 1980s into deep recessions in the early 1990s.

The jobs problem appears to be particularly concentrated in declining employment opportunities for less-educated and disadvantaged workers as well as difficult problems for experienced dislocated workers and for new entrants in some economies. While certainly much of the high unemployment experienced in the 1980s and the early 1990s has reflected weak macroeconomic situations, secular increases in some form of labor market distress in most advanced nations over the past twenty years substantially reflect structural problems. A key driving force appears to be a strong shift in relative labor demand *against* less-educated workers and those doing more routinized tasks and toward more-educated workers and those with problem solving skills. This relative demand shift appears to be largely associated with skill-biased technological change, but increased internationalization also plays some role. Although the shift in labor demand against the "less-skilled" appears fairly similar across OECD nations, the nature of the labor market outcomes generated by this trend has varied depending on labor market (particularly wage-setting) institutions, the generosity and operation of the social safety nets, and education and training systems.

The evidence that the United States has done better on employment growth but worse on real wage and productivity growth and has experienced larger increases in wage inequality than Europe raises the question of whether advanced industrial nations face an inevitable tradeoff between more jobs (combined with greater wage inequality

and slower real wage growth) and better jobs (combined with persist-
ently high unemployment). Policies that limit market wage adjust-
ments either through direct wage-setting interventions, restrictions on
hiring and firing, and/or a generous social safety net not conditioned
on work can prevent rising wage inequality but taken too far to an
extreme may risk employment stagnation. More decentralized wage
setting and "flexible" labor markets may produce better employment
growth, but, without increased and more effective efforts to improve
the prospects facing less-skilled and less-fortunate workers, such a
strategy appears to generate rising wage and family income inequality
as well as growing social problems in distressed communities that
appear to have become increasingly disconnected from prosperous
parts of the mainstream economy.

These two rather bleak scenarios raise the question of whether there
exists a "third way" that increases the chances of producing both more
and "better" jobs. The possibility of such an approach is highlighted
through the realization that the underlying economic changes driving
the relative labor demand shift against the less-skilled provide oppor-
tunities for more rapid increases in productivity, living standards, and
employment opportunities. The jobs problem arises because many
individuals (disproportionately the less-educated, dislocated workers,
and those from disadvantaged backgrounds) are experiencing signifi-
cant difficulties adapting to the emerging new economy. The third way
needs to use some of the gains of economic change to invest in greater
workforce adaptability and in improving the labor market prospects
of those most vulnerable to change. Such an approach probably needs
to be oriented around active labor market policies that deal directly
with the market shifts favoring problem-solving and "soft" (or cus-
tomer-oriented) skills and adversely impacting less-educated workers.
Active labor market policies have the potential to improve the pros-
pects of the disadvantaged and the unemployed by investing further
in their education and training, stimulating employment opportunities
through direct job creation in the private and public sectors, and
providing assistance and information to more quickly match job
seekers with job openings.

In this paper I evaluate the evidence for whether such a third way
may be possible. I first examine in more detail how the deteriorating

labor market situation for the less-educated and those from economi-
cally disadvantaged backgrounds has manifested itself in the United
States and other OECD nations. I next turn to a discussion of how
active labor market policies might be able to improve the situation. I
review the evidence on the macroeconomic effects of such policies
and on their effectiveness in improving the earnings and employment
of disadvantaged and experienced unemployed workers. I conclude
that policies to create a more skilled and adaptable workforce can
make a positive difference in terms of both economic growth and
equity over the medium term and have the potential to produce some
modest reduction in the "natural" rate of unemployment. But one
should not expect such policies by themselves to be a short-run
panacea for the jobs problem. Active labor market policies will be
most effective if complemented by macroeconomic policies that accom-
modate structural improvements in the operation of labor markets.

Rising inequality in labor market outcomes

In this section I first summarize the evidence on rising inequality in
labor market outcomes in the United States. Second I examine the
extent to which analogous changes are apparent in other OECD
economies. I then present an explanation based on demand, supply,
and institutional factors of why the twist in the labor market against
the less-skilled has shown up in varied forms across advanced nations.
Finally I briefly consider how these labor market changes have adversely
affected individuals from disadvantaged backgrounds and have nega-
tively interacted with other serious social problems in high-poverty
and high-unemployment communities.

Changes in the U.S. wage structure

Family income inequality increased substantially in the United
States over the last twenty years especially during the 1980s. The
enormous disparities in the fortunes of American families in recent
years have largely been associated with labor market changes that
increased overall wage inequality and altered the wage and employ-
ment structure in favor of the more-educated and more-skilled. These
changes have been carefully documented by researchers using a
variety of data sets, including household survey data from the Current

Population Survey, other household surveys, and establishments surveys (for example, Bound and Johnson, 1992; Davis and Haltiwanger, 199.1; Gottschalk and Moffitt, 1992; Juhn, Murphy, and Pierce, 1993; and **Katz** and Murphy, 1992.) The finding that wage inequality increased substantially is not sensitive to the precise choice of data set, sample, or wage measure.

Recent broad changes in the U.S. wage structure can be summarized as follows:

- From the 1970s to the early 1990s wage dispersion increased dramatically for both men and women reaching levels of wage inequality for men that are probably greater than at any time since 1940. The hourly earnings of a full-time worker in the 90th percentile of the U.S. earnings distribution (someone whose earnings exceeded those of 90 percent of all workers) relative to a worker in the 10th percentile (someone whose earnings exceeded those of just 10 percent of all workers) grew by approximately 20 percent for men and 25 percent for women from 1979 to 1989. The gap increased further in the early 1990s.

- Pay differentials by education and age increased. The college/high school wage premium doubled for young workers with weekly wages of young male college graduates increasing by some 30 percent relative to those of young males with twelve or fewer years of schooling in the 1980s. In addition, among workers without college degrees, the wages of older workers rose relative to those of younger workers. **A** major earnings differential that did fall was that between men and women, which dropped substantially in all education and age groups in the 1980s.

- Wage dispersion increased within demographic and skill groups. The wages of individuals of the same age, education, and sex, working in the same industry and occupation, were more unequal in the early 1990s than ten or twenty years earlier.

Since these changes in the wage structure occurred in a period of stagnation in overall real wage growth, the less-educated and other

low-wage workers suffered substantial real earnings losses relative to analogous individuals one or two decades earlier.

The timing of these changes in the U.S. wage structure from the late 1960s to the end of the 1980s is illustrated in Chart 1 using data on hourly wages for full-time workers from the March Current Population Surveys (CPSs) previously analyzed by Freeman and Katz (1994). The 1980s show some breaks from the past. The upsurge in the college wage premium in the 1980s followed some decline in this differential in the 1970s. The narrowing of the gender gap appears to have started at the end of the 1970s. But rising within group (or residual) inequality appears (at least in March CPS data) to be a fairly continuous process since the early 1970s.

In summary, both one's labor market "connections" and one's formal educational qualifications appear to matter more for one's earnings today than in the past. Hours of market work also have become increasingly more positively correlated with measures of skill. Coleman and Pencavel (1993a, 1993b) find that annual hours of market work have increased for highly educated men and women and decreased for less-educated men and women over the course of the last fifty years. Topel (1993) concludes that since the late 1960s unemployment and nonparticipation for males has become increasingly concentrated on those with low wages and the least education. Two groups of workers seem to have particularly suffered in terms of both wages and employment rates: young workers with limited education and experienced job losers (or dislocated workers). Permanent job losses for previously high-tenured workers are typically associated with substantial and permanent losses of earnings power as previously specialized skills appear to become obsolete or rents from insulated positions in an internal labor market are lost (Jacobson, LaLonde, and Sullivan, 1993).

A comparative perspective on changes in the wage structure

How do changes in labor market differentials by skill and overall wage inequality in other advanced nations compare to those in the United States? Much recent research has examined this issue (for example, Davis, 1992; Freeman and Katz, 1994, 1995; and OECD,
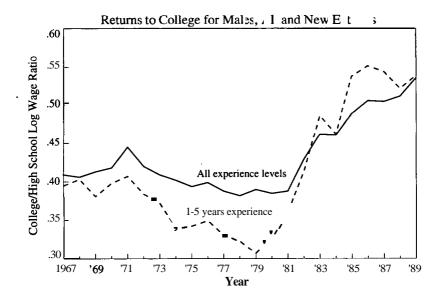
1993). Table 1 categorizes countries by the way their wage structures changed during the 1970s and 1980s. From the late 1960s to the end of the 1970s, educational and occupational wage differentials (skill differentials) narrowed in all advanced nations for which appropriate data is available. With the exception of men in the United States, overall wage inequality for men and women also decreased throughout the industrialized world in the 1970s.

Since the early 1980s the narrowing of skill differentials and wage inequality has ceased in most advanced nations. But, as shown in Table 1, not all OECD nations have experienced sharp increases in wage differentials by skill similar to the United States. Most developed countries (including Germany, France, Italy, Austria, Australia, Canada, Sweden, the Netherlands, and Japan) had moderate or in some cases effectively no rise in both educational wage differentials and overall wage inequality. The United States and Great Britain—countries with decentralized labor markets and systems of wage-setting — experienced exceptionally large increases in wage inequality and wage differentials by skill category. Chart 2 contrasts movements in overall wage inequality by sex for full-time workers in the United States, Great Britain, France, and Japan.[1] Only in the United States (with the possible exceptions of Australia and Canada) did these labor market changes in the 1980s translate into large declines in the real earnings of low-wage male workers who remained employed (even those in full-time employment). Nevertheless, most other nations with less increase in wage inequality and faster increases in real wages than the United States suffered from much slower employment growth and sharper increases in unemployment/nonemployment among less-educated and young workers (OECD, 1994). Finally, increased wage differentials by age and a narrowing of gender wage differentials is also apparent in most OECD nations in the 1980s.

Understanding rising labor market inequality

What explains recent changes in the relative economic position of less-skilled workers in different OECD countries? The wages and employment of different demographic, education, and skill groups depend both on the market forces of supply and demand and on labor market institutions. Changes in the supply of and demand for labor

Chart 1
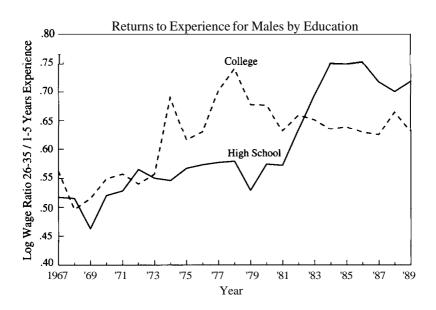## U.S. Relative Hourly Wage Changes, 1967 to 1989

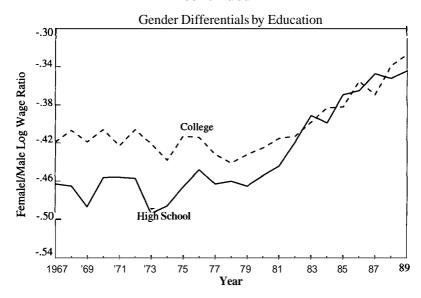Returns to College for Males, All and New Entrants

College/High School Log Wage Ratio

All experience levels

1-5 years experience

Year

Returns to Experience for Males by Education

Log Wage Ratio 26-35 / 1-5 Years Experience

College

High School

Year

Chart 1
U.S. Relative Hourly Wage Changes, 1967 to 1989
continued

Gender Differentials by Education

Residual Wage Inequality, Males, 90-10 Differential

Source: Freeman and Katz (1994)

Table 1
Changes in Educational/Occupational Skill Differentials in Advanced Countries

Countries Which Experienced:	1970s	1980s
A Large Fall in Differentials	Australia Austria Canada Finland France Germany Italy Japan Netherlands Spain Sweden United Kingdom United States	
Modest Changes in Differentials: A Modest Fall in Differentials (↓)		Netherlands (↓) Finland (↓)
No Noticeable Change in Differentials (-)		France (-) Germany (-) Italy (-)
A Modest Rise in Differentials (↑)		United States (↑) United Kingdom (↑)
A Large Rise in Differentials:		United States United Kingdom

Sources: Freeman and Katz (1994) and OECD (1993).

skills tend to alter the wages and employment of different groups in the direction consistent with economists' supply-and-demand market clearing model under a wide variety of wage-setting institutions—individual bargaining, decentralized and centralized collective bargaining, government contract extensions, and minimum wages. But
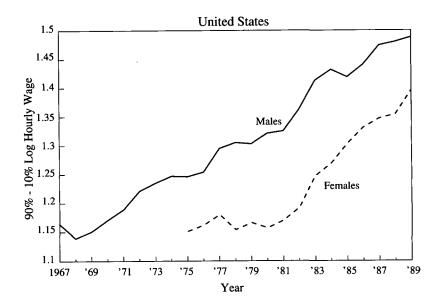
because supply and demand have moved in roughly similar ways in advanced countries, supply and demand factors can't fully explain cross-country variation in changes in wage inequality. Secular changes in demand for skill are unlikely to differ significantly among developed economies since all have access to similar technologies, have quite similar industry and occupation mixes, and operate in the same world markets. Supply changes may show some more divergence because of different rates and timing of expansion of higher education, but a strong trend toward an increased proportion with college training is universal in the OECD.

To fully understand differences in labor market outcomes across countries, institutional factors must be considered. Identical shifts in supply and demand will have different quantitative impacts on wages and employment depending on a nation's wage-setting institutions and norms, training and education system, and social insurance policies. The more prominent is the role of institutions in wage setting, the smaller will be the effect of market shifts on relative wages and the larger the likely effect on relative employment levels. Education and training policies that generate a more egalitarian distribution of skills and more adaptable workforce to changes in skill requirements are likely to weaken the effects of supply and demand shifts on wages and employment. And a system of income maintenance that provides generous benefits to the unemployed for a long duration may also reduce the responsiveness of wages of the unskilled to adverse demand shocks. Changes in institutions themselves can also affect the wage structure. Important institutional changes, such as recent declines in unionization in the United States and United Kingdom, may reflect independent political factors (for example, the emergence and persistence of conservative governments) or simply be the personification of shifting labor market forces.

Understanding the U.S. experience

What roles did supply, demand, and institutional factors play in explaining rising wage inequality in the United States? Most researchers conclude that the major cause of rising wage dispersion and educational wage differentials is a strong secular shift in labor demand favoring more-skilled workers (Bound and Johnson, 1992; Juhn,

Chart 2
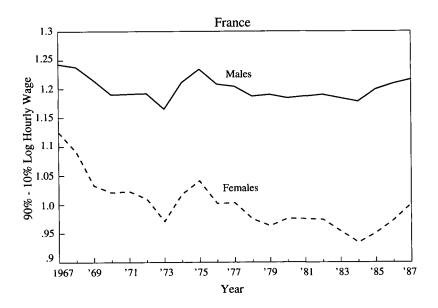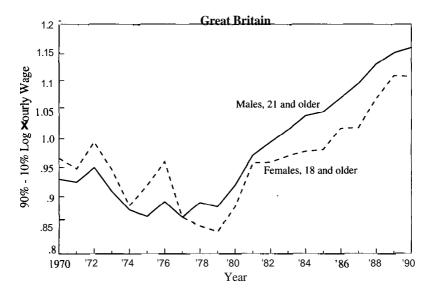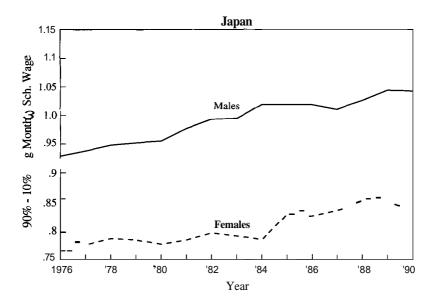## Changes in Overall Wage Inequality by Sex

United States

France

Chart 2
Changes in Overall Wage Inequality by Sex
continued

Great Britain

Males, 21 and older

Females, 18 and older

Year

Japan

Males

Females

Year

Murphy and Pierce, 1993; Katz and Murphy, 1992).[2] The industrial and occupational distribution of **U.S.** employment has been shifting strongly in favor of college graduates and women for many years. Employment has declined in goods-producing sectors that have disproportionately provided high-wage opportunities for blue-collar men and expanded in professional, medical, business, and other services that employ many college graduates and women. The internationalization of the **U.S.** economy has contributed some to these between industry shifts, but (possibly naive) calculations of the factor content of **U.S.** trade flows indicate that even the large trade deficits of the 1980s could only explain a modest proportion (5 to 20 percent) of the shift in demand against less-educated workers necessary to be consistent with observed changes in educational wage differentials (Borjas, Freeman, and Katz, 1992). Most of the change in employment structure has occurred inside detailed industries with firms increasing their relative use of more-educated workers. (The vast majority of the increase in educational wage differentials and wage inequality has also occurred within industries.) Within-industry changes in labor demand appear to be strongly related to technological and organizational changes favoring skills and (at least within the manufacturing sector) are positively correlated with investments in computers and research and development (Berman, Bound, and Griliches, 1994). The use of computers spread in the workplace rapidly in the 1980s, and a large and growing computer wage premium was apparent at the end of the decade (Krueger, 1993).

   Demand side factors are not the entire story. Demand shifted in favor of more-educated workers in both the 1970s and the 1980s, but educational wage differentials narrowed in the 1970s and expanded dramatically in the 1980s. The supply side of the market helps explain the difference between the two decades. The relative supply of college graduates grew extremely rapidly in the 1970s with the enrollment of baby boomers and incentives from the Vietnam War to enter and remain in college. The rate of growth of relative supply of college graduates declined substantially in the 1980s with the "baby-bust" cohorts and the "apparent" decline in the return to college education in the 1970s. A large influx of immigrants with less than a high school education also contributed to slower growth in the supply of highly educated workers relative to less educated workers in the 1980s

(Borjas, Freeman, and Katz, 1992). A smooth secular shift in demand favoring more educated workers combined with variation in supply growth across decades goes a fair distance to explaining the time pattern of the evolution of U.S. skill differentials from the 1960s to the late 1980s. Nevertheless, some acceleration in the rate of demand shifts against the less-skilled is required to more fully explain the magnitude of the growth of skill differentials in the 1980s. In fact, whether because of the increased use of computers, increased international outsourcing, or other causes, the pace of within-sector relative demand shifts favoring more skilled workers appears to have accelerated in the 1980s (Katz and Murphy, 1992).

Two institutional changes further contributed to rising U.S. wage inequality in the 1980s. The precipitous decline in unionism is estimated to explain as much as one-fifth of the growth in educational wage differentials and wage dispersion among males (Freeman, 1993; Card, 1992). Changes in unionization do not appear to be an important factor in the evolution of the female wage structure. The large decline in the real value of the federal minimum wage from 1981 to 1990 also assisted in rising wage inequality especially for women (Dinardo, Fortin, and Lemieux, 1994). Furthermore, much recent research finds that modest increases in minimum wages at both the state and federal level from historically low levels in the late 1980s and early 1990s were associated with increases in real earnings for low-wage workers, reductions in wage and income inequality, and no detectable adverse employment effects (Card and Krueger, 1994). Thus a minimum wage set at a relatively low level appears to be able to improve earnings at the bottom with little employment cost, but this does not rule out the possibility that substantially higher minimum wages have significant negative employment impacts.

In summary, sizable and somewhat accelerated demand shifts favoring more-educated workers, a reduction in the rate of growth in their supply, and institutional changes all contributed to sharp increases in U.S. wage inequality in the 1980s.
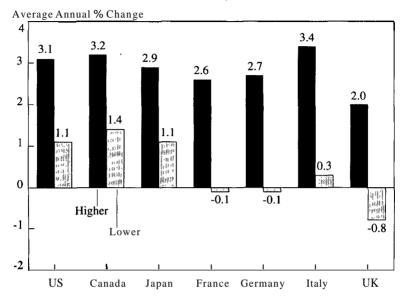
Understanding differences among advanced economies

Why did wage inequality grow by more in the United States than in

most other OECD countries? National differences in labor demand factors are unlikely to be the dominant factor in explaining variation among advanced countries in recent changes in the wage structure. Labor demand appears to be shifting rapidly in favor of more-skilled workers both between and within industries and occupations in all OECD nations. Chart **3** illustrates that the industrial distribution of employment has been sharply shifting into sectors that use a greater proportion of more educated workers in all G-7 nations over the past quarter-century.[3] In each G-7 economy, employment grew more rapidly from 1970 to 1993 in more education-intensive sectors than in less education-intensive sectors. More formal demand shift measures also show sharp secular between-industry shifts in labor demand favoring the more-educated and women in countries for which reasonably comparable data are available (Katz, **Loveman,** and **Blanch-**flower, 1993). But within-sector shifts toward the more-skilled generally appear to be more sizable than the between-industry shifts dominated by the move from goods to services.

But differential changes in the rates of growth of the supply of workers by level of education help explain differences among countries in changes in skill differentials in the 1980s. Rapid expansions of systems of higher education meant that the supply of highly educated workers grew extremely rapidly in all OECD nations in the 1970s. The rapid supply growth appears to have outstripped demand shifts favoring the more skilled and generated narrowing skill differentials in every country. Explicit government and union policies to reduce wage differentials often reinforced these market trends during the 1970s. In the **1980s,** the average educational qualifications of workers continued to rise in all countries, but the rate of growth of the college educated workforce decelerated in some nations. A sharp slowdown in supply growth in the United States (in which the share of young men with college degrees actually fell for a period) was associated with large increases in differentials. The continued rapid expansion in Canada helps explain its much more modest increase in educational differential than the United States. Other countries with at least modest increases in skill differentials by the end of the decade—United Kingdom, Sweden, Australia, and **Japan—experi-**enced some decline in the rate of growth of the supply of college graduates. Countries whose education differentials did not expand in

Chart 3
Employment Growth by Higher and Lower Educational Attainment Sectors, 1970-1993

Average Annual % Change

Notes: 1970-91 for France, Germany, and the UK. 1977-91 for Italy. Higher educational attainment sectors comprise sectors where 30% or more of full-time workers have college degrees in the United States. The lower sectors have less than 30% of workers with college degrees.

the 1980s — France, Germany, and the Netherlands – –essentially maintained their 1970s rate of growth of supply of more educated workers into the 1980s (Freeman and Katz, 1994; OECD, 1993).

Institutional factors translated similar demand and supply shifts into differences in labor market outcomes. The two countries with the largest increases in wage inequality — the United States and the United Kingdom — have quite decentralized wage-setting systems, not very well structured pathways from school-to-work for those not going to college, and experienced significant declines in the influence of unions and minimum wages in wage determination during the 1980s. Countries with greater institutional interventions in wage setting — France, Italy, Sweden — were able to prevent wage inequality from rising during parts of the 1980s. But policies that limit market wage

adjustments without directly addressing changes in market conditions through appropriate human capital investments risk stagnant employment growth and persistently high unemployment for young and less-educated workers. While wage-setting institutions can constrain wage-setting over some range, they themselves do not appear immutable to market forces. Shifts in supply and demand that create market pressures for expanded wage differentials are likely to reduce the strength of centralized bargaining (as eventually occurred in Sweden and Italy) and reduce union influence in wage setting (as occurred in many OECD countries).
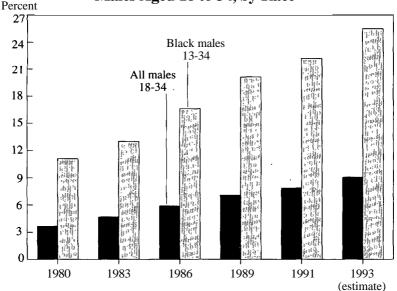
Institutional wage interventions appear to have the potential to be more successful at preventing widening wage inequality if they are combined with effective active labor market policies and education and training systems that invest heavily in the skills of non-college workers. Germany and Japan appeared fairly successful through much of the 1980s in maintaining the earnings and employment of non-college workers with training and education systems in which college and non-college workers appeared to be closer substitutes in production than in the United States. German institutions constrain wage-setting, but they also offer linked apprenticeships that try to make supply consistent with wage policies. The Japanese have succeeded with solid basic education and much informal firm-based training. Nevertheless, both of these economies clearly have run into some difficulties in the early 1990s.

No nation appears to have found an approach to fully escape increased labor market difficulties for less-educated workers. Policies to buffer the earnings of low-wage workers probably need to be combined with efforts to augment their skills and increase hiring incentives. The increasingly dire labor circumstances facing disadvantaged individuals in many OECD nations and the rising social costs of dependency and crime argue for strong efforts to develop such an agenda.

Labor market changes and the disadvantaged

By almost any measure the economic and social well-being of disadvantaged American youths and young adults—those with limited

Chart 4
Criminal Supervision
Males Aged 18 to 34, by Race

Percent

Notes: Chart shows the proportion of the given group which is in jail, on parole, or on probation on a typical day of the year.
Source: Unpublished tabulations, Bureau of Justice Statistics; Current Population Survey.

education or skills, from poor families and impoverished neighborhoods, and from minority backgrounds — has deteriorated substantially over the last twenty years. A smaller proportion of young disadvantaged Americans are marrying and forming families than in the past, and those that do are increasingly likely to be poor. In a major departure from historic patterns, the real wages of the young and less-educated plummeted: in the early 1990s, the real hourly pay of recent male high school graduates and young dropouts was more than 20 percent below that of their counterparts twenty years earlier. Increasingly, disadvantaged young men and young women are idle— not in school, not working, and not looking for work. Roughly 50 percent of out-of-school American youth (aged 16 to 24 years old) without a high school degree are currently not employed. As Chart 4 illustrates, the proportion of young men in trouble with the law has increased dramatically.[4] In fact, the number of all U.S. adult males

under the supervision of the criminal justice system (those incarcerated, on parole, or on probation) measured as a proportion of the labor force was 6.6 percent in 1993, making it approximately the same as the proportion unemployed (Freeman, 1994). Trouble with the law is sharply concentrated among those from disadvantaged backgrounds without high school degrees. Freeman (1994) concludes in a recent review that much ethnographic evidence and more formal empirical work is consistent with the notion that criminal involvement responds to economic incentives (the returns to legitimate work relative to those from illicit opportunities).

The shift in relative labor demand against less-educated workers has disproportionately adversely affected those from disadvantaged backgrounds. The decline in blue collar jobs and increased importance of one's ability to directly deal with customers in the expanding service economy has particularly harmed disadvantaged minority males. Disadvantaged residents of inner cities, faced with decreasing opportunities for employment in the areas where they live, are often precluded by inadequate transportation, child care, discrimination, and other barriers from obtaining jobs in the suburbs where employment has been growing. And the disadvantaged have been hampered by the absence of effective hiring networks: in impoverished neighborhoods, where few adults hold jobs, the contacts that help people connect with employers are rare.

Economic changes (especially labor demand shifts away from manufacturing and generally weak labor markets throughout much of the last twenty years) may have started the downward cycle for disadvantaged youth, but the resultant joblessness has in turn contributed to a multitude of social changes in urban communities. These social problems—including crime, violence, and drug abuse, the disappearance of middle class role models, and the breakup of the traditional family—have made the labor market problems in inner cities much harder to solve (Wilson, 1987). This problem is not unique to U.S. urban areas. Persistent joblessness associated with industrial decline in the North of England appears to be connected to increased crime, drug use, and violence and a rapidly expanding "underclass" in formerly stable working class areas (Murray, 1990). Similar phenomena are becoming apparent in other high unemployment parts of

Europe (*The* Economist, 1994).

A stronger economy, rapid private sector employment growth, and tighter labor markets are a necessary condition for improving job prospects for disadvantaged groups in America's inner cities and Europe's high unemployment areas, but the extent of the problems and the experience of the boom of the late 1980s suggest economic growth by itself unassisted by policies designed to specifically deal with the labor market barriers facing the disadvantaged (for example, skill mismatch and lack of connections) may not be sufficient to reverse recent trends (Blank and Card, 1993; Cutler and Katz, 1991). The increasing gaps in outcomes between the more and less fortunate associated with the increasing importance of skill may increasingly lead to a "secession of the successful" if adequate steps are not taken to address these problems (Reich, 1991).

The role of active labor market policies

Active labor market policies are measures targeted at the unemployed and disadvantaged (low-wage) workers with the intent of improving the functioning of the labor market. Such policies can be sorted into three broad categories: (1) supply-side policies that invest in education and training to upgrade the skills of the target groups; (2) demand-side policies that attempt to stimulate employment increases through direct job creation in form of public sector employment or the subsidization of private sector jobs; and (3) policies such as improved labor market information and job search assistance that attempt to enhance the efficiency of the process of matching job seekers with job openings. While the supply, demand, and matching functions are important analytical distinctions, they are sometimes blurred in practice. Successful programs often do all three: combining training in the classroom and on the job, the use of subsidies to encourage employers to provide jobs and training slots, and the matching of participants with openings.

Active labor market policies potentially have a role to play in achieving two important outcomes. The first is a reduction in structural and frictional unemployment so that the economy can operate at a lower unemployment rate without igniting inflationary

pressures. The second is improvements in the earnings and employ-
ment rates of the targeted groups. Much recent research has provided
assessments of both the macroeconomic and microeconomic effects
of active labor market policies.[5] In this section I provide an interpre-
tation of this evidence and of the lessons for the design of more-effec-
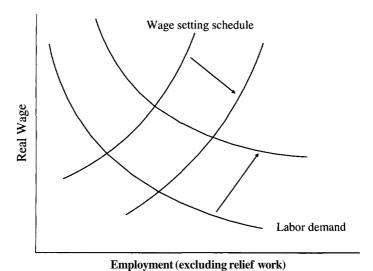tive policies.

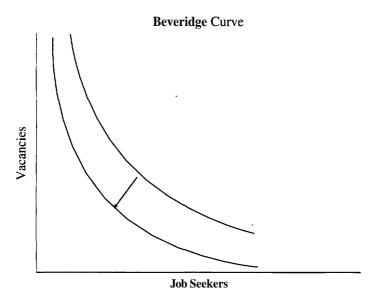## Macroeconomic effects of active labor market policies

Layard, Nickell, and Jackman (1991), OECD (1993), and Calmfors
(1994) have developed a fairly straightforward analytical framework
for sorting out the aggregate labor market impacts of active labor
market policies. This approach is illustrated by the two diagrams in
Figure 1. The upward sloping curve in Panel A represents a wage-set-
ting schedule indicating that higher aggregate employment causes
pressure for higher real wages. Such a schedule can be derived from
efficiency wage models (higher wages are required to optimally
extract effort, recruit workers, and manage turnover when unemploy-
ment is lower), and bargaining models (unions and insiders are less
constrained in wage demands in a tighter labor market), or it can be
interpreted as a standard upward sloping labor supply curve. The
downward sloping curve is a standard labor demand schedule. The
intersection of the two represents the equilibrium employment and
real wage levels. The employment level in Panel A is assumed to
exclude those currently participating in active labor market programs
(so that one needs to add those in subsidized employment to get total
employment). Panel B presents a Beveridge-curve relationshipbetween
vacancies and total job seekers (the unemployed plus those in labor
market programs not counted among the unemployed) reflecting the
efficiency of the matching process in the labor market.

Policies that improve the efficiency of the matching process in the
labor market—through better labor market information, job search
and placement assistance, other incentives to increase the search
intensity of job seekers, and training or work-experience schemes to
raise the skills of job seekers and/or otherwise increase their attrac-
tiveness to employers—serve to shift the Beveridge curve inward in
Panel B of Figure 1. This is likely to shift to the right both the labor
demand and wage-setting schedules in Panel A. With vacancies filled

Figure 1

The Effects of Active Labor Market Policies
on Labor Market Equilibrium
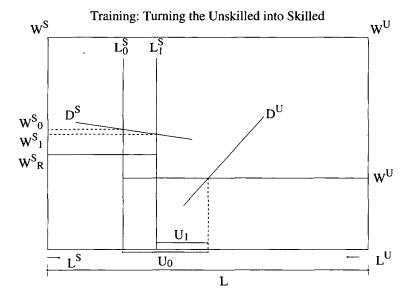

Beveridge Curve

more quickly, they become less costly for employers, and more vacancies are opened leading to an increase in labor demand. Increased search effectiveness of job seekers puts downward pressure on the wage demands of insiders tending to shift the wage-setting schedule downward. Both effects serve to expand employment. Job search and placement assistance programs are likely to have such unambiguously positive effects on regular (non-subsidized employment), but training and direct job creation approaches may also have some effect in the opposite direction by reducing search intensity during program participation. But training and subsidized employment policies by increasing the productivity of the workforce may generate further outward (rightward) shifts in the aggregate labor demand schedule.

Job creation policies in the public and private sector will directly reduce open unemployment and expand total employment. But such approaches may also reduce regular employment through substitution (or displacement) effects in which employers replace unsubsidized employees with subsidized employees. This indirect effect represents a leftward shift in the labor demand schedule in Panel A of Figure 1. Thus there exists a tension between creating jobs that provide work experience similar to regular jobs (which raises the likelihood of substitution effects) and targeting job creation to productive activities unlikely to be undertaken without a subsidy (which may reduce the transferability of the acquired skills). Much existing research finds significant displacement effects ranging from 40 to 90 percent for subsidized private sector jobs and 30 to 70 percent for public sector creation (Calmfors, 1994; Forslund and Krueger, 1994), but the endogeneity of direct job creation efforts to economic conditions raises questions concerning the interpretation of the existing evidence. Furthermore, job creation schemes with significant substitution effects could still be cost-effective investments if they substantially raise the future earnings of assisted workers and if those who are not hired into specific jobs because of substitution effects have stronger labor market prospects than the program participants. Additionally, the evidence from improvements over time in the net job-creation impact of the **U.S.** Comprehensive Employment and Training Act (CETA) public service employment in the late 1970s with tighter program eligibility criteria and project oversight (Adams, Cook, and Maurice, 1983) and from the **U.S.** summer jobs program for disadvan-

Figure 2

Training: Turning the Unskilled into Skilled

taged youth (Crane and Ellwood, 1984) suggests that direct job creation schemes generating temporary slots for those facing weak labor markets may be able to expand employment for the targeted group with only minor substitution effects.

An important motivation for active labor market policies based on training is to move labor out of the declining, slack labor market for "unskilled" labor into the expanding market for "skilled labor. The two sector model presented in Figure 2 illustrates this effect. The fixed total labor force is divided into the skilled and unskilled sectors. The reservation wage for skilled workers (the self-employment, illicit opportunities, or transfer benefits option) is assumed to be higher for the skilled than for the unskilled. The wage-setting (or supply) schedule in each sector is horizontal with unemployment and becomes vertical at full employment. Strong labor demand is apparent in the skilled sector and weak labor demand and unemployment in the unskilled sector. A training program that transforms unskilled workers

into skilled workers shifts the supply of skilled workers to the right, expanding employment in the skilled sector and reducing unemployment in the unskilled sector. Such a training policy increases the aggregate employment rate, narrows the earnings gap between more and less skilled workers, increases the employment rate of the remaining unskilled workers, and potentially reduces inflationary pressure emanating from the expanding part of the labor market. These qualitative conclusions will hold under less extreme wage-setting assumptions (Calmfors, 1994). But the effects are likely to be diminished when high unemployment is also present in the high-skill labor market. These results also depend on training and education policies being effective at improving the skills and earnings capacities of program participants.

The existing macroeconomic empirical research on the effects of active labor market policies (public expenditures on training, special youth measures, direct job creation, and public employment services) on wage setting and unemployment yields fairly ambiguous results, and the studies use methodologies (identifying assumptions) that are not particularly convincing. A nineteen-country Phillips-curve analysis by the OECD (1993) provides some evidence that higher expenditures on active programs may help macroeconomic performance by facilitating wage moderation. But Calmfors (1994) concludes that shifts from open unemployment to program participation in Sweden have been associated with increased wage pressure in Sweden. Sweden's maintenance of low unemployment in the 1980s has often been viewed as testament to the efficacy of active labor market polices, and its sharp increase in unemployment in the 1990s is now sometimes interpreted as showing the ineffectiveness of such policy efforts. In a similar spirit cross-country research for the OECD finds a negative relationship between a nation's active labor market expenditures and its unemployment rate in the 1980s (Layard, Jackrnan, and Nickell, 1991) and a positive (but statistically insignificant relationship) for the same specification with almost the same sample of countries in 1993 (Forslund and Krueger, 1993). The result for the 1993 study may largely reflect the deep recession in Sweden, but it does indicate the fragility of findings from this cross-country, cross-section approach. Finally, a pooled time-series analysis of aggregate data from Austria, France, Germany, Great Britain, Sweden, and the United States by

Kraft (1994) finds a positive impact on employment of active labor market expenditures per labor force participant and a negative impact on employment of passive labor market expenditures per unemployed person.

Research using national aggregate data on the macroeconomic effects of active labor market polices provides suggestive evidence of modest favorable impacts on the operation of the labor market. This research does not provide information on the impacts of such programs on the targeted groups (unemployed and disadvantaged workers). Nor does it address the issue of the role of overall human capital investments on aggregate labor market outcomes.

Re-employment policies to assist displaced workers

Public spending on the unemployed in most OECD nations has been dominated for some time by passive income maintenance measures. But a consensus appears to be emerging around the idea that most OECD nations need to shift the focus of labor market policies for the unemployed from passive income support to more active interventions to facilitate re-employment (OECD, 1994). This raises the question of how effective are active re-employment services at moving the unemployed into new jobs and improving their earnings? Several results that may assist in the development of re-employment systems are available from recent microeconomic evaluation studies of programs providing employment services to job losers.

A quite robust finding across studies is that job search assistance appears to be a cost-effective method for reducing the duration of unemployment. A recent series of random assignment experiments in five U.S. states — Minnesota, Nevada, New Jersey, South Carolina, and Washington — has examined the effectiveness of job search assistance in reducing unemployment for unemployment insurance (UI) recipients (Meyer, 1992; U.S. Department of Labor, 1994a). Job search assistance clients found a new job more quickly, and receipt of unemployment benefits was reduced in all five demonstrations. Those receiving job search assistance found new employment an average of one-half of a week to four weeks sooner than similar individuals who did not receive assistance. And more rapid re-employment did not

come at the expense of lower wages. In each state experiment the savings in UI payments plus the increase in tax receipts due to faster re-employment were more than enough to pay for program costs. In the United States, job search assistance has also proven effective in increasing the earnings and employment of Aid to Families with Dependent Children (AFDC) recipients. Studies in Canada, the Netherlands, and the United Kingdom have also found favorable results from individual counseling targeted at individuals likely to have difficulty finding jobs (OECD, 1993). Job search assistance and counseling appear to be most effective when individual needs are assessed and services provided as soon as possible after the beginning of an unemployment spell.

A second finding is that alternative uses of UI funds can be a useful part of a re-employment system. For example, self-employment programs allow unemployed workers the option of starting a small business as an alternative to looking for wage and salary work. Unemployed workers are given training and assistance in setting up their business, and their UI payments are used as support while they do so. Two recent (random assignment) demonstrations in Massachusetts and Washington have relaxed UI rules to provide more help to unemployed workers who are interested in starting their own businesses. Self-employment is not for everyone; when offered the opportunity only 2 to 5 percent of UI recipients choose to avail themselves of a self-employment option. This group tends to be more highly educated and have higher previous earnings than typical UI recipients. The results of the two U.S. demonstrations indicate that these self-employment assistance programs significantly increased unemployed workers' chances of starting a successful new business (businesses started by recipients were no more likely to fail in the eighteen-month follow-up period than those of the control group), increased the total amount of time spent employed (either in self-employment or wage-and-salary employment) by program participants, and increased their earnings (Benus and others, 1993). Re-employment bonus programs in several U.S. demonstrations have also been found to accelerate the return of UI recipients to work, although their design raises some questions concerning displacement effects and overall cost effectiveness (Bassi, 1994).

Evidence on the effectiveness of retraining for displaced workers is somewhat ambiguous. Evaluations of several U.S. displaced worker demonstration projects show little impact of short-term skills training on subsequent earnings and employment over relatively short follow-up periods (Leigh, 1990). But some of the evaluated programs were temporary demonstrations that had difficulties finding training providers capable of putting together high-quality, short-duration training courses on short notice. Training services provided in a more stable and institutionalized system with stronger links to employers are likely to be more effective.

A few key lessons for moving from a passive unemployment system to an active re-employment system can be drawn from the evaluation research. First, early intervention and provision of services is a key to successful programs. The best approach to dealing with long-term unemployment is to prevent it in the first place. Second, job search assistance is quite effective and ought to be used as soon as possible in an unemployment spell for those who are job ready. Third, alternative uses of unemployment insurance (self-employment assistance and wage subsidies/re-employment bonuses) can pay off (at least if used selectively) and ought to be part of the policy portfolio. Fourth, not all displaced workers require training services. Many (probably most) displaced workers (those with marketable skills) really want and can be best helped by job search assistance, counseling, up-to-date labor market information, and flexibility in the use of UI benefits. Rapid re-employment also facilitates the receipt of market-driven, high payoff, on-the-job training attached to an actual job. Fifth, training services can be beneficial and should be available to those displaced workers who lack marketable skills and face difficult re-employment prospects. Retraining is likely to be most effective if it is delivered by a stable training provider with strong links to employers. Sixth, unemployment benefits and re-employment services need to be tightly coordinated. Long-term income support for those that are employable should be conditioned on the recipient taking active steps to gain employment (including skill upgrading activities). Seventh, targeted job creation measures (either in the public sector or through wage subsidies) can play a role in moving the long-term unemployed back to work. The movement from a passive system of income support to a re-employment system that acts as an active springboard to new jobs can improve

the operation of the labor market and potentially allow for economies to operate at higher employment rates without igniting inflation worries.

The role of human capital investments

Recent sharp increases in the labor market returns to skill in advanced industrial nations have led many to argue that increased investments in human capital (particularly in those from disadvantaged backgrounds and those without college degrees) are a key component of a strategy to improve national economic performance and make progress on the jobs problem (for example, Reich, 1991). In fact, the burgeoning literature attempting to explain cross-country differences in economic growth rates (for samples that are typically much broader than the OECD) has consistently found that countries that invest more in human capital (as measured by either enrollment rates or educational attainment of the adult population) subsequently experience more rapid rates of growth in per capita income than other countries conditional on initial levels of per capita income and indicators of political stability (Barro, 1992). Increased educational investments appear to have a direct effect on growth even conditional on a nation's fertility rate and rate of investment in physical capital. This direct effect may partially reflect an enhanced ability of a more educated labor force both to innovate and to adopt new technologies and organizational improvements. Increases in national educational attainment also appear to enhance growth through an association with increased physical capital investment and lower fertility rates (which may imply greater investments in child "quality"). Furthermore, broad-based expansions in education not only appear to lead to faster growth but also are strongly associated with a more equitable distribution of the benefits of economic growth (Londoño, 1990; Birdsall and Sabot, 1994). Thus the broad sweep of postwar comparative economic development appears to be strongly consistent with the hypothesis that human capital investments are integral to growth with equity. But human capital investments will have the greatest payoff when balanced with investments in research and development and infrastructure in an environment conducive to private sector entrepreneurial activity and investments in physical capital.

Critics of a perceived overemphasis on human capital investments

to deal with growing labor market problems for the less-skilled argue that such investments take a long time to pay off and that the amount of additional investment needed to offset shifts in the labor market in the 1980s are likely to be extremely large. Heckman, Roselius, and Smith (1993) estimate that the aggregate investment required to entirely offset the 1980s expansion in the college/noncollege earnings gap for the adult U.S. population would be well over $1 trillion. While this is quite a large amount relative to the likely amount of federal expenditures available for increased direct public training and education investments in the near future, one must remember that much educational investment involves private opportunity costs and that the U.S. stock of education capital is huge-estimated to be over $26 trillion in 1993 and to have grown by approximately $10 trillion over the last decade by the U.S. Office of Management and Budget (1994). Increased public investments in human capital make sense if they have a high return. But increased human capital investments alone are unlikely to be sufficient to fully reverse the last decade's growth in the earnings gap in the short to medium term. Greater human capital investments need to be strongly complemented by other policies to augment the earnings of the less-educated and disadvantaged.

Market incentives for increased individual educational investments appear to be playing some role in helping to alleviate growing inequality in the United States. The large increase in the college wage premium in the 1980s has been associated with a large increase in college enrollment rates from 49 percent of high school graduates in 1980 to more than 60 percent in the early 1990s despite rapidly rising tuition costs (U.S. Department of Education, 1993). This large change will likely act to accelerate the rate of growth of the college graduate workforce over the rest of the decade, although the small size of the cohort currently entering the labor market operates in the opposite direction. An increased supply of graduates will somewhat offset demand increases favoring the more educated and help to reduce the rate of growth of educational earnings differentials. A decline in the proportion of workers without college degrees also is likely to operate to lower downward pressure on the earnings of the less educated.

More rapid expansions in the supply of more educated workers appear to serve to narrow earnings differentials and improve the labor

market position of the less-educated. This conclusion is consistent with the cross-country evidence that those countries that maintained their rate of relative supply expansion of the 1970s into the 1980s are the ones that experienced the smallest increases in wage inequality. It is also implied by many national time-series studies (for the United States, Britain, Sweden, South Korea, Canada, and the Netherlands) that have found an inverse relationship between changes in the rate of increase in the supply of more-educated relative to less-educated workers and changes in the pay advantage of the more educated (Freeman and Katz, 1994). Holding constant measures of trend growth in labor demand, a 10 percent increase in the growth of the relative supply of the more educated has been associated with a 3 to 7 percent narrowing of the pay gap in a variety of countries.[6]

Recent empirical microeconomic research on the returns to education strongly suggests that the returns to increasing the educational attainment of those from disadvantaged family backgrounds are likely to be particularly high. A voluminous literature exists documenting a strong relationship between years of schooling and earnings. Typical recent U.S. cross-section, ordinary least squares (OLS) estimates indicate a 6 to 10 percent earnings gain for each additional year of schooling. But OLS estimates may provide an inaccurate guide to the true average return to schooling because of ability bias (those who get schooling may be unobservably more able than those getting less schooling) and measurement error in schooling variables.

Much new research has attempted to estimate the returns to education through the use of variation in education generated by "credible natural experiments" (or policy interventions) such as compulsory schooling laws (Angrist and Krueger, 1991) and geographic distance to two- and four-year colleges (Kane and Rouse, 1993; Card, 1993). The basic idea is that these natural experiments generate variation in education that can plausibly be argued to be uncorrelated with innate ability. For example, college proximity affects the likelihood that individuals from disadvantaged backgrounds go on to higher education but does not appear to be related to unmeasured determinants of earnings after conditioning on controls for demographics and family background (Card, 1993). The consistent finding in this literature is that instrumental variables estimates of the return to schooling based

on such policy interventions are quite high and tend to exceed the corresponding OLS estimates for the same samples (Card, 1994). While these estimates probably can't be interpreted as average returns to education for the entire population, they do represent plausibly accurate estimates of the returns to education for those individuals (primarily from relatively disadvantaged family backgrounds) whose schooling choices are affected by these interventions (that is, those more likely to get more education when a college is more geographically accessible or when the compulsory schooling age is increased). But this is exactly the type of information policymakers need to assess the returns to expanding the accessibility of further education. The conclusion is that the relatively low levels of educational attainment of those growing up in low-income families do not appear (at least on the margin) to reflect low returns to such investments, but partially result from barriers to further education (financing constraints, lack of information on the appropriate course of study, actions to prepare for college, and so on).

Policies to increase the years of schooling at mainstream educational institutions (high schools, community colleges, and universities) for the disadvantaged appear to have a high payoff. Card's (1994) recent survey of the literature suggests that an additional year of schooling increases the future earnings of those from disadvantaged families by approximately 8 percent to 13 percent a year. The college enrollment decisions of those from low-income families also appear to be somewhat sensitive to the direct college costs (Kane, 1992). Thus increased financial assistance for higher education targeted at the disadvantaged appears to be a good investment. These high returns to schooling indicate that interventions to reduce high school dropout rates are quite important (as are steps to generally improve academic achievements in primary and secondary school). This raises the question of how effective are dropout prevention policies and second chance programs to assist disadvantaged youth and adults.

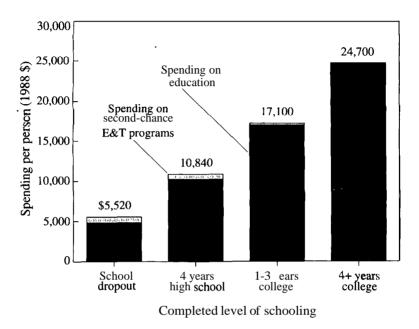### The effectiveness of training and employment services for the disadvantaged

Since launching a War on Poverty in 1964, the U.S. federal government has funded a substantial number of programs to provide training

and employment opportunities to disadvantaged individuals. While significant gains were observed in the tight labor markets of the 1960s, the labor market outcomes for the disadvantaged have clearly deteriorated in terms of both employment and wages in the slower growing economy of the past two decades or so. There are two broad explanations for why, despite these government efforts, there has been essentially no improvement in aggregate labor market outcomes for disadvantaged workers: (1) the scale of employment and training programs for the disadvantaged has been too small to make much of an aggregate difference, even when the programs generate rates of return similar to other human capital investments, especially given a strong secular shift in the labor market against the less-skilled; and (2) the programs themselves may not have been very effective either because of their design or implementation. The first explanation clearly is quite important, and the second probably has some validity.

The roughly $4.5 billion a year that the U.S. Department of Labor spends on employment and training programs for the disadvantaged (through the Job Training Partnership Act (JTPA) and the employment service) is fairly small in relation to the size of the population in need. Of the *25* million persons aged 16 to 55 who are eligible for these targeted programs, about 700,000 (or 3 percent) of them are served each year in training programs (excluding the summer jobs program). Many of the training programs provide only modest levels of investments lasting for a short duration. The major second-chance program for disadvantaged out-of-school youth and adults typically lasts less than six months and involves approximately $3,000 in total direct expenditures per participant. Such investments have the potential to make a positive impact on participants' labor market prospects, but they do not appear substantial enough on their own even with a high rate of return to generate the quantum differences in earnings capacity required to move those with low initial earnings into the "middle class."

Chart 5 illustrates that there exists a great disparity in the United States between public investment in the education of youth who go on to college versus those who do not. On average, the public invests roughly $5,000 in total between ages 16 and 24 educating a youth who drops out of school, compared to $25,000 educating a youth who

Chart 5
Cumulative Public Spending per Person Aged 16-24 on
Education and Training (Excl. Tax Subsidies to Firms)

Source: U.S. General Accounting Office, "Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries" (May 1990), p. 24.

graduates from college. This disparity is magnified if the money parents spend on their children's education is included. Those from disadvantaged backgrounds are disproportionately represented in the dropout category. (Actually, U.S. taxpayers eventually do devote a large amount of resources on youth who drop out of school or do not go on to college—in the form of income transfers, food stamps, Medicaid, public housing, and rapidly increasing criminal justice costs.) In the United States, less-educated workers also receive less formal training on the job than college graduates (Bowers and Swaim, 1994).[7] In contrast, much more post-secondary training appears to be provided to those that don't go to college in other nations with strong school-to-work transitions and employer-training traditions such as Germany and Japan (Baily, Burtless, and Litan, 1993). These differ-

ences may play some role (along with wage-setting institutions) in the much larger educational earnings gap in the United States than in other advanced nations.

The next issue is that of the effectiveness of employment and training programs targeted at disadvantaged youth and adults. Do second chance programs for the disadvantaged significantly improve their future employment and earnings? Are there interventions that prevent disadvantaged youth from dropping out of high school given the apparent very high returns to schooling for this group?

A large literature has developed providing careful microeconomic evaluations of the impacts of U.S. training and employment programs on labor market and other socioeconomic outcomes of economically disadvantaged individuals.[8] The core question asked by evaluators is fairly straightforward: How different are the participants' outcomes (earnings) following entry into the program from the outcomes (earnings) that they would have experienced had they not participated in the program? But this question is often difficult to answer persuasively or precisely in practice. The assessment of program impacts requires the comparison of the outcomes of program participants to those of a similar group of individuals who did not participate. The most compelling evidence on program effectiveness comes from evaluations using a true experimental design in which eligible individuals are randomly assigned into a treatment group that receives program services and a control group that receives no services.[9] In this case, the simple difference between the treatments' and controls' mean earnings presents an unbiased estimate of the program's earnings impact. While a growing number of programs and demonstrations have received experimental evaluations using random assignment, program evaluators often must use nonexperimental methods to adjust for differences in the outcomes (earnings) between treatment and control groups that would have occurred even in the absence of the treatment group's program participation. The results of such nonexperimental studies are often quite sensitive to how the comparison group is chosen and to the specification of the earnings and program participation equations.[10] I focus my summary of the evidence on evaluations using random assignment or fairly convincing nonexperimental approaches.[11]

Table 2
Summaries of Selected Evaluations of Programs for Out-of-School Youth

Program	Description	Sample Size and Follow-Up Period	Evaluation	Earnings/Employment Impacts	Comments/Sources
Center for Employment and Training (CET)	CET provides vocational instruction and job placement. CET students receive four to six months of intensive training in vocational skills, with classes taught by instructors from industry. Basic skills instruction is integrated into the vocational classes. Training is followed by job placement assistance. The program was evaluated in the late 1980s.	Four-year folow-up. 167 persons, divided between experimentals and controls.	Random assignment (regression adjusted).	Total over first four years after program enrollment: $7,342*** (33%). Total over third and fourth years after program enrollment: $6,547*** (53%).	In an independent random assignment experiment, CET also produced large and significant earnings gains for single mothers. Source: Cave and others (1993)
Comprehensive Employment Traning Act (CETA)	Major federal training program of 1975-1980 served hundreds of thousands of youth each year. CETA services included public service employment, work experience, classroom training, and on-the-job training.	About 2,600 youth tracked for 2 years after program graduation.	Matched comparison group drawn from the CPS.	Generally, no significant earnings impacts for both male and female youth. But there exists considerable variation across specifications and samples in the estimated effects.	The wide range of nonexperimental estimates leave much uncertainty concerning the effectiveness of CETA for youth. Sources: Barnow (1987), LaLonde (1992)

Table 2 (Continued)

Program	Description	Sample Size and Follow-up Period	Evaluation	Earnings/Employ-ment Impacts	Comments/Sources
JOBSTART	JOBSTART provided vocational training, basic education, and job placement to high school dropouts with low reading skills at 13 different sites. Average duration in the program was 7 months, and attendance was part-time. The experiment took place between 1985 and 1988.	Four-year follow-up. 988 experimentals; 933 controls.	Random assignment.	Total over first 4 years after entry: $214 (1%) 4th year after entry: Whole sample: $410 (8%) Men with previous arrest: $1,560** (37%)	Significant reduction in arrest rates - from 12.6% for controls to 10.1% for expenimentals - during program period. But by the 4th year, arrest rates were equal for experimentals and controls. Significant increase in GED attainment.
Job Training Partnership Act (JTPA)	JTPA is the federal government's ma'or training program for disadvantaged youth. JTPA provides on-the-job training, classroom training, and job search assistance. In this experiment, youth received an average of about 420 hours of services (except for male youth arrestees, who received 320). The experiment was conducted in 1987-89.	30-month follow-up. Total of 4,777 youth (treatment and control groups combined).	Random assignment. Assignment took place after clients selected alternate service strategies.	Total over 30 months after enrollment: Female youth: $230 (1%) Male youth non-arrestees: $960 (-5%) Male youth arrestees: $7 (0%) Female youth, classroom training: $930 (9%)	Significant increase in GED attainment for female youth. Youth received only 127 (male youth arrestees) to 182 (female youth) more service hours than the control group.

Table 2 (Continued)

Program	Description	Sample Size and Follow-up	Evaluation	Earnings/Employ-ment Impacts	Comments/Sources
Job Corps	The Job Corps is a residential program that provides intensive skills training, basic education, support services, and job placement to youth aged 16 to 21. Some 80% of enrollees are high school dropouts, and 75% have never held a job. The program takes about 1 year to complete, but one-third of the students drop out within 3 months. The program was evaluated in the late 1970s, but a new random assignment evaluation is being implemented.	Four-year follow-up. Baseline: 4,334 program participants, 1,457 comparison group members. Fourth-year follow-up: 2,791 participants and 1,118 comparison group members responded to survey.	Matched comparison roup design. Extensive regression adjustment.	Average over first 4 years after program exit: $1.350 per year** (15%). Fourth year after program exit: $1.400**. Earnings impacts varied depending on specification of regression model, but were alwasys positive and signifi-cant. Significant employment increase of three weeks per year.	Significant reduction in serious (felony) crime. Over a participant's lifetime, estimated social benefits are $1.46 per dollar invested. Largeincreases in educational attainment. Source: Mallar and others, (1982).
Supported Work	Supported work provided about 12-15 months of full-time employment in closely supervised work to high school dropouts aged 17 to 20. About 75% of enrollees were male, 96% were minority, and 50% had criminal records. Job searcch assistance was provided at the end of the employment period It operated from 1975 to 1979.	924 youth followed for 18 months; 506 youth followed 27 months; 155 followed 36 months. Half controls, half experimentals.	Random assignment. Results regression-adjusted.	(Time after entry) Months 1 to 9: $4,700*** (183%) Months 10 to 18: $640 (15%) Months 19 to 27: $410 (8%) Months 28 to 36: - $860 (-12%)	Essentially no significant effects on arrests, even during program employment penod. Source: MDRC (1980).

**Significantat 5 percent level

***Significant at 1 percent level.

Earnings are presented in approximate 1993 dollars (using the CPI-X1) except for extimates from CET and JOBSTART which are in current dollars from the late 1980s.

Disadvantagedout-of-school youth. It has proven difficult to improve the labor market prospects of youth who drop out of high school, but some successes have been uncovered. Table 2 provides a summary of the results from selected U.S. programs for out-of-school youth (from ages 16 to 21). Subsidized work experience for disadvantaged youth has produced substantial gains in earnings and employment during the period of subsidized employment, but longer-term, post-program effects on employment and earnings typically have not been observed. Furthermore, evaluations of the major U.S. government programs offering relatively short-term skills training (lasting three to six months) to disadvantaged out-of-school youth—youth programs under CETA in the 1970s and under Title II of the JTPA which replaced CETA in the 1980s—indicate that they have not succeeded in significantly raising the employment or earnings of youth participants relative to comparison groups of youths.[12] The Job Corps program, which, in contrast, offers intensive services in a residential setting and takes about a year to complete, appears to have much success in improving the future earnings of participants and reducing their involvement in serious crime.

JOBSTART was an attempt to replicate the successes of the Job Corps in serving severely disadvantaged high school dropouts, but in a less-intensive, nonresidential setting. JOBSTART proved successful in raising the educational attainment of participants, as measured by GEDs (high school equivalency certificates) and vocational licenses, but these educational improvements did not translate into significant earnings gains in the first four years following entry into the program.[13] But the JOBSTART demonstration did have a bright spot in the impressive performance of one of the thirteen sites—the Center for Employment Training (CET) in San Jose, California. Youth at the San Jose CET site showed sustained annual earnings gains of over $3,000 translating into a 40 percent earnings increase in the third and fourth years after entry into the program. CET produced similar large and persistent earnings increases for disadvantaged single mothers in an independent random assignment evaluation of the Minority Single Parent Demonstration (Mathematica Policy Research, 1993). CET is marked by an emphasis on vocational skills training, in which basic academics and vocational instruction are closely intertwined. The program has also forged very close connections to the local labor

Table 3
Summaries of Selected Evaluations of Programs for In-School Youth

Program	Description	Evaluation	Impacts	Comments/Source
Quantum Opportunities Project (QUOP)	This program was managed by community organizations. It provided extensive academic assistance, college/career planning, and adult mentors to randomly selected (mostly minority) students from AFDC families in poor areas. Services were provided throu hout high school, beginning in the ninth grade. The typical student received 1,300 hours of service at a total cost of $10,600 over four years.	A random assignment evaluation with 200 participants (100 students and 100 controls) at four sites.	After 4½ years: High school dropout rate was cut from 50% for the control group to 23% for QUOP students. Participation in post-secondary education increased from 16% for the control group, to 42% for QUOP participants.	Results varied greatly by site. The aggregate results on dropout rates and post-secondary education are highly statistically significant. At a fifth site, program implementation failed and the program had to be cancelled. Source: Hahn (1994).
Summer Training and Equipment Program (STEP)	STEP offered remedial academic education and summer jobs to disadvantaged youth aged 14 to 15. The program lasted 2 summers; participants received 110 hours of classes and 90 hours of work experience each summer.	Random assignment.	Short-term academic improvements were large and significant. Long term, there were no effects on high school graduation or employment	Source: Grossman and Sipe (1992).
Vocational Education and Dropout Prevention Demonstrations	Five high school dropout prevention programs offered vocational training, tutoring, and career counseling to at-risk students. The demonstrations were sponsored by the U.S. Dept. of Education. The reported findin s are preliminary and based on a draft report %at has not been approved by the U.S. Dept. of Education.	Random assignment.	In all five pro rams combined, the two-year dropout a t e a reduced from 29% for the control group to 20% for participants. This reduction was statistically significant. Positive results were concentrated in two sites: urban Detroit and rural Oklahoma. These sites cut dropout rates by more than half, from about 25% to about 10%.	The two most successful sites provided several years of counseling, individual tutoring and academic assistance, and special study materials to at-risk students enrolled in vocational high schools A similar random assignment evaluation of 4 sites on Indian reservations did not yield significant reductions in dropout rates. Source: Hayward and Talmadge (1993)

market. The CET example suggests that moderately intensive, short-term youth training can work if provided with a no-nonsense, work orientation (as opposed to a "warm and fuzzy" approach emphasizing GED attainment without a strong link between learning and the labor market).

Disadvantaged in-school youth. The difficulty of effectively serving dropouts and the apparent high returns to additional formal schooling (as opposed to GEDs) for the disadvantaged both serve to underscore the importance of dropout prevention efforts. Table **3** summarizes three recent random assignment evaluations of interventions for in-school youth.

The Summer Training and Employment Program (STEP) provided remedial academic education and jobs to disadvantaged youth aged 14 to 15 during two summers. It did not include a school-year component. The program proved successful in offsetting "summer learning loss" and improving short-run academic achievement. But these gains did not translate into longer-run improvements in academic or labor market outcomes.

In contrast, there exists growing evidence that services for in-school disadvantaged youth which start early (when youth are 14 to 15 years old) and follow youth for multiple years through high school can reduce dropout rates. The Quantum Opportunities Project (QUOP) provided extensive long-term services to randomly selected students from families on public assistance in very poor neighborhoods. Although the sample sizes are small, QUOP appears to have substantially increased high school graduation and college attendance rates. Preliminary results from a new series of small-scale random assignment dropout prevention demonstrations sponsored by the Department of Education are also promising.[14]

Disadvantaged adults: A number of training and job search assistance programs for disadvantaged adults have achieved significant improvements in earnings, especially for women. Although this training is typically short-term, the results for adults contrast sharply to the often disappointing impacts observed for youth. CETA training programs produced significant earnings gains only for women participants, while the programs under JTPA Title 11-A succeeded in

improving earnings for both men and women (LaLonde, 1992; U.S. Department of Labor, 1994b).

The large-scale experimental evaluation of JTPA found that disadvantaged adult participants earned an average of $940 more than controls during the second year after leaving the program. This represented an increase of 10 percent for men and 15 percent for women as compared with what they would otherwise have earned. The impacts of the program varied according to the type of services provided: generally, short-term classroom training was the least successful, and a combination of on-the-job training and job search assistance produced the best results (Bloom and others, 1994). Subsidized employment approaches have also been successful in producing long-term earnings improvements for disadvantaged single mothers (Bell and Orr, 1994; Couch, 1992). A wide variety of employment and training programs for adult female public assistance (AFDC) recipients appear to generate modest (but statistically significant) earnings increases that persist for at least several years, and most of the evaluated interventions appear cost-effective. Evaluations in other OECD countries have also shown particular success for training and employment services to adult women entering or re-entering the labor market (OECD, 1993).

Lessons from evaluations of programs for the disadvantaged

The following lessons can be taken from evaluations of programs for the economically disadvantaged:

(1) *Efforts at reducing early school-leaving targeted on at-risk students are crucial and can be quite effective if they start early enough and are sustained throughout the period of secondary schooling.* The high returns to mainstream secondary and post-secondary schooling for the disadvantaged and low returns to less-intensive education (such as GEDs) argue strongly in favor of efforts at dropout prevention.

(2) *Early and comprehensive interventions may make sense for disadvantaged youth.* Research indicates that the problems of disadvantaged youth and adults—dropping out of school, teen

pregnancy, involvement in crime, drug abuse, employment diffi-
culties — have their origins much earlier in life. Contacts
between disadvantaged youth and adults who will take an active
interest in them should be encouraged, the earlier the better.
Besides providing guidance and support, mentors and role mod-
els can help to influence the attitudes, motivation, goals, and
aspirations of youth. Young people also need more constructive
activities during after-school and weekend hours, to reduce the
amounts of time spent idly or hanging out around the neighbor-
hood. Youth development experts maintain that some of the best
programs incorporate a set of core principles, including safety,
structure, membership, relationships with adults, and a sense of
belonging and self-awareness. More than just content, this con-
text is often what matters.

(**3**) *The most effective programs for the disadvantaged place an
emphasis on work and mutual responsibility.* The CET in San
Jose has performed well in random assignment evaluation of two
separate target groups—dropout youth and young adult female
single parents. Perhaps the reason for its success is that program
staff take very seriously the tasks of teaching an occupational
skill and finding a career-track job for enrollees. Everything in
the program is geared to this. Similarly, the successful GAIN
program for AFDC recipients operated in Riverside County,
which focuses on quickly moving enrollees into jobs, has had
much larger impacts on the earnings of former welfare recipients
than the GAIN programs in other California counties were able
to achieve (Riccio and others, 1994).

*(4)Continuing services following job placement are probably a
sound investment.* Disadvantaged youth are likely to benefit
from programs which continue to offer supportive services to
them once they are placed in a job. Such help is especially
important during the first two years after placement in a first
job--a period during which most youth move from job to job
before settling into a career progression. Staff should be avail-
able to help negotiate with employers and resolve problems.
Although it has not been formally evaluated, Project STRIVE,
with sites in New York City and Philadelphia, focuses on build-

ing relationships that will foster good employment experiences for youth from very disadvantaged backgrounds, and appears to be successful using this approach (Ofori-Mankata and Won, 1993). Rigorous evaluations of the effectiveness of program models using follow-up services are needed.

(5) **A** consistent finding across many evaluations is that *training and employment services for disadvantaged adults appear to be sound investments that raise employment and earnings, especially for women.*

(6)The percentage earnings impacts of successful programs for the disadvantaged are similar to those of other human capital investment but the absolute increases in earnings are only modest on average. Thus training and employment services need to be·augmented by other policies to make work pay such as earnings supplements for low-wage workers. The gains created by training programs are important, and represent real gains for society and for the individuals involved. But they are often not enough to dramatically increase participants' income. For example, because of the low base earnings of single mothers on AFDC, even programs with a substantial positive effect haven't greatly reduced poverty rates among participants. The recent expansion of the U.S. earned income tax credit is an example of an important step toward linking income supplements to work.

(7)Substantial variations in program effectiveness are apparent across providers using very similar models. **A** very large gap exists between the best and worst service providers in the U.S. employment and training system. This gap does not depend so much on the types of services provided--classroom training, on-the-job training, or work experience — but rather on the quality of whatever service is provided. The management philosophy and organizational culture of training providers and brokers appear to be critical factors, as do the capabilities of the staff and quality of their interactions with participants.

Conclusions

How should advanced nations cope with economic changes that appear to be creating a jobs problem for the less-skilled and the disadvantaged? A much more fruitful approach than trying to preserve activities that are no longer economical against the forces of change is to try to create a better-skilled workforce that is more adaptable to shifts in demand driven by technological change and globalization. The first element in such a strategy is the development of a system of life-long learning accessible to all workers. Such a system will require improved basic education, an effective school-to-work transition system, and incentives for employers to invest in their workforces. Adequate resources being devoted to second-chance programs with demonstrated records of payoff for disadvantaged youths and adults and experimentation with promising new approaches to improving labor market prospects for these groups also needs to be part of a strategy of enhanced human capital investments. And the availability of financing to make sure all qualified individuals can get higher education is also important, especially given much evidence of high returns to the additional post-secondary schooling associated with increases in accessibility (reductions in the effective cost) of such schooling. Increased investments in incumbent workers and productivity enhancements in the workplace can potentially be facilitated by the diffusion of a system of more cooperative worker-management relations found in emerging high performance work organizations (U.S. Department of Labor, 1993).

The second key factor in creating a more adaptable workforce is the movement from an unemployment system that primarily provides simple income maintenance to a more active "re-employment system" that empowers the unemployed with job search assistance and quality retraining opportunities. At least a small part of the social gains from improvements in productivity and purchasing power from technological change and increased internationalization should be used to assist displaced workers better make the transition to new jobs.

The third factor is to take steps to make sure work pays for the less-skilled and less-fortunate. All approaches to improve earnings at the bottom will involve some distortionary effects (for example,

increased marginal taxes on some groups to finance.earnings supple-
ments, potential employment effects of-&minimum wage, and so on).
Thus a balanced portfolio of policy instruments should be used so one
does not increase any specific distortion too far. The earned income
tax credit is an important example of an instrument that links income
supplements to work. Wage subsidies and a modest minimum wage
also can play a role.

Microeconomic policies to create an adaptable workforce encour-
age open markets and the development and introduction of new
technologies. A more adaptable workforce complements growth-ori-
ented macroeconomic policies. Expanding markets and increased
investments in research and development and the diffusion of new
technology create further opportunities for high-wage jobs. Policies
to buffer the earnings of the less-skilled through tax credits and
institutional wage setting can help make sure the disadvantaged are
not left behind in a more skill-intensive economy. Such policies to
make work pay for the less-educated and disadvantaged are likely to
be most effective when combined with policies to improve their skills
and access to networks providing linkages to job opportunities. The
experience of the 1980s shows that macroeconomic expansions, new
technologies, and expanded trade can leave many behind when not
accompanied by active measures to improve skills, assist reemploy-
ment, and make work pay.

Endnotes

[1]The chart plots the time series for overall wage inequality as measured by the log wage differential between the 90th and 10th percentile worker in each group.

[2]Supply-side changes in the composition in the workforce cannot explain recent U.S. wage structure changes since groups with relative wage increases, such as college graduates and women, also had substantial increases in their relative numbers in the workforce.

[3]The data in Chart 3 were kindly provided by Constance Sorrentino of the U.S. Bureau of Labor Statistics. Nine broad industry categories were categorized into high and low educational attainment sectors based on educational attainment data for the United States from the March 1985 Current Population Survey.

[4]Estimates of the number of males under correctional supervision (in prisons or jail, on parole, or on probation) by race and age for 1980, 1983, 1986, 1989, and 1991 were kindly provided by Darrell K. Gilliard and Allen J. Beck of the U.S. Bureau of Justice Statistics (BJS) using data from BJS surveys of prisoners (state, local, and federal), parolees, and probationers (U.S. Department of Justice, 1994). Criminal supervision rates for a group are given by the ratio of the estimated number of individuals under correctional supervision in the group to the total U.S. population in the relevant age/sex/race group. The total U.S. population for a group is given by the sum of the civilian noninstitutional population from the Current Population Survey; the prison and jail population from the BJS estimates; and the Armed Forces population. Data on the prison population is available for 1993 from Gilliard and Beck (1994), but data on 1993 parole and probation levels are not yet available. The 1993 estimates of criminal supervision rates are based on the assumption that the probation and parole rates grew at the same rates as the prison population from 1991 to 1993.

[5]OECD (1993) provides a fairly comprehensive recent survey of this literature and documents recent trends on spending on active and passive labor market measures in the OECD.

[6]The finding for the United States that these changes in educational wage differentials are apparent even when following fixed age cohorts over time indicates that these results do not just reflect a selection effect of a lowering of the relative quality of college graduates with an expansion in the fraction going to college.

[7]Of course, as Heckman, Roselius, and Smith (1993) point out, one must be cautious in drawing strong conclusions based on surveys of formal training activity because they do not account for informal on-the-job training.

[8]See Bassi (1994), Grossman (1992), LaLonde (1992), and U.S. Department of Labor (1994b) for recent surveys of the literature.

[9]See Heckman (1991) for a critical analysis of the use of random assignment experiments in social policy evaluation.

[10]See Heckman and Hotz (1989) for a thoughtful analysis of appropriate approaches to assessing the plausibility of alternative nonexperimental estimates of program impacts.

[11]It should also be remembered than even well-designed evaluations may be somewhat tricky to interpret. Standard estimates of program effects show only the marginal or additional impact

of the particular program being evaluated beyond any other services that are available in the community and received by the control group. The aggregate benefits of a program may be overestimated to the extent the labor market success of participants has displacement effects that adversely affect the labor market prospects of nonparticipants. In contrast, overall program benefits may be underestimated in the presence of peer or neighborhood effects in which participant gains have positive spillover effects on others in their communities. It is also typically not feasible to design an evaluation in a manner to learn about how the scale of operation of a program affects its effectiveness.

[12] An important caveat to the negative findings of evaluations of youth programs, such as the JTPA out-of-school youth component, is that youth in the control (comparison) groups also receive substantial training and education services (such as from Pell grants to finance further education at community colleges or proprietary schools or from local nonprofits). The gap in hours of training services between the treatment and control groups of youths in the recent national JTPA evaluation was not very large (approximately 200 hours).

[13] Cameron and Heckman (1993), as well as other nonexperimental and experimental studies. find that GED receipt by itself does not appear to improve the labor market outcomes of high school dropouts.

[14] These findings have not been officially approved by the U.S. Department of Education.

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Commentary: Active Labor Market Policies to Expand Employment and Opportunity

James J. Heckman

Labor markets in all Organization for Economic Cooperation and Development (OECD) economies are under stress. Two main factors generate the pressure, although the precise contributions of these factors to unemployment and wage growth remain to be determined. The first factor is an apparent shift in the bias of technology toward skilled-labor-intensive methods of production. The second factor is the industrialization of Third World and former Third World countries and the expansion of world production of goods made by unskilled labor. The effective supply of unskilled labor has increased and demand has shifted against it leading to forces that would drive down the wages of unskilled workers if wages were permitted to adjust. Where they have not been permitted to adjust either because of institutional or governmental interventions, unemployment has increased. In the United States, where interventions are minimal, wages for the unskilled have fallen in real terms relative to the wages of the skilled. In many European countries, wages of the unskilled have been maintained but at the cost of high rates of unemployment and labor force withdrawal. The combination of high levels of social welfare benefits for the unemployed, coupled with reduced demand for unskilled labor at prevailing European wages, produces high levels of European unemployment.

That generous unemployment benefits can produce higher levels of unemployment comes as no surprise to microeconomists in North

America. That this idea has only recently been embraced by most macroeconomists can only be greeted with enthusiasm and wonder. Why did an idea with such intellectual support take so long to be accepted into the mainstream of macroeconomics?

The answer is clear. Perceptions of unemployment vary across generations. Economists who came of age in the Great Depression perceived a labor market that failed. Willing workers could find no jobs. The cause of the failure was on the demand side. Individual supply decisions played only a minor role in generating Great Depression unemployment. That this extreme view of the labor market has persisted for decades in macroeconomics reveals the power and influence of a now fading generation.

The newer empirically based view of unemployment recognizes the contribution of individual supply choices to aggregate employment. It is significant in this regard that the definition of "involuntary unemployment" advocated by **Layard, Jackman,** and **Nickell** (1991) in their influential book defines that concept in terms of choices of workers. An individual is "involuntarily unemployed if he cannot get a "suitable" primary sector job and refuses a "low-wage" secondary sector job. The transformation in the concept of involuntary unemployment signalled by this definition is remarkable.

Restoration of the supply side to macroeconomic discussions of unemployment can only enrich policy discussions. The paper by Katz contributes to progress in this area. Katz accepts the macroeconomic demand and supply paradigm and suggests that an appropriate response to recent trends in the demand for **unskilled** labor in OECD countries is to convert **unskilled** persons into **skilled** persons. The logic is simple. Remove some of the **unskilled** from that category and also make unskilled workers scarcer. This is precisely the strategy advocated by Robert Reich, Katz's former employer, and is the foundation for President Clinton's human capital strategy.

The argument set forth by Katz is largely qualitative. It indicates a promising direction but never discusses the costs and benefits of specific policies nor the magnitude of the problem created by the new American labor market.

In my comments, I wish to make two key empirical points: (1) the scale of the problem facing modem economies is enormous and (2) the scale of the human capital investment required to solve the problem is enormous even under very optimistic assumptions. The evidence indicates that even successful government training programs are unlikely to make substantial improvements in the skill of the workforce. The evidence indicates that few government programs are successful.

These points lead me to consider alternative policies not addressed by Katz: tax policies that operate on both demand and supply in the labor market and wage subsidy policies that operate on firm demand. In my view, Katz—and the Clinton Administration—take an oversimplified approach to the problems of the modem labor market. Katz and the Clinton Administration make the same kind of mistake as the early Keynesians—they neglect one side of the market. They ignore demand while the early Keynesians neglected supply. They fail to carefully distinguish effective short-term policies from effective long-term policies by focusing exclusively on short-term supply-side policies.

In the short run, the economy is populated with a large group of unskilled workers, many of whom can be converted into skilled labor only at a prohibitively expensive cost. In an era of tight budgets, it is not obvious that investments in such workers are justified on any but ideological grounds. The real cost of such investment is the diversion of investment away from the young and the more malleable where a human capital strategy is likely to be more effective and where it is likely to produce favorable outcomes in the long run. Missing in Katz's paper is any discussion of the rather convincing evidence that investment is most profitable when it is made in the young.

A better use of limited resources may entail use of wage subsidies to employ the large mass of unskilled workers for whom human capital investments are not profitable. In the current environment, work subsidies are more palatable than welfare. There is some evidence that work raises wages and stimulates future work even at the same wages. (Heckman, 1981). Work may promote values above and beyond the output produced. The key point is that for a large group of workers, an investment strategy may not be the correct one.

Missing from Katz's discussion is any discussion of priorities or the need to prioritize. In an era of tight government budgets, it is impractical to consider active investment programs for all persons. The real question is how to use available funds wisely. Government investments have not been shown to be effective in any meaningful cost-benefit sense for severely disadvantaged adults or older workers. For these groups, wage subsidies may be more effective tools for keeping persons employed than skill investment programs. The available evidence supports the policy proscription: invest in the young; subsidize the old and the severely disadvantaged.

Katz also implicitly assumes that investment should be supplied by the government sector. This leads him to ignore a potentially important role for tax incentives to encourage training by private firms to raise the demand and wages of labor. The evidence suggests that the returns to firm-supplied investment in human capital are larger than the returns to government training. This alone would justify greater reliance on the private sector. However, the better performance of private firms may be due to the lower quality of trainees in the government programs. Evidence of their lower quality does not vindicate continued investment in such persons. No investment may be the best short-run strategy for low-skill adults, contrary to a central implicit premise of the Katz paper and the Clinton Administration. Current tax policy is inconsistent and should be reformed. It works against investment in low-skill persons. It is a policy option that should be explored.

The new American labor market

There is much evidence to support the view that wage gaps have widened across skill levels. In purchasing-power-constant or deflated dollars, male high school graduates earned 4 percent less per week in 1989 than in 1979. Male high school dropouts earned 13 percent less per week than in 1979. In contrast, male college graduates earned 11 percent more per week (Blank, 1994). These comparisons widen further if we consider annual earnings. By any measure, labor incomes for men have become more unequally distributed. For women, the story is somewhat different. The real weekly earnings of female high school graduates have risen but the rise has been even greater for female college graduates.

For both men and women, inequality of labor incomes has risen. The returns to schooling and skill have increased, The relative earnings of workers at the bottom of the skill distribution (less than high school graduate) have definitely declined for persons of either gender. Youth have been hit hardest in the shifting market for skills.

A corollary phenomenon is the decline in labor market activity, especially among the unskilled. A variety of labor force measures show increasing joblessness and longer unemployment spells for workers at all skill levels. Particularly problematic are less-skilled youth (those with high school education or less) who appear to flounder in the market for years before they find stable jobs. These youth are a source of major social problems. Teenage pregnancy, crime, and idleness are important phenomena that are on the increase in most areas.

The problem of a deteriorating market for unskilled or semi-skilled workers is not solely a problem of youth. Displaced adults, primarily factory workers, are a major concern. Middle-age workers displaced from high-wage jobs are at a major disadvantage in the new market for labor that has emerged since many of these workers first took their jobs. Displaced workers constitute 10 to 20 percent of the unemployed, or roughly 1 to 2 million workers. Recent evidence on the patterns of earnings losses experienced by workers displaced by mass layoffs suggests that the losses are significant and long-lasting, especially for those previously employed in unionized industries or occupations (Jacobson and others, 1993). Katz documents these facts well.

The level of investment needed to reduce the current levels of wage inequality

There have been many proposals for investments in human capital designed to increase the wage levels of the less skilled. An investment generally yields returns over many years after initial costs are incurred. For human capital, a round, and roughly correct, average rate of return is 10 percent. Thus, for each $10 invested in a person, the expected annual return is $1. Some claim that this number is lower and some claim that it is higher, but most economists would accept a 10 percent return as a good starting point for estimating the aggregate investment

needed to upgrade the skills of the low-skilled segment of the work-force.

At this rate of return, to add $1,000 in earnings per year to the average person it is necessary to make a one-time investment of $10,000 in that person. Using a 10 percent rate, the investment needed to reduce any wage gap is ten times the amount of the gap.

To put the magnitude of recent developments in the labor market in perspective, consider the following two questions:

(1) How much would we have to invest in our workforce in 1989 dollars to restore real earnings of male high school dropouts and graduates to their real 1979 levels?

This question is meaningful only for men because real weekly earnings for women have risen or remained roughly constant over the period 1979-1989. A second question is:

(2) How much would we have to invest in our workforce in 1989 dollars to restore 1979 earnings ratios between lower education groups and college graduates, without reducing the 1989 earnings of college graduates?

Using a 10 percent rate of return, it would require an investment of $25,000 in each high school dropout or a staggering $214 billion in 1989 dollars to restore male high school dropouts participating in the workforce to their 1979 real earnings level. To restore all high school graduates to their real 1979 levels would take an investment of $10,000 per high school graduate, or more than $212 billion 1989 dollars, for a total of $426 billion in 1989 dollars.

The answer to the second question is even larger. Table 1 shows the amount needed to restore the 1979 earnings ratio between high school graduates or high school dropouts and college-educated full-time workers over age 25. To restore real earnings for both male and female workers over age 25 that are high school educated or less to their 1979 relative positions with respect to college graduates (holding the latter at 1989 real wage levels) would require an investment of more than

Table 1
Investment in Human Capital Required to Restore Earnings to 1979 Levels and to Restore 1979 Relative Wage Ratios Using a 10 Percent Rate of Return
(in billions of dollars)

To Restore Earnings to 1979 Levels

Males	
Investment needed to restore average male high school dropout earnings in 1989 to average real earnings of male high school dropouts in 1979	$214
Investment needed to restore average male high school graduate earnings in 1989 to average real earnings levels of male high school graduates in 1979	$212
TOTAL	$426

To Restore 1979 Earnings Ratios

Males	
Investment needed to restore average male high school dropout earnings in 1989 to the level needed to achieve the 1979 high school dropout/college earnings ratio (holding 1989 college graduate wages fixed)	$382
Investment needed to restore average male high school graduate earnings in 1989 to the level needed to achieve the 1979 high school graduate/college earnings ratio (holding 1989 college graduate wages fixed)	$770
Females	
Investment needed to restore average female high school dropout earnings in 1989 to the level needed to achieve the 1979 high school dropout/college earnings ratio (holding 1989 college graduate wages fixed)	$136
Investment needed to restore average female high school graduate earnings in 1989 to the level needed to achieve the 1979 high school graduate/college earnings ratio (holding 1989 college graduate wages fixed)	$378
TOTAL	$1.66 Trillion

Source: Wages are from Blank (1994). We assume workers work 50 weeks a year. The figures on the educational breakdown for the labor force are from Table #616, *Statistical Abstract of the United States, 1992.* **We delete all persons out of the labor force and those less than age 25. On these criteria, our estimated investment costs are downward-biased.**

$1.66 trillion. These numbers are conservative because they do not consider persons below age 25 or persons who do not participate in the workforce at the current wage levels. They are conservative for another reason: few—if any—government training programs have returns anywhere near 10 percent. Zero percent is a much closer approximation to the true return.

One might wish to qualify these calculations in many ways. One might want to adjust down the rate of return as more difficult-to-train persons receive training. Or, one might wish to account for the fact that as persons have their skills upgraded, the real wages of the lower skill workers are likely to increase as they become more scarce and the real wages of those with higher skills are likely to decrease as their supply increases. Still, under most plausible scenarios, the costs of restoring skill parities to their 1979 levels are huge.

Investment in human capital may still not reduce income inequality. Raising the skills of a few need not reduce overall inequality. By moving some workers from low-skill to high-skill status, some standard measures of earnings inequality might actually increase. Many programs train only the high end among the low-skill workers. Such training efforts could polarize the labor market. In addition, it takes skilled labor to produce skilled labor. A large-scale increase in training activity might therefore increase earnings inequality in the short run since it would further expand the demand for skilled labor to train the unskilled labor. It takes educated labor to produce educated labor.

Finally, the most efficient training policy may not be to train the unskilled. As first noted by Mincer (1962), there is strong evidence of universal complementarity between post-school investment and formal schooling. It may be economically efficient to invest in higherskilled workers and to alleviate concerns about income and earnings inequality through income transfers or through wage subsidies. However, to the extent that working fosters socially desirable values among those who work, it may still be desirable to invest inefficiently or subsidize the employment of low-skill workers in order to promote those values.

The ineffectiveness of public training programs

In this section, I examine the evidence concerning the rate of return to government training. The evidence suggests that the 10 percent rate of return assumed in the calculations performed in the previous section is wildly optimistic. Few of the programs summarized by Katz earn anywhere near this return.

The Summer Youth Employment and Training Program

It has been proposed that the Summer Youth Employment and Training Program under the Job Training Partnership Act be increased. The stated purpose of this program is to preserve and upgrade the skills of low-income youth during the summers between school terms. The new twist on this program is that an "investment" argument has been given to support it. Barbara Heyns and her associates have argued that knowledge acquired in schools deteriorates through disuse during the summer (Heyns, 1987). The new proposals recognize this possibility and suggest that summer youth programs should be enhanced by learning enrichment activities. What are the prospects for success of this program? A recent evaluation of a similar effort, the Summer Training and Education Program (STEP), has been presented by Public/Private Ventures, a Philadelphia-based nonprofit corporation that evaluates and manages social policy initiatives aimed at helping disadvantaged youth. STEP offered two summers of employment, academic remediation, and a life skills program to low-achieving youth aged 14 and 15 from poor families. The objective of the program was to reach youth at the crucial ages at which they are deciding whether or not to drop out of school or become pregnant. Part-time summer work at the minimum wage was supplemented with remedial reading and math classes and courses on the long-term consequences of drug use, unprotected sex, and dropping out of school.

Using randomized trials, 4,800 youth in five cities were enrolled into or randomized out of the program. Both treatments and controls were followed for eight years. A high quality evaluation was conducted using state of the art demonstration methods for three cohorts of participants. The findings from this evaluation are disappointing. STEP participants experienced measured short-run gains including

increases of half a grade level in their math and reading competency test scores. These gains held up even after fifteen months, though gains in the second summer were less than those in the first. Especially large was short-run growth in knowledge of contraceptive methods.

This short-term promise did not translate into longer-term gains. Three and a half years after their STEP experience, at the ages of 17 and 18, work rates and school completion rates were identical and low for treatments and controls. Some 22 percent of young women had children and 64 percent of these were receiving public assistance in some form. (Walker and Viella-Velez, 1992).

Since STEP is, if anything, more intensive than the proposed summer youth programs, this evidence suggests that summer youth programs are *not* investments. There is no evidence that they have lasting effects on participants. They may protect the peace, prevent riots, and lower the summer crime rate, but there is no firm evidence of such effects.

Evidence about conventional workforce training and work-welfare programs

How effective are current programs in moving people from welfare to work and in increasing their employment and earnings? My colleague, Robert LaLonde, recently addressed this question (LaLonde, 1992). His evidence is summarized below along with my own evidence on the Job Training Partnership Act (JTPA).

Adult women. Employment and training programs increase the earnings of adult female Aid to Families of Dependent Children (AFDC) recipients. Earnings gains are (a) modest, (b) persistent over several years, (c) arise from several different treatments, and (d) are sometimes quite cost-effective. Table 2 displays evaluation results for a variety of programs. For example, participation in an Arkansas job search program was required for AFDC recipients with children over age three. Participants attended a group job search club for two weeks and then were asked to search as individuals for an additional two months. A program in San Diego required all AFDC participants to take job search assistance and mandated work experience. The gains

Table 2
Experimental Estimates of the Impact of Employment and Training Programs on the Earnings of Female Welfare Applicants and Recipients

Services Tested/ Demonstration	Net Cost Per Participant	Annual Earnings Gain (Loss) After:	
		1 Year	3 Years
Job Search Assistance:			
Arkansas	140	220**	410**
Louisville (WIN-1)	170	350**	530**
Cook County, Illinois	190	10	NA
Louisville (WIN-2)	280	560**	NA
Job Search Assistance and Training Services:			
West Virginia	320	20	NA
Virginia Employment Services	520	90	330*
San Diego I (EPP/EWEP)	770	600**	NA
San Diego 11 (SWIM)	1,120	430**	NA
Baltimore	1,160	190	630**
New Jersey	960	720*	NA
Maine	2,450	140	1,140
Work Experience and Retraining:			
AFDC Homemaker-Health Care	11,550	460**	NA
National Supported Work	16,550	460**	810**

Note: All figures in the table are expressed in 1990 dollars.
**Statistically significant at a 5 percent level.
Sources: Gueron and Pauly (1991), pp. 15-20; Bell and others (1987), Tables 3 and 4; Couch (1992), Table 1.

were high for participants in both programs. The National Supported Work Program provided intensive training and job search assistance at a cost of about $16,550 per recipient. The estimated rate of return to this program was only 3.5 percent.

The results from the recent experiment evaluating the JTPA (shown in Table 3) corroborate these findings. The largest impacts are for adult women, many of whom were collecting AFDC during their participation in JTPA. The impacts are not sufficiently large to move more than a tiny fraction of women out of poverty. As a general rule,

Table 3
Impacts on Total 18-Month Earnings and Employment:
JTPA Assignees and Enrollees, by Target Group

Impact on:	Adults		Out-of-School Youths	
	Women	**Men**	**Female** .	**Male**
	Per Assignee			
Earnings:				
In $	$539***	$550	$-182	$-854**
As a %	7.2 %	4.5%	-2.9%	-7.9%
Percentage employed	2.1%**	2.8**	2.8	1.5
Sample size (assignees and control group combined)	6,474	4,419	2,300	1,748
	Per enrollee			
Earnings				
In $	$873^2	$935^2	$-295^2	$-1,355^2
As a %	12.2%	6.8%	-4.6%	-11.6%
Percentage employed[1]	3.5^2	4.8^2	4.5^2	2.4^2

**Statistically significant at the .05 level, ***at the .01 level (two-tailed test).
[1] At any time during the follow-up period.
[2] Tests of statistical significance were not performed for impacts per enrollee.
Source: Bloom and others (1993). Enrollee estimates obtained using the procedure in Bloom (1984).

conventional employment and training programs are often cost-effective for adult women (especially if the opportunity cost of trainee time is ignored or is sufficiently low), but do not produce dramatic changes in participant earnings.

Adult men. The evidence for this group is consistent across programs. Returns are low but usually positive. Job search assistance is an effective strategy but produces only modest increases in mean earnings levels. Thus I agree with Katz that this program is worth keeping but I do not think that it will make much of a difference in closing the emerging wage gap.

Youth. Evidence from the JTPA experiment indicates that this program produces only low or negative impacts on earnings. For male youth, the estimated negative effect is unbelievably low. If taken seriously, participation in JTPA has a more negative impact on the earnings of male youth than participation in the Army, loss of work experience, or the cost of incarceration as measured by many studies.

Only the Job Corps has demonstrated a positive impact on earnings. It is an expensive program, costing around $20,000 per participant, with an estimated return of roughly 8-9 percent. There is some basis for supporting expansion of this program, but even for this program the evidence is weak. The evaluation of Job Corps program is not experimental. Part of the high return comes from the very large value imputed to human life and the slightly smaller murder rate found among persons who participate in the Job Corps. (See Donohue and Siegelman, 1994).

Workfare and learnfare. How effective are the recent workfare and learnfare programs? An evaluation of two programs conducted in Wisconsin is of interest (see Pawasarat and Quinn, 1993). One program, the Community Work Experience Program (CWEP), required mandatory participation in unpaid community service jobs for non-exempt AFDC participants. A second program, Work Experience and Job Training, provided AFDC clients with assessment, job search activities, subsidized employment, job training, and community work experience. Participants who failed to find employment after completing their education and training were also required to participate in CWEP jobs.

Using randomized trials for one county and nonexperimental methods for the rest, researchers found *no effect* of these programs compared to existing program alternatives. The reduction in AFDC participation that is widely cited as a consequence of these programs is essentially due to the improvement in the Wisconsin economy during the time the programs were in place. These results are disappointing but consistent with previous studies of the efficacy of such programs by the Manpower Demonstration Research Corporation (Gueron and Pauly, 1991). Mandatory work experience programs produce little long-term gain. No cheap training solution has yet been found that can end the

welfare problem. Lifting a welfare woman out of poverty by increasing her earnings by $5,000 per year ($100 per week) will cost at least $50,000. This is the scale of required investment. No "quick-fix," low-cost solution is in sight.

Training programs for displaced workers

As noted above, displacement of older workers with substantial experience in the labor market has become an increasingly important phenomenon in recent years. In response to this trend, Congress passed Title III of the JTPA in 1982 and the Economic Dislocation and Worker Adjustment Assistance Act in 1988.

Although studies evaluating these programs directly are not available as yet, evaluations of state-funded programs providing a similar mix of services have been conducted. Leigh (1990) summarizes the evidence on a variety of these programs. Results from some of these evaluations 'suggest small to moderate wages gains (8 percent for men and 34 percent for women) lasting about a year. A more recent evaluation by Mathematica (see Corson and others, 1993) of training provided under the Trade Adjustment Assistance Act to workers displaced as a result of foreign trade finds no evidence of any effect of this long-term training program on the earnings and employment of recipients. Consistent with the other studies of government employment and training programs already discussed, the overall pattern for programs aimed at displaced workers is one of weak impacts for most groups.

Private sector training

Due to a lack of data and a bias in favor of funding studies of government training, the returns to private sector training are less well understood. Studies by Lynch (1992, 1993), Lillard and Tan (1986), Bishop (1994), and Bartel (1992) find sizable effects of private sector training. In comparison with studies of public sector training, most of these studies do not attempt to control for selection bias. The presence of selection bias would imply that more able persons are more likely to take training so, the estimated rates of return would overstate the true returns to training by combining them with the return to ability.

Thus, part of the measured return may be due to more motivated and able persons taking training. Estimated initial returns range from 10 to 20 percent (Mincer, 1993), but they tend to decline after a few years as technical progress renders the training essentially obsolete. To the extent that rapid technical progress in many fields causes the knowledge obtained through training to lose its value after only a few years, fears about the detrimental effects of turnover in the labor market on the volume of human capital investment may be exaggerated.

An important feature of private sector training is that the more skilled do more investing even after they attain high skill levels. Different types of training and learning have strong complementarities with respect to each other.

Even though the evidence is weak, the direction of the evidence is clear. To the extent that effective training can be produced on the job, it is produced in the private sector and not in the public sector. The best hope of getting reasonable returns from job training is to encourage private sector investment.

It is important to note, however, that private sector training typically excludes low-skilled persons. Firms can be exclusive in a way that government training programs for disadvantaged workers are designed not to be. The lack of interest of private firms in training disadvantaged workers indicates the difficulty of the task and the likely low return to this activity. Training programs are an inefficient transfer mechanism and an inefficient investment policy for low-skill workers.

The conflict between economic efficiency and the work ethic

To the extent that there are strong complementarities between different types of skill investments, there is a conflict between policies that seek to alleviate poverty by investing in low-skill workers and policies that maximize the output of society. Taking the available evidence at face value, the most economically justified strategy for improving the incomes of the poor is to invest more in the highly skilled, tax them, and then redistribute the tax revenues to the poor. However, many people view the work ethic as a basic value and would

argue that cultivating a large class of transfer recipients would breed a culture of poverty and helplessness.

If value is placed on work as an act of individual dignity, and because of general benefits to families, communities, and society as a whole, then all individuals in society may be prepared to subsidize inefficient jobs. Job subsidies are not, however, the same as investment subsidies. The evidence points strongly to the inefficiency of subsidizing the investment of low-skill disadvantaged workers. Investment may have some additional nonpecuniary returns. In this case, a purely economic evaluation of investment policies may be inappropriate. If, however, economically inefficient investments are to be made, the cost of reducing the skill gap grows beyond the already enormous sums presented in Table 1.

The quality of the evidence on credit constraints and schooling

The evidence cited by Katz that persons from low-income families have high rates of return to schooling leads him to conclude that credit market restrictions are important factors in generating schooling outcomes. Another interpretation is possible, however. Family income as measured in those studies is a proxy for a whole range of background factors—not just short-term liquidity constraints that might be eased by more generous fellowship policies. Persons from poor family backgrounds may attain fewer years of schooling because of diminished family motivation for child learning and because family background may affect the child's learning ability. Given diminishing returns to schooling, it is not surprising that marginal rates of return are higher for persons who have fewer years of school. At issue is what family income really represents in the evidence summarized by Katz. It is significant in this regard that Murray and Herrnstein (1994) find that after they control for a score on a combined achievement and ability test, measured family income plays only a small role in explaining schooling attainment. It appears that longer-term factors that produce the test score are more important. Katz's claim that the available evidence is consistent with the presence of strong liquidity constraints should be treated with some caution.

**Alternative policy recommendations: choice in schools,
tax policy, wage subsidies, and anti-trust policy**

In the long run, significant improvements in the skill levels of
American workers, especially workers not attending college, is unlikely
without substantial change and improvement in primary and secon-
dary education. Mincer's evidence on universal complementarity
demonstrates the value of early training in making subsequent training
effective. Much of the recent discussion about improving post-secon-
dary education is misplaced when the value of early schooling is put
in context.

Methods for improving primary and secondary education have
received much attention in recent policy discussions but very little
attention in Katz's survey. Increasing the extent of consumer choice
in the educational system would help to realign incentives in the right
way to produce more effective schools. Choice among secondary
training venues is an important aspect of the German apprenticeship
system. (See Heckman, Roselius, and Smith, 1994). Katz does not
consider the failure of government to provide adequate skills to
students.

Current tax rules tend to promote human capital formation (see
Quigley and Smolensky, 1990). However, there is much evidence that
they discriminate against low-skill and disadvantaged workers. Firms
can immediately write off all of their training expenditures. They do
not have to be amortized like investments in physical capital. This
favors investment in human capital over physical capital. In addition,
training expenditures can include tuition paid by employers for each
employee up to $5,250 per year, though tuition support is restricted to
undergraduate level education (U.S. House of Representatives, Joint
Committee on Taxation, 1992). As many community colleges qualify
as undergraduate institutions, there is an incentive for firms to sponsor
vocational training. The bias in the tax code favors vocational training
over academic education.

Because tuition paid by employers is exempt from federal personal
income tax through educational assistance programs, individuals have
an incentive to seek training on the job. Additionally, portable voca-

tional or employer-based training can be sold to employees by firms and paid for by lower wages. The foregone higher earnings are de facto written off on personal income taxes. To the extent that direct costs of books and educational materials are paid for by lower wages, current tax laws favor on-the-job training activities over off-the-job training activities. Thus, they act to shift human capital investment activity away from formal schools and toward workplace environments.

Conversely, individuals cannot write off direct tuition costs for formal schooling if it is not expressly job-related. Writeoffs are not given for training in skills useful in other jobs. Thus workers training to switch occupations cannot write off their educational expenses for this activity. Moreover, there is a floor level of training and education expenditures that must be met before persons can write off such self-investment activity. To be eligible for this tax break, it is necessary to itemize deductions and to incur training costs that exceed 2 percent of adjusted gross income. This tax policy likely biases human capital accumulation toward vocational over academic training, because vocational training is typically more narrowly defined and justifiable.

Since 1986, persons have been unable to deduct interest on educational loans from their taxable income. This removes an important incentive that promotes investment in human capital of all forms (Heckman, 1976). However, since mortgage interest is still deductible, it is possible for persons with home equity to take out mortgages to finance their education or that of their children or to rearrange their portfolios toward mortgage debt in order to finance educational loans.

The tax code for individuals favors human capital accumulation for higher income persons (and their children) who itemize and have equity in their homes. Low-income persons who pay no taxes receive little encouragement to invest in human capital from the current personal tax code. However, firms that employ them may write off training expenditures devoted to them. The personal tax code thus encourages low-skill workers to make training investments on the job. It does not encourage investment in general or academic education except for company tuition programs. Unfortunately, these programs (defined under Section 127 of the 1988 Tax Code) have not received consistent treatment by the tax authorities. In recent years, companies

have operated under uncertainty with regard to the likelihood that Section 127 would apply to them in a given tax year. Tax policy is an attractive option that should receive more discussion in future policy discussion about stimulating skill formation.

The evidence on government training programs previously summarized suggests that they can make at best only a modest contribution to aggregate human capital formation. Given the strong evidence of complementarity between schooling and training, it may be more efficient to focus training on high-skill workers, and then use the tax system to transfer resources to the less skilled through wage subsidies or inefficient investment. If the goal is to raise their incomes, the extra surplus generated through more efficient investment can more than compensate low-skilled workers for the training they forgo.

Support of cooperative activity among employers could allow firms within an industry to overcome free rider problems in the provision of general training by contracting to provide similar levels of industry-specific training or general training to their employees. This suggests a role for anti-trust policy that is rarely discussed in the literature and is ignored by Katz.

A life-cycle perspective

Economic theory demonstrates that the returns to human capital investments are greatest for the young. This is so for two reasons: (1) younger persons have a longer horizon over which to recoup the fruits of their investments, and (2) skill begets skill. Early learning facilitates later learning. (Recall Mincer's universal complementarity of learning). At the same level of ability, it pays to invest in the young.

Surprisingly little empirical evidence is available on the returns to early childhood. Early childhood interventions of high quality appear to have lasting effects. Despite very small samples, disadvantaged subnormal children randomly assigned to the Perry Preschool program have higher earnings and lower levels of pathological behavior in their late 20s than do comparable children randomized out of the program. (See Schweinhart, Barnes, and Weikart, 1993). Reported cost-benefit ratios are substantial. Evidence on Head Start is less clear

but the program is quite heterogeneous. As noted by Katz, the Quantum Opportunities Program (QUOP)—which intervenes early in the careers of high school students —has demonstrated a strong impact on preventing dropping-out behavior.

At the same time, skill remediation programs for young adults with severe educational disadvantages seem to have negligible effects as do training programs for more mature displaced workers. The available evidence clearly suggests that adults past a certain age, and below a certain skill level make poor investments. Transfers or wage subsidies to employers make more sense than investments for such persons.

Summary and conclusions

Katz presents a valuable summary of the Clinton Administration's case for governmental provision of training. Unfortunately, his argument is incomplete. Neither the enormous magnitude of the problem of the declining real wages nor the likely minuscule impact of government investment on this problem is acknowledged. He assumes that investment in human capital by government authorities is the appropriate response when the available evidence suggests that it is ineffective for older and disadvantaged persons. His list of policy options is too brief, and he fails to analyze tradeoffs among competing policies. Yet tradeoffs must be made given the scarcity of resources available to finance skill acquisition programs.

I argue that the pendulum of intellectual consensus in economics may have shifted too far toward supply-side policies. Demand-side interventions may be more appropriate for severely disadvantaged groups. (See Phelps, 1994, on this point). Discussion will be more informed if supply strategies are considered as part of a broader response which could include tax policies, policies designed to stimulate physical capital accumulation, policies designed to intervene early on in the life cycle, and policies that simulate skill investment by private firms.

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Commentary: Active Labor Market Policies to Expand Employment and Opportunity

John W. Morley

Larry Katz has documented and commented on the substantial rise in wage inequalities in the United States and the United Kingdom compared with other Organization for Economic Cooperation and Development (OECD) countries over the past decade, and indicated some of the adverse social consequences. He is not obviously optimistic about a spontaneous narrowing of differentials in the short term.

The paper is supportive of active labor market measures as supply-side responses to unemployment problems—especially those targeted on the seriously disadvantaged—and positive with regard to the long-run returns to educational and training investment. Overall, it is a comprehensive and well-rounded argument for policies which can contribute to addressing distributional concerns as well as raising aggregate efficiency.

I will add a little on European experience with active labor market measures. However, I will mainly build on the evidence of the paper to discuss ways in which I feel the policy debate—now fully engaged in Europe in the context of the White Paper on Growth, Competitiveness, and Employment—has been distorted in the past by the emphasis on reducing unemployment, rather than increasing employment, and by the treatment of wage inequalities as a side issue rather than an integral part of the policy problem.

To put the argument in the dominant terminology of this symposium, I would suggest that it would be appropriate to focus policy on raising the natural rate of employment, rather than reducing the natural rate of unemployment and, more strongly, that there is a need to introduce a further element into the overall policy frame—which I will call reducing the natural distribution of wage inequalities.

It may not make life any easier for policymakers to have to acknowledge three policy targets rather than two—inflation being the **third**—and professional economists may not be thanked. However, this approach offers a better representation of reality, helps explain divergences in U.S. and European policy practices and experiences, and provides a clearer basis for making policy choices.

The new transatlantic conventional wisdom

The presentation in the Katz paper of the new, post-Detroit Job Summit conventional policy wisdom—that all industrialized countries have employment problems, and that a growth in the working poor is not necessarily to be preferred over growth in the numbers unemployed on welfare—is some comfort to European ears, given our long-standing discomfort regarding our poor employment creation record compared with the United States.

Relief is partial, however. This new wisdom, by introducing the wage distribution issue, underlines the limits to which U.S. experience can be drawn upon in improving European performance.

For much of the last two decades, European Community (EC) member states' policies have focused primarily on reducing the numbers of recorded unemployed—using both fair means and foul in the eyes of many commentators. Actions have included:

--expanding the scale of publicly funded active labor market measures targeted on the unemployed, and intended to achieve their reintegration, with training as an important component;

--encouraging departures from the labor market by early retirement, partly publicly funded in many cases, or by removing

many of those eligible for income support from the unemploy-
ment schemes — where they are liable to appear in the statis-
tics — and placing them in parallel systems like the Cassa
Integrazione in Italy, the disability schemes in Holland, and so
forth — where they do not; and

— tightening the eligibility criteria for unemployment compen-
sation, and reducing the level of compensation for those who are
eligible — thereby discouraging registrations and reducing the
numbers recorded as unemployed.

The positive side of this policy has been the maintenance, more or
less, of wage distributions for those in employment. The problem has
been that their numbers have declined, or failed to grow in line with
labor supply.

Europe now has a very low rate of employment — measured as a
percentage of the population of working age who are in work. Two
decades ago, the United States and Europe had similar rates — at
around 62 percent. Since then, the U.S. rate has risen to around 70
percent and the European rate fallen to.58 percent.[1] Throughout this
period Japan and Scandinavia averaged more than 70 percent.

One obvious consequence is that Europe has a significant hiduen
labor supply. Thus, even when Europe has job growth, as it did in the
late 1980s — when employment grew by over 10 million in four to five
years (almost the same rate as the United States) — only 3 million of
the extra 10 million jobs created went to the unemployed. The rest
went to new entrants.

Another way to look at divergences in U.S.-European experience is
in terms of the use made of productivity growth. In both the United
States and Europe this has averaged around 2 percent a year for the
last two decades. In the United States, most of this growth has been
used to increase employment. In Europe most has been used to raise
real incomes of those in employment. In effect, the United States has
indulged in widespread work sharing — to use a somewhat provocative
phrase — and income sharing.

White Paper on Growth, Competitiveness, and Employment

The *White Paper on Growth, Competitiveness, and Employment*
which was presented by the European Commission to the European
Council of Heads of State in Brussels in December 1993, and which
is now "official" Community policy following its endorsement, rep-
resents a major change of policy focus—shifting the targeting of
policy efforts from reducing unemployment to increasing employ-
ment.[2]

It also represents a shift in favor of actions to remove supply-side
obstacles—to use the terminology of this symposium. The White
Paper speaks of the need for a general reform of the systems of
incentives which affect employment, making particular reference to
labor market, taxation, and social security incentives. Emphasis is
placed, for example, on reducing disincentives to employing fewer
skilled workers by adjustments in payroll taxes (which are currently
proportionally higher for lower paid workers in most member states);
and on improving labor market flexibility on the external labor market
as well as within firms—especially regarding hours of work and, in
some member states, loosening up hiring and firing regulations.

At the same time, the White Paper seeks to avoid an expansion in
employment being associated with a growth in wage inequalities.
Various policy proposals are made, ranging from those designed to
bring about ex ante changes by altering the parameters of collective
bargaining, to those designed to bring ex post adjustments through
changes in the tax and benefit systems which would allow, for exam-
ple, for the topping-up of low wage incomes from social protection
systems.

Policy conflicts on labor market and social issues have been appar-
ent within the European Community for some time. The United
Kingdom, in particular, has criticized European social policy for
seeking to protect and promote standards rather than expand employ-
ment. Its own employment policy has been to increase labor market
flexibility through legislative deregulation on hiring and firing, work-
ing hours, low wage protection, and trade union rights. It has also
reduced levels of social protection relative to wages, and been active in

reducing recorded unemployment.[3] Unlike the U.S. administration, however, it has shown scant public concern about some of the apparent consequences of its policies—notably growing wage disparities— even when extensively reported in its own official publications.[4]

It is not yet clear how the new White Paper emphasis on changing the pattern of incentives surrounding the labor market will affect Europe's traditional reliance on active labor market measures and human resource investment. Both active and passive measures are in question, and many policy changes—for example, to increase the vocational content of education—have been less successful than had been hoped. French efforts along these lines have found resistance from both employers and students, and even the German model of vocational education and training is being questioned despite its proven capacity to adapt, albeit slowly, to new needs.[5] Despite educational reforms, the flight from science in schools and universities is continuing to cause concern in the United Kingdom.[6]

Part of the pressure on policy reflects budget concerns. One consequence of targeting unemployment has been to contain direct public expenditure on unemployment compensation to around 1.5 percent of GDP on average across the Community. However, displacement has naturally led to expenditure growth under other social policy budget headings. Likewise, while unit costs of active measures have generally been held down—by a shift toward cheaper activities like counseling, and by cost-cutting in expensive activities such as training—overall expenditure has held up, or increased, as the number of participants has increased.[7]

Although the strong evidence on the long-run returns to education is recognized in Europe as in the United States, there are questions about causality40 rich countries spend'more on·education because they can afford it? Questions are also being increasingly raised about the returns to publicly funded training measures, at least when they are used as the principal means of reintegrating the-unemployed.

Much of the new policy emphasis is on integrated policy packages which address both the demand and supply side of the labor market, and the interaction. Micro case study evaluations are producing many

good practice guidelines-counseling with everything, training to be linked to the local economy and the individual, and so on. Good returns are also seen from the careful use of wage subsidies and well targeted public employment schemes or, even better, schemes in which private or voluntary agencies deliver publicly funded jobs.

However, in Europe as in the United States, it seems difficult for public administrations to develop cost-effective mainstream labor market programs which match up to the performance of experimental actions. There are clearly a lot of X-efficiency gains to be made from the successful development of a "MacDonald's approach" to the provision of labor market reintegration programs, which could guarantee local delivery performance and quality at low cost.

Natural rates of employment and unemployment in Europe

Nobody should object to the search for a rigorous, scientific, explanation of unemployment, or to attempts to quantify the potential effects of different policy actions. However, the way in which work on the natural rate of unemployment has developed may, paradoxically, have distracted us from the main policy targets.

It is well known that unemployment statistics are open to administrative "abuse," but that is only part of the problem. Unemployment figures are statistical constructs—derived from replies to questions, or the application of administrative rules. Unemployment does not have a counterpart in economic reality, except at the most abstract level, and it has proved an unreliable proxy.

Europe provides its own comparative evidence, because it has two data series on unemployment. The first is based on annual labor force surveys, conducted in all member states to a common format and which, in respect of unemployment, collate replies to "tough" International Labor Organization (ILO) criteria questions —are you actively looking for, and available for, work?[8] A second series is derived from registrations at public employment agencies in the member states, and doctored to some degree to achieve greater comparability.[9] The first series uses changes in the second series to provide monthly estimates against its annual benchmarks.

Differences in estimates derived from these two approaches are big enough to exasperate European Commissioners who have to explain them—the former currently gives 18 million, the latter, 20 million. However, analysts are more sanguine. Differences of 10 percent are not seen as overly significant, and the series generally move in the same direction. That confidence is misplaced. The statistics actually cover two different, if overlapping, groups of people. Only **three-quar**ters of those who appear in the labor force statistics appear in the other series, and fewer than two-thirds of the nationally recorded unemployed appear in the labor force statistics. [10]

This sort of evidence (which may help explain some of the instability in econometric estimates) added to the general policy distortions that result from focusing on unemployment, and argues forcibly for a shift away from the focus on a natural rate of unemployment to the use of a natural rate of employment concept.

There are disadvantages in using employment data, notably the delays in processing and publishing. Nor is employment an entirely unambiguous statistic. [11] However, it is possible to either have series showing the numbers of people in employment, or to adjust numbers according to hours of work—weekly, annually, or otherwise—to produce some full-time equivalent. More importantly, for those who prefer their economics this way, employment, unlike unemployment, does have a counterpart in reality within the circular flow of income.

The natural distribution of wage inequalities

I would now like to say a little more on the issue of wage inequalities. Comments in other papers and in discussion throughout the symposium have made passing reference to these issues, but largely as irritants, or complications, getting in the way of the main task.

That, in my view, is mistaken. The central policy objective, and dilemma, for all modern economies—inflation control apart—is how to achieve not only high standards of living, but also an equitable distribution of that income across the population. And the historical and global evidence is clearly that economies with unconstrained labor markets generate wage distributions far wider than are socially

acceptable, or indeed necessary in order to induce structural mobility, in developed countries.

If one is to maintain the natural rate methodology, it is necessary to extend it to encompass the natural distribution of wage inequalities. In the logic of the methodology,'this represents the distribution of wages that the economy will generate — taking account of the balance of supply and demand for labor, including imbalances in market power; and disparities in productivity, reflecting abilities, skills, health, and so forth — all within the context of globalization, technological change, and the rest.[12] In the same logic, the costs and benefits of specific policy interventions can be estimated.

European policy performance

There is an implicit presumption in much economic commentary that European unemployment has remained high, and employment low, largely, or even wholly, because politicians and policymakers have been too dumb to understand how markets work, or too subject to interest group pressures. On the same level of debate, it can be argued back that reducing unemployment to low levels is a relatively trivial theoretical exercise, provided you have no social and political constraints, and one which scarcely merits all the attention paid to it in recent years. Both sides may:have their point, but professional economists could do well to remember what the economist, Ralph Turvey, late of the ILO, wrote many years ago — that while it might be simpler if labor markets behaved like commodity markets, they do not.

European policy may not have been optimal or equitable, but most European countries, and their political leaders, have been, explicitly or implicitly, seeking to balance employment and distributional issues. Unfortunately, most — but not all — have done so in ways which have largely benefited male adult workers at the cost of younger workers or women.

Future policy is intended to shift that balance in favor of those who have been increasingly excluded from the process, while continuing to address the income and equality questions. How far Europe can

succeed in expanding its employment, and how far it can do so without experiencing increases in wage inequalities are, however, very much open questions, and results will depend heavily on the policy changes that are actually made.

Uncertainty about the effects of increasing labor market flexibility lies at the heart of current concerns. The evidence that wage inequality in the United Kingdom has risen sharply—in line with the United States, but out of line with most other European experience—over a period in which it has pursued widespread labor market deregulation, has discouraged others from following this path.

However, it is not clear whether increased wage inequality is the direct consequence of increased flexibility—essentially resulting from changes in power relationships in the labor market--or whether increased flexibility has simply meant that new factors, such as trade openness or new technological changes (both of which may have adversely affected the job prospects of those at the lower end of the labor market) have been translated more rapidly into wage differences in the United Kingdom and the United States than is the case in countries where labor markets are less flexible, in this sense.[13]

The interconnection between these issues is central to current policy concerns in Europe. Ignorance of the issues is widespread, and empirical work limited. We are currently looking to research further the relationships surrounding what I have called the natural distribution of wage inequalities and the natural rate of employment. Those who have ideas to contribute, and are available to pursue the issues, are welcome on board.

Endnotes

[1] There is a wide dispersion of rates between member states, largely reflecting differences in activity rates of women. Danish rates, for men and women combined, exceed 75 percent. Those in Spain and Italy are less than 50 percent.

[2] The key chapter, for our purposes, Chapter 8, is entitled "Turning Growth into Jobs."

[3] Including carrying out more than thirty administrative changes affecting eligibility.

[4] Social Trends, HMSO. This position is now changing and the Chancellor of the Exchequer, Kenneth Clarke, has spoken about the risks of dual societies—Mais lecture 1994.

[5] Human Capital Investments and Economic Performance: Conference Proceedings. November 1993, Santa Barbara.

[6] Employer Association comments on high school examination results, summer 1994.

[7] Social Protection Report 1993 and Employment in Europe Report 1994, both Commission of the European Communities publications.

[8] Which effectively excludes many women—who have shown that they will work if work is available, but who are sensible enough not to waste time looking if there is none.

[9] Some initial explanation is contained in the Employment in Europe Report 1994.

[10] Employment in Europe Report 1994.

[11] Some 4 percent of women who are counted as being in employment in Europe work fewer than ten hours a week.

[12] Globalization, in particular, introduces strains on socially constrained income distributions, as is currently the case, for example, within the Japanese banking sector.

[13] Logically, the latter explanation holds since the United States already had flexible labor markets before its income distribution widened, but other factors may well be at work.

Overview

Frans Andriessen

Much has been said about the gap between scientific analysis and the response to it by policymakers and politicians. Today, you have before you a former policymaker, even a politician, who knows how difficult it is to translate analysis and recommendations into concrete policy. Pruning the welfare state (by which I mean not only social security systems but also the totality of collective services, transfers, and the like)--one of the often heard recommendations — needs social acceptance in most, if not all, of the countries in Europe. **A** lack of complete social acceptance is not, of course, an alibi for no action. But pruning the welfare system does necessitate a well composed policy mix and the determination to implement it once the decision is taken.

Unemployment is the key priority for the European Union (EU) and its member states. This was the opinion of the European Council as stated in the "White **Book**" of the European Commission, which has been mentioned during these meetings. There is enough evidence about the implications of unemployment for individuals and society to underscore this high priority. Over the past twenty-five years, unemployment in the European Union has risen from 2.4 percent in 1970, to 6 percent in 1980, and to 12 percent in 1994. Unemployment in the European Union is almost twice as high as in the United States and four times as high as in Japan. Unemployment rises when the number of job seekers increases faster than the number of jobs available. Our problem in Europe is not that the labor supply has risen faster over the past years than elsewhere. On the contrary, over the last decade the numbers of job seekers in Europe grew by 0.8 percent

per year, compared to 1.7 percent per year in the United States. Our problem in Europe is that we are hardly able to create jobs. Since 1960, the number of jobs in the United States grew by 84 percent, in Japan by 46 percent, and in Europe by a mere 6 percent. This is why fighting unemployment has to be the key priority in the European Union.

The core of the problem is the bad functioning of the labor market. The market is simply too rigid. There are many reasons for this. I will concentrate this morning on one particular aspect, which in my view has to be remedied and can be remedied. The welfare state has provided member states with a relatively generous social security system to put it mildly. The system is so generous that the incentive for the unemployed to look for a job has been substantially reduced, if not completely removed. In my country, a person who finds employment at the minimum wage and nets only 20 guilders per month is better off receiving unemployment benefits. Given the fact that when you work you have some costs and expenditures, the worker is better off remaining in the benefit system rather than accepting the job. I would say this is contrary to an incentive. The cost of this generosity is higher tax levels and higher tax charges. This leads to relatively high labor costs, where the net wage is substantially reduced and is sometimes considered to be unsatisfactory. The difference between labor costs and net wages, the so-called "wedge," is far too large in many European countries.

Job losses, combined with low incentives to seek jobs, have been particularly harmful to certain types of individuals. Unemployment is concentrated to a very large extent in the lower income brackets, and this tendency is increasing. The European Union is confronted with massive immigration. Besides being low-skilled, many of these immigrants have other handicaps that reduce their ability to integrate into the labor force. They reinforce the pressure on the low-income workers, low-skilled groups, and the low-income unemployed. In the years to come, there is a risk that problems in this minority group might arise on an unprecedented level and lead to personal and societal consequences.

This is why from a policy point of view, the first priority of the fight against unemployment must be targeted at the lower segment of the

labor market. In this lower segment, most employment can be found in sectors which are to a large extent protected from international competition, such as retail trade, catering, cleaning, maintenance, repair, and personal services. To be able to reduce unemployment in the lower segment of the labor market, the labor cost for low-skill jobs must be drastically reduced. There are, of course, many ways of doing that. In the United States, the impressive growth of employment was possible because of a substantial drop in wages paid for unskilled work. During earlier sessions, we have already commented on the income inequalities in the United States. Yesterday, we were told that wage costs in Japan are also rather flexible. But in my opinion, the so-called American model, with so many people below the poverty line, is not a feasible model for Europe.

What should we do if our own model is at the limits of its capacity? Let me use the Netherlands as an example. In the Netherlands, the ratio of economically inactive individuals to economically active individuals was 44 percent in 1970, 66 percent in 1980, 82 percent in **1990,** and is now **86** percent. This means that one hundred actives have to work to support **86** nonactives. Such a situation is, of course, not sustainable. It is, therefore, clear that the welfare state is at stake and that pruning the welfare state is not an asocial activity. Pruning the welfare state is instead necessary to maintain it in an acceptable form for future generations.

So for the European Union, the model we have to seek, in my view, is to bridge the gap between labor costs and net wages in such a way that unacceptable burdens on the lowest income individuals can be avoided. Some European countries are already considering reducing the tax on lower income groups. I am in favor of such a reduction because the lower tax will increase net wages, increase the gap between net wages and unemployment benefits, and accordingly create a substantial incentive for unemployed people to seek jobs. I'm also in favor of reducing labor costs for employers. The employers don't pay taxes for their workers but they do pay premiums for such social insurance elements as health costs. So, I believe a reduction of taxes will create an incentive for unemployed workers to look for a job, and a reduction in the cost of labor to employers will create an incentive for employers to create jobs. Therefore, both sides will

contribute to a better functioning of the labor market.

One additional advantage of this approach would be that for the time being the level and duration of these benefits could remain untouched. I say for the time being because there will be effects on the purchasing power of this group due to wage moderation as a consequence of these policy changes. The restraint of wages resulting from such a system would also, of course, contribute to wage moderation, which in turn would contribute strongly to the creation of more jobs. For instance, success in restraining wages in my country has certainly contributed to the creation of jobs during the 1980s.

Calculations teach us that the measures I have advocated can be extremely costly from a budgetary point of view. Respecting the existing tax structure — that is, not changing the division between the more prosperous and the less prosperous people — would require extremely high budgetary expenditures. That money has to be found through economies in the budget. I am afraid that by respecting existing systems, it will not be possible politically to fund such activities by cutting back spending on other programs. And that means that if one does respect the existing system, one would have to perhaps shift part of the financing from charges on labor to other sources of revenues.

This morning we have discussed that point, but I would like to emphasize two things. First, I am advocating that these tax reductions be given to all workers so that disincentives could be avoided — even though the disincentives for high income individuals is perhaps much less than for low income individuals. The second point I would like to emphasize is that, for instance as mentioned in the White Paper of the European Commission, you could envisage taxes on energy. I know this is a very difficult issue, but a tax on energy could very well fit in a long-term, sustainable energy policy. Of course, I am aware this cannot be done on a national base. It has to be done at least Comrnunitywide and preferably even throughout the Organization for Economic Cooperation and Development (OECD). By implementing an energy tax you could save costs on labor and keep the system going by financing from other sources. Some model calculations that have been made in Europe indicate that substantial job gains could result

from such a tax on energy.

You might say perhaps this approach, rather simple in its concept, is a bit of a "push and pull" approach. But it would be a two-handed approach with incentives for supply and for demand. But I don't think that is enough. When jobs become available, when people are more prepared to move, an active labor market policy remains necessary, or perhaps becomes even more indispensable. I would roughly follow the recommendations which have been made during the sessions. I'm not going into all the details, but I would like to offer one observation here.

Since I agree that active labor market policies are useful, financial resources devoted to these policies should not be reduced as sometimes seems to be the case. Because the cost of these policies can be great and other political priorities competing for these funds will be squeezed, if the starting position for the unemployed is substantially improved, one might expect the people concerned (the unemployed) to react positively. A comprehensive set of opportunities from training to job experience and special arrangements for the disabled should be offered, but one shouldn't have the right to reject every opportunity. "Push and pull," okay, but also if necessary, "the carrot and the stick." Refusal to take a job should not be permissible. A group of people will nonetheless remain which cannot be accommodated to jobs. There will remain a group of unemployed. As a last resort, one could consider the creation of additional jobs in the public sector for this remaining group in such a way that other workers are not displaced by doing so.

What I am suggesting today is, of course, not a panacea for all the evils of unemployment. I haven't mentioned many well known measures and I won't go into these measures today. But, I would like to underscore the fact that international coordination, even cooperation, could be very useful in creating a positive environment for economic growth. In that respect, it is very important that for instance the agreement of Marrakech should be ratified as soon as possible. Protectionist tendencies, which are obviously working in the world, should be avoided as much as possible. As I reflect on the history of the approval of trade agreements and the difficulties in getting them

ratified, I don't think the worries about protectionism are completely groundless.

In the European Union there already exists a forum for coordination, the increased coordination of budgetary and monetary policies, with exclusive competencies for the EU in the domains of trade, competition policy, and merger matters. And so far, the European Union with all of its ups and downs—and there are many ups and many downs— could serve as an example for the OECD, where prospects for international cooperation are rather gloomy.

It has been said that economic growth of about 4 percent is needed to reduce unemployment in the European Union to acceptable levels. It may not be very difficult for Asian countries to achieve this rate of growth, but such a rate is not possible for Europe without considerable effort. What I have suggested this morning is limited. Youths are the hardest hit group. The hard core of the unemployed—the low-skilled and the long-term unemployed—are primarily young people. I am not pessimistic. During the 1950s and 1960s in Europe we imported labor. Massive unemployment is not a "natural" order. I believe it can be reversed in an acceptable way. Perhaps there is not an easy starting point, but the European Union was able to create millions of jobs during the 1980s. It must be possible to substantially reduce unemployment while maintaining a decent standard of living for those who remain unemployed.
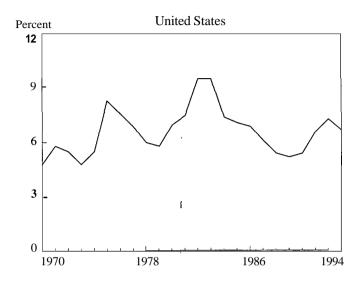
Overview

Alan S. Blinder

I am here today in a very new role for me. While I am not young by any reasonable criterion, I am very young as a central banker. I've been here at the Kansas City Fed conferences in Jackson Hole several times before, but always as an academic speaker, where my role was clearly to say something and maybe even to say something interesting. It is quite clear that, in my new job, my new role is to say nothing and certainly not to say anything interesting.

Mindful of that dictum, I'd like to take us back to the perspective of a central banker, which is to say back to macroeconomics—a subject we haven't talked about very much in the symposium in general, but especially not this morning. (That is not criticism at all; I feel it was quite appropriate to discuss the things we have discussed this morn-inng.) In particular, I was very glad to see, when I received the program, that this is a conference about reducing, not *increasing*, unemployment. Charts 1 and 2 (eight panels in all) illustrate what a woman from Mars who landed here in Jackson Hole to look at the unemployment history of the world since 1970 would have seen: the standardized Organization for Economic Cooperation and Development (OECD) unemployment rates of a nonrandomly selected sample. The eight panels cover every country represented on the program—including the OECD and the European Union (EU)' as countries—except, I'm sorry to say, New Zealand. That's because the OECD does not have a standardized unemployment rate for New Zealand that goes back this far. So this is the entire available sample. The hypothetical woman from Mars could be forgiven for wondering if the governments
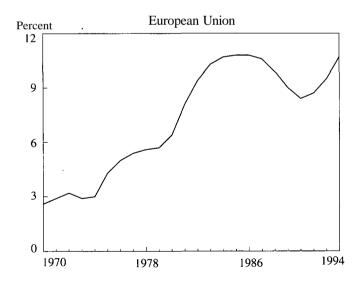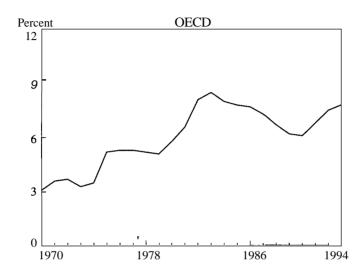
Chart 1
Standardized Unemployment Rates

Percent

United States

12

9

6

3

0

1970   1978   1986   1994

Percent

European Union

12

9

6

3

0

1970   1978   1986   1994

Chart 1
Standardized Unemployment Rates
continued

Percent   OECD

Percent   Japan

Applications/Job Offers Ratio
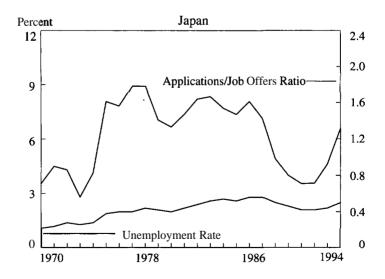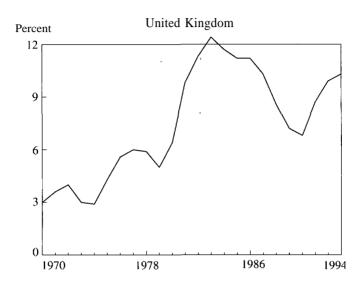
Unemployment Rate

Source: OECD Main Economic Indicators.

Chart 2
Standardized Unemployment Rates

United Kingdom

Percent

1970   1978   1986   1994

Percent   Sweden

1970   1978   1986   1994

Chart 2
Standardized Unemployment Rates
continued

Percent Germany (West)

Percent Canada

Source: OECD Main Economic Indicators.

of these countries were really worrying about *reducing* unemployment during this period rather than *increasing* unemployment. If they were worrying about reducing it, they weren't doing too well—except perhaps for Japan and the United States.

Now, in my view, central banks, or more generally macroeconomic policies, do indeed have a role in reducing unemployment as well as, not incidentally, in reducing inflation. Before I pursue that point further, there is a preliminary point—actually a hurdle which, if not jumped, leaves nothing more to say on the subject. That hurdle is this: for a central bank to have any role in either raising or reducing unemployment, you have to believe in Keynesianism. If you don't, changes in aggregate demand are all dissipated in prices right away— up or down—and you just don't have any ability to affect the unemployment rate.

The *Fortune Encyclopedia of Economics* has a definition of Keynesian economics. I wrote it, so I know what's in it. I am only going to summarize the first half of it, which is the definition of *positive* Keynesianism, forgetting about any *normative* considerations. This definition has three pieces, and I'll just read them briefly. First, it says: "A Keynesian believes that aggregate demand is influenced by a host of economic decisions—both public and private—and sometimes behaves erratically. The public decisions include, most prominently, those on monetary and fiscal (that is, spending and tax) policy."

Second, it says that a Keynesian believes that: "... changes in aggregate demand, whether anticipated or unanticipated, have their greatest short-run impact on real output and employment, not on prices."

And third: "Keynesians believe that prices and, especially, wages respond slowly to changes in supply and demand, resulting in shortages and surpluses, especially of labor."

That is at least one person's definition of what it means to be Keynesian, in a positive sense. Now, by this definition, I submit that President Nixon had it right when he said, "We are all Keynesians now." (I think he said this in the 1970s.) Money is not neutral, and I

don't think I have to take any time to defend that proposition any longer — although I must say that, if this were a conference of academics, I probably would. If you accept this proposition, then I can go on. If you don't, of course, I can sit down right now. (I suppose I shouldn't put that to a vote!)

If you accept this proposition and you accept the natural rate hypothesis, which has been thoroughly discussed at this meeting, they lead to what I like to call "the approximate dichotomy." I'll come at the end to why it is only "approximate^w–-or at least one reason why—but this is what I mean by the approximate dichotomy: where employment is concerned, in the short run macroeconomics is everything and in the long run macroeconomics is nothing.

Let me elaborate slightly on what I mean by that. In the short run, changes in aggregate demand can and do easily change the unemployment rate by, say, plus or minus two percentage points. Such events happen frequently in business cycles. There is nothing, I submit, that we know in the way of microeconomic interventions that could have an effect remotely close to that in the United States–-certainly not in the short run, and maybe not even in the long run. So that's one-half of the dichotomy.

However, in the long run the meaning of the natural rate hypothesis, as Dale Mortensen stated clearly this morning, is that the unemployment rate will converge to the natural rate *regardless of macroeconomic policy.* And that means, roughly speaking, that the employment rate of five to ten years from now has nothing to do with today's macroeconomic policy. The latter is totally irrelevant. Today's macroeconomic policy will, however, have something to do with the price level of five to ten years from now.

I emphasize this dichotomy because, while it is mother's milk to economists, it is almost totally unknown outside the economics profession — indeed it is a totally foreign doctrine. Very few people have in their heads the notion that the effects of aggregate demand on jobs are temporary, which is not to say ephemeral — I don't mean they are gone in three to six months, they are certainly not — but temporary. Nor do most people realize that a very big microeconomic achieve-
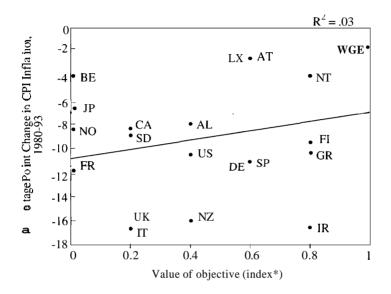
ment, at least in the United States, might be reducing the natural rate of unemployment by 0.25 percent. That would be a major, major achievement. But I think that very few people outside the economics profession understand either part of this dichotomy, which is a shame.
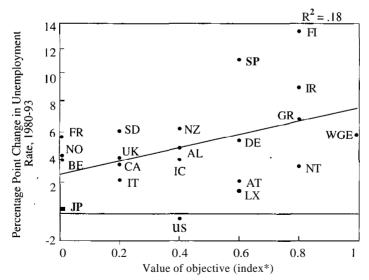
In view of this approximate dichotomy, what is a poor central banker to do? My view is that we should remember a television quiz show that I occasionally watched in my wasted youth called *The Price* Is *Right.* You may remember that on *The Price* Is *Right* an object would appear, and contestants were supposed to guess the price. You won if you came as close to the actual price as possible *without going over.* That was the name of the game. Similarly, in my view, the job of a central bank, in this regard, is to guide the employment rate up to its natural rate, but not higher than that. By that criterion, I think the United States is extremely close to being "on target," but the European Union, I believe, is quite far from being on target.

I have stated quite clearly, I think, that I believe the central bank does have a role in reducing unemployment, or raising employment. But, as we know, not all central banks explicitly recognize an employment objective of that sort. We heard very eloquently at lunch yesterday, from Donald Brash, the virtues of single-minded concentration on an inflation, or a price level, objective. The charge given by the Congress to the Federal Reserve is quite different, as many of you know. It calls upon us to pursue *both* maximum employment *and* stable prices. Since these two objectives conflict in the short run, the Federal Reserve Act calls upon us to strike a balance. That has always seemed very appropriate to me.

In thinking about the fact that different central banks have quite different stated objectives, I started to wonder whether the objectives actually matter. And, while I was wondering about that, I stumbled upon something which some of you have seen before: a ranking of central banks by Alex Cukierman and two co-authors. (See Chart **3.**) Cukierman and others rated twenty-one industrial countries by what they called "central bank independence." Actually, I think this was quite a big misnomer because', if you notice, the United States is ranked pretty low. And I can tell you we feel fairly independent at the Fed, at least inside the building. In fact, the rankings really rate central

Chart 3
Central Bank Objectives, Inflation, and Unemployment

$R^2 = .03$

a — ● tage Point Change in CPI Inflation, 1980-93

- WGE ●
- LX ● AT
- ● BE
- ● NT
- ● JP
- ● CA
- ● AL
- ● NO
- ● SD
- ● FI
- ● US
- ● GR
- FR ●
- DE ● SP
- UK
- ● NZ
- ● IT
- ● IR

Value of objective (index*)

Y-axis: 0, -2, -4, -6, -8, -10, -12, -14, -16, -18
X-axis: 0, 0.2, 0.4, 0.6, 0.8, 1

$R^2 = .18$

Percentage Point Change in Unemployment Rate, 1980-93

- ● FI
- ● SP
- ● IR
- GR ●
- ● FR
- ● SD
- ● NZ
- WGE ●
- NO
- UK
- ● DE
- BE
- ● CA
- ● AL
- ● NT
- IC
- ● IT
- ● AT
- ● LX
- ■ JP
- us ●

Value of objective (index*)

Y-axis: 14, 12, 10, 8, 6, 4, 2, 0, -2
X-axis: 0, 0.2, 0.4, 0.6, 0.8, 1

* Source for index of central bank objectives: A Cukierrnan, S. Webb, and B. Neyapti; "Measuring the Independence of Central Banks and Its Effect on Policy Outcomes," *World Bank Economic Review,* 6,3 (September 1992), pp. 353-398.

banks on the single-rnindedness of their concentration on inflation-reduc-tion, or price level stability. Here, .again, I must apologize to New Zealand. I didn't make up these rankings, and they came before the Reserve Bank Act of 1989. New Zealand, among other countries, would clearly be ranked differently today.

What I've done in Chart 3 is looked at the period of disinflation: 1980-1993. It seems to me that around 1980 the countries of the industrialized world looked back at the 1970s and said: "Enough—indeed, too much. We had an awful lot of inflation, it didn't do anybody any good, and we ought to get rid of it." There was a kind of sea change in attitudes around the world, although not with exactly the same timing everywhere.

So Chart 3 examines the period between 1980 and 1993. Central banks are ranked by the objective index created by Cukierman and others, with 1.0 connoting the most single-minded concentration on inflation-reduction — you see, for example, that the Bundesbank is on the far right on this criterion — and with zero on the other extreme: banks that did not have any inflation objective at all in their charge (that includes the Bank of Japan and it included then, but not now, the Bank of France). And the question I asked was: Did the bank's legally stated objective make any difference to what happened in this thirteen-year period? Was there any systematic difference between the banks that were focused on inflation-reduction and those that were not?

Well, the top panel shows the changes in inflation over that period. You can see that it is negative for every one of these countries; this was, after all, a period of disinflation. But the answer to the question is no. There is no correlation (technically, the R^2 is 0.03) between how much inflation fell and the legal charge of the central bank.

The lower panel shows that there was some correlation — not over-whelming, but noticeable — between the rise in unemployment and the central bank's objective. Here all the U's are positive, except for the United States which had slightly lower unemployment in 1993 than it had in 1980. So unemployment rose in every one of these countries, essentially; and it rose more in the countries whose central banks were more single-mindedly devoted to inflation-reduction. But the differ-

ence is not tremendously significant. The message, I think, may be that the significance of the central banks' charge may be more apparent than real. But I wouldn't dismiss it entirely. Now, there is a two-handed answer for you!

Let me come back briefly to the relationship between the microeconomic issues we've mainly been talking about at this conference and macroeconomics. Despite the dichotomy that I've emphasized up to now, there is a relationship between the two—and for several reasons. One is the reason that Assar Lindbeck so eloquently emphasized this morning: that microeconomic interventions might have very different operating properties at different levels of macroeconomic activity. This is a complementarity, by the way: Lindbeck suggested that many micro-interventions work better in a strong macroeconomy.

The other point—which is also a complementarity between macro and micro—is what Charlie Bean's paper was largely about. Let me take just a couple of minutes on that. If microeconomic policies succeed in lowering the natural rate of unemployment, then, according to what I said before, the central bank should provide enough aggregate demand to get the economy there. Supply will not create its own demand. I think we've known that for 60 years.

The one slight disagreement I have with Charlie Bean, which Stan Fischer mentioned in his turn yesterday, is that such policies need not be inflationary if aggregate supply is in fact expanded. The name of the game, then, is to expand aggregate demand in line with aggregate supply. And the same dictum applies in the other direction. If microeconomic events, policies, or whatever--excessive welfare states, productivity shocks, you name it—reduce the ability of the economy to produce goods and services, then it is the duty of the central bank to contract aggregate demand in line with the reduction in aggregate supply. Among other causes of inflation, the 1970s saw a failure to throttle back aggregate demand fast enough when productivity growth slowed throughout the industrial world.

The last thing I'd like to talk about is the exception to the approximate dichotomy, to which I alluded earlier. That has to do with hysteresis. As Bean noted in his paper, the sharp dichotomy between

the demand side and the supply side begins to melt away if there is true hysteresis in the system. You can think of hysteresis as meaning that, where aggregate supply is concerned, the motto is: "Use it or lose it." If you don't use it, you start to lose it.

For the United States, the evidence is against hysteresis; I would say overwhelmingly against. The clean little secret of macroeconometrics is that the Phillips curve in the United States that we estimate right now in 1994 looks almost the same as when we estimated it in 1974. There has been barely any change in econometric estimates of Phillips curves in twenty years. That Phillips curve is, by the way, essentially linear and most likely — almost certainly — has a AU term in it, the *change* in the unemployment rate in addition to the *level* of unemployment.

Now why do I mention such a seemingly technical detail? It turns out that AU is highly significant for the hysteresis issue. The standard Phillips curve equation essentially relates the *change* in the inflation rate ($\Delta\Pi$) on the left to the *level* of the unemployment rate (U) relative to the natural rate on the right. A Phillips curve with hysteresis in it will relate the *change* in the inflation rate on the left to the *change* in the unemployment rate (AU) on the right. If you integrate the relationship $\Delta\Pi_t = -\beta U_t$—and here the econometricians in the room will start fainting because you can't just do that; you change the properties of the error term quite a bit; but let's forget about that—you get something that looks like a first cousin to the old-fashioned Phillips curve, just as it came from Bill Phillips:, a downward-sloping relationship between the *level* of inflation and the *level* of unemployment: $\Pi_\tau = -\beta U_t$.

That raises two key questions. One is empirical and one is theoretical. The empirical question is obvious from what I've already said. Is there, in fact, in the Phillips curve of an individual country an effect of the *level* of the gap between the unemployment rate and the natural rate, or the GDP gap? Or is there no such effect? Is it only the first-difference of that gap? For the United States, I've stated already that the evidence is overwhelming that there is an effect of the gap. For Germany, France, and Italy, I think the evidence is underwhelm-

ing, to say the least. Indeed, I think we have to entertain seriously the hypothesis that there is no conventional Phillips curve in those countries. Instead, there is one that looks much more like a "hysteretical" Phillips curve, if that is a word.

Next comes the theoretical question, the very important theoretical question: Is this process reversible? The history of Europe in the 1980s and into the 1990s was one of moving down a long-run, old-fashioned Phillips curve ($\Pi_t = -\beta U_t$) toward what appears to be permanently lower inflation purchased by permanently higher unemployment. That is the case *if the* hysteresis hypothesis is correct.

But can we go back? With vigorous enough microeconomic interventions, anything is reversible. But those can be very tough things to do. They can be tough economically, tough politically, and certainly tough on the people who will be the victims of these policies. Yesterday Allan Meltzer referred to "harsh, brutal capitalism" as the way to accomplish this.

However, the key question for the central bank — which has no control over these microeconomic interventions — is: Is high unemployment reversible by macroeconomic policies? The analogy is to smashing through a barrier. Hysteresis creates a barrier. The question is: Can you smash through it by macroeconomic interventions? Or is it only micro policies that will work? And here, I think, Bean's discussion of the different sources of hysteresis is very germane, very useful, and mostly but not 100 percent correct. Let me say why. It seems to me that if hysteresis comes from the insider/outsider model, especially its union variant, then when unemployment is high the union just hunkers down and cares only about the employed people. Such hysteresis is not going to be reversible, except by extreme — really extreme — policies. So you get the answer: No, you cannot go back in the other direction.

On the other hand, if the reason for hysteresis is "use it or lose it^w —if human capital has deteriorated, if physical capital has deteriorated or been scrapped, or if hiring and firing costs have created ranges of indeterminacy within which the unemployment rate will just stay

where it is—then I believe the answer is: Yes. Reversing macroeconomic policies can indeed reverse what appears to be a permanent rise in the unemployment rate, though they will take some time and need to be pursued with some effort.

I want to conclude now with one last thought, just to prove that I was paying attention at the conference. As 1 listened to the different papers, I was struck by the following empirical regularity. Several times I heard it stated that the *most* that macroeconomic policy could possibly do to unemployment in the European Union would be to lower the unemployment rate by two or three percentage points. This was sometimes said as if it were a great achievement and sometimes as if it were a small achievement. 1 would certainly count it a great achievement. But the point I'm making is that this was offered as the most that could be achieved; and some people were saying, "Well, that really doesn't get you very far."

I think I also heard, around the lunchtable and elsewhere, that it would be surprising if microeconomic interventions could reduce the natural rate of unemployment in Europe by more than two or three percentage points. And that would also be a great achievement. It was striking to me that those two numbers are the same—two to three percentage points on the macro side and two to three percentage points on the micro side. It leads me to my concluding remark: we should not go away from Jackson Hole accepting the view, popular in some places, that high unemployment in Europe is an entirely microeconomic problem for which macroeconomics has little or no relevance.

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Overview

Michel Hansenne

I welcome the opportunity to participate in this meeting. For one of the world's major financial institutions to devote its annual symposium on economic policy to the theme of reducing unemployment gives the objective of full employment the mainstream attention that it deserves.

The problem of unemployment has reached crisis proportions in most parts of the world. The figure of 35 million unemployed in the industrialized countries is well known to this audience. In some Eastern European countries, unemployment levels exceed 15 percent. Unemployment and underemployment are even higher in the developing world. The handful of dynamic Asian economies are an oft-cited exception. But they account for only a tiny fraction of the developing world's population and, indeed, half of the world's poor live in Asia. The unemployment problem should therefore be viewed in a global context.

Let me first present a few background facts: the world's **working** age population (15-year-olds to 64-year-olds) more than doubled between 1950 and 1990, from 1.5 billion to 3.3 billion people. It will exceed 4 billion people by the year 2005. In 1950, 65 percent of the world's **working** age population lived in developing countries. By 1990, the percentage had risen to 75 percent. Extrapolating from present trends, developing countries will contribute about 97 percent of new entrants to the global labor force between 1990 and 2025.

At present, the International Labor Office (ILO) estimates that 820

million persons in the world labor force are either unemployed or underemployed. While the numbers in registered unemployment in the world amount to 120 million persons, an additional 700 million can be classified as underemployed – engaged in an economic activity that does not allow the worker to reach a minimum standard of living.

An estimated 20 percent of the world's population, over 1.1 billion persons, live in poverty. Moreover, the gulf between the world's haves and have-nots is widening rather than narrowing. Thus, just as the distribution of income within individual Organization for Economic Cooperation and Development (OECD) countries has widened since the 1970s, so too has the distribution of the world's income, with a far larger divide between the wealthiest 20 percent of the world's population and its poorest 20 percent. We must not forget this broader setting when looking at industrialized countries.

There is a profusion of contending explanations of the rise and persistence of high unemployment in industrialized countries. Many of these provide useful, albeit often partial, insights into various policy and institutional causes of the unemployment problem. The danger is that one could lose sight of the overall picture and adopt a partial solution as a panacea.

A case in point is the issue of labor-market rigidities. There is indeed broad agreement that this has been a factor in explaining different employment outcomes and that reforms to labor-market institutions are called for in specific cases. But reform does not mean a wholesale or uncritical dismantling of labor legislation and social protection. For one thing, there are other and probably far more important factors contributing to unemployment. To paraphrase Richard Freeman, the role of labor-market rigidities in the employment crisis is probably at most that of supporting actor—Rosencrantz or Guildenstern, but not Hamlet. For another, the notion of rigidity or rather its converse, "flexibility," has come to cover such a multitude of situations and practices that it is more a vague nostrum rather than a practical policy tool.

Nothing more characterizes labor markets in the world than the diversity of rules and institutions in which they are embedded. Nothing could more obstruct real progress than a doctrinaire prescription

for supposedly universal application.

While opinion remains divided as to the precise magnitude of the effects of changes in global trade and production on the rise in unemployment and labor-market inequality in the industrialized countries, there is little doubt that these changes must be part of any comprehensive explanation of the problem.

There has been a shift in the international division of labor between the industrialized and the developing world. Compared to the early postwar decades when the global divide was between industrialized countries and predominantly agrarian and primary-producing developing countries, the situation today is quite different. There has been a significant shift toward some developing countries in the share of manufacturing production and exports. So far these are largely concentrated in the newly industrializing countries of Asia and Latin America. The share of developing Asia, including China, in world production rose from 13.8 percent in 1980 to about 20 percent by the end of the decade. Judging from recent trends, these countries will continue to industrialize rapidly. In addition, there will be the growing incorporation into the world economy of developing country giants like India and China as well as of countries of the former Communist world.

These changes require adjustments on the part of both industrialized and developing countries as well as in the institutions governing international economic relationships. With adequate adjustment responses, these changes offer benefits for all parties concerned through the mutual gains from trade and higher productivity and growth. It is therefore imperative to avoid the pitfall of thinking of global economic changes as a redistributive battle over a fixed pie.

This is not to belittle the very real problems of adjustment that are involved. The high unemployment experienced in many industrialized countries, accompanied in some cases by growing wage inequality and declining demand for unskilled workers, is a reflection of the difficulties of adjustment. There has been a decline in manufacturing partly due to import competition from newly industrializing countries and the relocation of production to these countries.

As regards the latter, there is growing concern with what Europeans have called "delocalization"—the closure of a plant in Europe and the creation of one making the same goods in a low-wage country for export back to the home country.

Both import competition and relocation have kindled some protectionist sentiment, but if a larger view is taken, it will be seen that these are part of normal adjustments which are inherent in an evolving global economy. Even without changes in the international division of labor, the rising incomes in industrialized countries necessitate a shift to a post-industrial pattern of production where services predominate. Similarly, with rising wages, there is no advantage in persisting in low-skill, labor-intensive production and delaying the inevitable shift to higher-skill activities.

The other part of the picture, that involving the developing countries, provides equally strong arguments for adjustment. These countries need the economic space to grow in line with their emerging comparative advantage and thereby to generate employment and to reduce poverty. Their growth will in turn provide an additional stimulus to world production and trade. There is indeed a clear basis for mutually beneficial adjustments in the global economy. It is perfectly consistent to argue the long-term benefits of such economic exchange, while at the same time, to acknowledge interim, negative impacts on some labor markets.

Within this difficult overall framework some disquiet has also arisen over the nature of technical progress. In the industrialized countries, the link between technical progress and the falling demand for unskilled workers has been evoked by speakers in this symposium. But the rapid obsolescence of skills and the disappearance in large firms of whole layers of management suggest that the job-displacing effect of technology could even be more pervasive.

For developing countries, there is the related concern that they face a growing technological gap and that the least well-endowed among them face growing marginalization from the emerging world economy.

Thus, while research and development as a percentage of GNP

amounted to 2.9 percent for developed countries in 1990, the equivalent figure for the developing world was just 0.64 percent. African research and development as a percentage of GNP, the lowest of all the world's regions, has actually declined over the past two decades. Multinational corporations are a major vehicle of technology transfer and indeed some 80 percent of all international payments for royalties and fees—a measure of technology transfer—are undertaken on an intrafirm basis. But since foreign direct investment and international subcontracting are concentrated in the developed world and newly industrializing countries in Asia and Latin America, the poorest of the poor regions in the world lag still further behind.

These, broadly speaking, are the main underlying forces which are influencing growth and employment prospects in the world economy. The effects of these forces on employment and labor-market outcomes in particular countries are conditioned by differences in policies and institutions. These include differences in the priority given to full employment in relation to other objectives, in macroeconomic policies, and in labor-market institutions.

We have seen in the past two decades a variety of outcomes as a result of differences in policies and institutions. Drawing clear policy lessons from this diversity of experiences is not an easy task since it ultimately depends on value judgments and is conditioned by different views on economic behavior and the workings of the economy. For instance, comparisons are often made between the job-creation performances of the United States and Europe. The U.S. economy has clearly outperformed Europe in terms of the number of jobs created— adding a net 18 million new jobs over the past ten years alone—and in maintaining a lower rate of unemployment. By contrast, the European Union (EU) countries, and since the 1990s, the European Free Trade Association (EFTA) countries too, have been witnessing "jobless growth." There has been hardly any net growth in employment in Western Europe over the last twenty years.

But the assessment clearly cannot end there since there are other dimensions to be taken into account, such as the higher level of inequality and inferior levels of social protection in the United States. We should beware of facile conclusions aimed at achieving so-called

flexible labor markets at the price of low levels of social protection. Speakers here — wisely, in my view — have not looked upon labor-market flexibility as an all-or-nothing proposition or as some abstract opposition between pure distortion and pure market freedom but as a problem of tradeoffs. High unemployment benefits of very long duration may indeed make unemployment persist but inadequate social protection worsens inequality and multiplies the numbers of "working poor."

Whatever a country's pattern of labor-market regulation, what can be said is that there is no clear contemporary model of a country which has managed to achieve both greater employment growth and greater equity while simultaneously adjusting smoothly to changing global economic forces. But this does not mean that the quest for full employment and equity is an exercise in futility. The task is difficult but surely not impossible. The objectives of full employment and equity were largely attained in the industrialized countries in the so-called "golden age" of the three decades after the Second World War. Undoubtedly, there have been many significant changes since then and the policies which were adequate then have not been so since. The challenge now is to develop a new generation of policies and institutional arrangements that can reduce unemployment and rising inequality:

How so? The way out of the apparent current impasse has to consist of a wide range of actions at both the international and local levels. At both these levels it is necessary to redress the downgrading of full employment and equity in relation to other objectives of economic and social policy. A renewed commitment to full employment as a key objective is a prerequisite for giving the problem the attention it deserves.

There are encouraging signs that the climate of policy opinion is shifting away from accepting prolonged high unemployment as an unavoidable and unchangeable state of affairs to a new determination to find innovative solutions. The "jobs summit" of the G-7, the Delors white paper on unemployment in the European Union, the OECD jobs study and, indeed, this very symposium, reflect a new concern and determination to solve the unemployment problem. Nor is this concern

confined only to the industrialized countries. The reduction of unemployment is one of the three priority issues that will be discussed at the World Summit for Social Development in March next year. As part of its preparations for this summit, the ILO held an informal tripartite meeting at the ministerial level in June to discuss the issue of employment. The meeting was attended by more than 100 ministers of labor and by leaders of worker and employer organizations from all parts of the world. Discussion was focused on an ILO working paper entitled "Toward Full Employment" which advocated a renewed international commitment to solving the unemployment problem.

There is, of course, no universally valid prescription for solving this problem. But there are, nevertheless, some broad generalizations that can be made, especially with respect to areas where international cooperation and policy coordination are necessary.

Of great importance at the international level is the consolidation of progress toward an open and fair global trading system. The recently completed Uruguay Round and the formation of the World Trade Organization are important gains. These developments offer the best hope of ensuring steady growth and job creation in the global economy from which all nations can potentially benefit. It is therefore imperative that the current problems of unemployment do not lead to a resurgence of protectionism. In addition to an open and fair global trading system, it is also necessary that the international financial system provide a stable and supportive environment for job creation worldwide. It is therefore important that the employment and social consequences of international economic and financial policies are duly taken into account. This includes not only issues of job creation but also those relating to the reduction of inequality between rich and poor nations. These concerns can be addressed by ensuring that the reform and strengthening of the institutions for global economic governance include provision for a strong "social pillar."

Turning to national policies, there is little disagreement that economic and social investments to support adjustments to changing comparative advantage in the world economy have a critical role to play. Investments in developing and modernizing physical infrastructure create jobs while strengthening the basis for future competitive-

ness and growth. Similarly, investments in education and training are important for enhancing the capacity of workers to adjust to job opportunities and to changes in skill requirements — whether in new industries in the broader labor market or internally within existing firms. The aim is to increase the capacity of workers' "employability security," as U.S. Labor Secretary Robert Reich underscored at the ILO's annual conference last June. This, after all, is the true source of labor-market flexibility and implies a strong role for labor-market institutions.

These generalizations are equally true for industrialized, transition, and developing countries when adapted to their specific circumstances. In the transition economies, the priority is, of course, to complete the task of developing the institutional and policy framework appropriate to a competitive market economy. Without such a framework, economic and social investments will not lead to enhanced competitiveness and the successful integration of these countries into the world economy. In many developing countries too, a major agenda of policy reform remains to be completed. In addition, there are huge challenges of building up basic administrative capacities and of ensuring adequate opportunities for escape from mass poverty. Rapid labor-intensive growth in line with their comparative advantage has been shown to be the most effective means for reducing unemployment, underemployment, and poverty.

There is every reason to believe that the objective of full employment can be reconciled with other imperatives, such as maintaining a low rate of inflation. But the paths toward solutions — the new institutional arrangements and cooperative bargains that will have to be struck — are no doubt many and complex and will vary from national setting to national setting.

A basic mission of the ILO since its inception has been to promote such cooperative solutions to economic and social problems with the active partnership of employers' and workers' organizations. The ILO is the only agency in the United Nations system that is structured on a tripartite basis and in which the interests of workers and employers as well as governments find full voice. By reflecting their plurality of interests, the ILO recognizes that the market for labor must be viewed

not only in economic terms of allocative efficiency but, to use Robert Solow's words, as a "social institution." Concepts such as equity and fairness matter—and not only through some abstract appeal to universal social justice but in hard economic and political terms. This more complex view of the global employment problem is shared by those of you who are exploring the causal links between economic deprivation, rising criminality, and social and political fragmentation. Given good will and a shared commitment to social justice on the part of governments, workers and employers, it is well within the reach of human ingenuity to work out viable arrangements.

Such an approach should also be applied to other issues of labor-market reform. Unilaterally imposed reforms breed resistance and resentment which will ultimately rebound negatively on economic efficiency. Also, since unemployment is only one symptom of labor-market dysfunction, it is important to be aware of the dangers of a blanket approach to deregulation or, to put it in other words, of the risk of throwing the baby out with the bath water. Applied uncritically, deregulation may result in exchanging one set of labor-market problems for another; reducing open unemployment, for example, at the expense of diminished job quality and higher inequality. When it comes to labor-market rules, what is needed is a more nuanced policy approach that looks at both sides of the accounting equation—that is, their benefits as well as their costs. This is because the overall effects of the rules we live and work by can rarely, if ever, be independently isolated. Rules give incentives or disincentives for behaviors by fitting together as a system. For example, while the costs of employment protection are real, so is its positive impact on incentives to provide and acquire training and on productivity.

The goal should therefore be to work out optimal reform packages tailored to the setting which provide for greater efficiency and flexibility with a minimal sacrifice of the benefits that flow from essential regulation of labor markets and from a decent level of social protection.

These issues of labor-market reform and of ensuring the right tradeoff between efficiency and equity are also important for transition economies and developing countries. In the transition economies,

the central problem is that of creating new labor-market institutions and an incentive structure that can ensure greater flexibility and efficiency in the allocation of labor while providing essential safety nets and retraining opportunities for substantial numbers of displaced workers. **A** prerequisite for meeting this difficult challenge is the strengthening of labor ministries and representative organizations of workers and employers since this is the best means for ensuring an optimal balance among competing interests in the creation of new institutions.

In the developing countries, labor-market regulations typically extend to only a minority of the workforce that is in the modern sector. But it would be wrong to conclude from this that the issue is only of marginal importance. Labor-market regulations are crucial for protection against exploitation and for ensuring basic worker rights. They are also often important for improving labor productivity and channelling economic competition away from dead-end, exploitative options.

I leave you with three main thoughts. First, let us build upon the specific and often probing discussions we have had these past days toward a focus on the broad and fundamental objective of full employment. Unless and until that objective acquires center stage as the objective of economic policy itself--rather than as a residual accorded various weight by policy groups—our progress will be limited and our solutions, short-term. Second, employment is not just a matter of numbers. While we are rightly preoccupied with the quantitative dimension, we should not ignore the qualitative dimension. Of course, in any given situation and at any given time, priorities may conflict and the right point of balance may be hard to find. But the conditions under which work is performed, the livelihood it provides, and the solidarity shown by those with work and income toward those without: these are also measures of a decent society. Third, and finally, labor markets, once again, are social institutions and, in the words of the ILO's constitution, labor is not a commodity. This is not to say that prices and quantities do not matter in our understanding of how labor markets work. But if we think this is all that matters, then we risk seriously misunderstanding how the fundamental notions of fairness, equity, and security are as powerful laws of economic and social behavior as any other.

Overview
Unemployment: A German View

*Hans **Tietmeyer***

As a central banker, I belong to that class of people who, as Robert M. Solow has claimed, display "dignity without responsibility" in their attitude to unemployment in Europe.' I cannot speak for Europe as a whole; instead, I would rather confine the following remarks to (western) Germany, since in my opinion, the causes of the high unemployment rates in Europe — notwithstanding what one may read in many U.S. studies—differ quite considerably from country to country. This is suggested, for instance, by one symptom: the relatively low level of unemployment among young people in Germany and the high level in our neighbor and partner, France.

Nor has it escaped me, as a central banker, that the level of unemployment in western Germany has increased steeply in the past three decades. Taking the average of the 1960s, the unemployment rate was 1 percent; during the 1970s, it was 2 112 percent; in the 1980s, 7 percent; and currently, it is 8 1/2 percent. As has frequently been described, the rises generally occurred in steps, in the wake of recessions; as each successive recession was overcome, unemployment was left at a higher level than before. Largely in accordance with this pattern, the European Community commission[2] is expecting a further increase in unemployment in Europe in the further course of this decade.

In keeping with Solow's above-quoted prejudice against central

bankers, I regard the unemployment in western Germany as very largely being a structural phenomenon. It is primarily due to a whole series of factors which I cannot spell out comprehensively here, but only illustrate with the aid of a number of examples.

(1) In western Germany, there is, in several respects, a mismatch between supply and demand on the labor market. It is reflected among other things in the fact that high unemployment and substantial unsatisfied demand for labor coexist simultaneously. Even in the middle of the recession year 1993, the number of unfilled vacancies amounted to approximately three-quarters of a million — that is, to roughly one-third of the number of **unemployed.**[3] The reasons for this mismatch can be inferred from the fact that the percentages of jobless people who had not completed their schooling or vocational training, and of unemployed persons with health problems or of advanced age, were far higher than the corresponding percentages among the employed. There is no need to explain at length that — in line with the hysteresis hypothesis — it is precisely among these groups with unfavorable labor market characteristics that cyclical unemployment has changed over time into structural unemployment; the trend growth in the percentage of the long-term unemployed likewise derives from these groups. This mismatch has been evident for a long time in regional terms, too.

(2) The interaction of wage substitutes and social security benefits on one hand, and the burden of taxes and social security contributions on the other, lessen the incentive to work, particularly among the lower income groups. The wage substitutes in Germany are generous in two respects: the replacement ratio is comparatively high, and the wage substitutes are granted practically unlimited. Those who are not enti-tled to unemployment benefits or unemployment assistance receive welfare benefits. It can be demonstrated (with the aid — admittedly — of some rather extreme examples) that the differences between dis-posable income from employment and such wage substitutes are so small that starting work on the official labor market is not worthwhile. Even a wider gap between disposable income and wage substitutes does not necessarily imply any incentive to take a job on the official labor market. After all, the "gray" labor market, which owes its existence mainly to the heavy burden of taxes and social security contributions, in many cases provides the option of a spare-time job

yielding untaxed additional income. The result is that part of long-term unemployment seems to represent voluntary unemployment.

(**3**) Although there are hardly any regulations in Germany which directly impede employee recruitment, there are quite a number of provisions that build up high barriers to dismissals, and thus hamper such recruitment indirectly. For one thing, in the context of employee protection, dismissals are possible only after a notification period of between four weeks and six months. For another, dismissals for personal reasons must be "fair" and those for economic reasons must be "socially fair," with the courts having wide discretion in interpreting these criteria. They usually take advantage of this leeway to stress social considerations in favor of the dismissed employees; not infrequently, the outcome is severance awards amounting to several monthly salaries. Larger scale dismissals by enterprises employing more than twenty workers are subject to even stricter rules which provide, among other things, for generous compensatory payments to the dismissed employees in the context of what are known (and notorious) as "social plans." All in all, employee protection in Germany seems to be so far-reaching in its social motivation that it involves the unsocial outcome of hampering the employment, not least, of people with unfavorable labor market characteristics.

In the public debate on unemployment, which usually takes the form of a lament over the shortage of jobs, in Germany at least the price of labor—that is to say, the wage and wage-related other costs—is all too often disregarded or not regarded enough. A large number of the problems I have just discussed seems to be closely associated with the fact that the cost of labor in Germany is generally too high, and that wage differentials are not adequate. I regard that as a cardinal structural problem of the German economy. I am well aware that this assessment is not shared by all professional economists. That owes a good deal to the fact that there is no accepted yardstick for measuring the contribution of excessive labor costs to the level of unemployment. Hence all that is left is merely the general statement that the price of labor is evidently not market-clearing.

The west German structural wage problem has come into being, as it were, in several stages. In the early 1970s, when the economy was

booming and the controls on inflows of workers from outside the EC
were strengthened, it became the explicit aim of the west German
labor unions to secure a larger share of national income for employees.
At bottom, for a long time they .were largely successful in this
strategy—though partly to the detriment of the value of money, and
partly at the cost of a much higher level of unemployment than before.
Another characteristic feature of wage rate policy during the 1970s,
moreover, was its social motivation, to the effect that the lower income
groups were awarded above-average wage raises, particularly in the
form of what were known as "basic" pay increases—which had the
result that low-paid work, and therefore, in large part, less-qualified
work, went up in price particularly steeply.

In the late 1970s and early 1980s, the labor supply in western
Germany began to grow much faster, mainly owing to demographic
factors; during the 1960s and early 1970s, it had risen only very
moderately. With the advent of immigration toward the end of the
1980s and the influx of ethnic German resettlers and of commuters
from eastern Germany, the supply of labor surged anew. It must be
admitted that, after the recession in the early 1980s had been overcome
and during the subsequent prolonged upswing, management and labor
made successful efforts to exercise wage restraint. However, this
restraint apparently went no further than that exhibited under the
earlier conditions of a sluggishly expanding potential labor force; that
is to say, in the changed circumstances, it did not go far enough.

At first sight, this looks like the familiar insider-outsider problem,
but in fact, that does not apply altogether to Germany in a textbook-
like fashion. Under our social security system, insiders have to pay
for outsiders insofar as, by means of their contributions to unemploy-
ment insurance, they help to finance unemployment benefits to the
jobless; a growing number of outsiders means an increasing burden
on insiders as a result of rising contribution rates. However, I would
not rule out the possibility of a kind of "wage illusion" arising among
insiders which causes them to overlook this connection. Over the last
ten to fifteen years, a selection process has taken place on the labor
market in western Germany, in the wake of which, people with
unfavorable structural labor market characteristics have become out-
siders—gradually at first, but then increasingly. These persons have

often included poorly qualified employees, whose services remained comparatively expensive during the 1980s and 1990s, as well.

After all, wages policies and performance have changed in Germany, but the structure of wages has not followed suit in the past few years, although, in recent times, some first steps have been taken. Quite generally, inadequate wage differentials must be seen in close connection with wage movements, whereby labor and management in one industry or one sector, or in a particular region, acted as pacemakers for wage negotiations in the other areas of the economy. Wage drift likewise failed to generate more pronounced wage differentials; in recent years, wage drift has shown comparatively few, more or less cyclical, swings in western Germany. Against this background, the verdict that is commonly voiced in the literature to the effect that the spread of income from employment in western Germany has, if anything, decreased of late, as compared with the 1960s and 1970s, appears to me to be quite right.[4]

It is often asserted, particularly by U.S. observers, that only part of the unemployment in Europe, including Germany, is of a structural nature, while a not inconsiderable proportion is of a cyclical character, that is, due to lack of demand, which can be and must be remedied by means of familiar demand-management measures. As far as western Germany is concerned, the advocates of this hypothesis should be given pause by the various empirical studies on the non-accelerating inflation rate of unemployment,[5] which exhibit such a wide spread that, in the extreme case, all the unemployment currently prevailing in western Germany is claimed to be of a structural nature.

To be sure, in the literature there are today only a few who believe that there is a long-term tradeoff between unemployment and inflation (on a stable Phillips curve). Yet I think a majority of economists believe that there is such a tradeoff in the short run. But even those who argue along these lines concede that, in the light of the large public sector structural deficits, there is no scope for a corresponding expansionary fiscal policy.

Therefore — it is argued — monetary policy must assume this role. In other words, we are back at the traditional call to central banks to lower

interest rates. And I have heard that song many times during the last
few years and months. Now such demands are less frequent and loud.
But they are still there.

In this connection, it is all too often overlooked how far central bank
interest rates in Germany have actually been lowered since the early
autumn of 1992. In mid-September 1992, the discount rate stood at 8
314 percent; the Lombard rate, at 9 1/2 percent; and the rate for
securities repurchase transactions, at 9 314 percent. Since then, these
rates have been reduced to 4 1/2 percent, 6 percent, and 4.85 percent,
respectively. In any assessment of these interest rate reductions, it has
to be borne in mind that, quite generally, the interest elasticity of
domestic demand differs considerably from country to country. For
instance, the west German economy responds distinctly less than the
U.S. economy to changes in interest rates; this presumably owes
something to the fact that, particularly in the area of private residential
investment — the textbook example of an especially interest-elastic
demand component — (but by no means only there), government sub-
sidies undermine the impact of the interest-rate mechanism.

Moreover, the cyclical effects of short-term interest rates in western
Germany are exceptionally limited. According to our research, four-
fifths of all bank loans (the primary source of enterprises' external
financing) are of a longer-term nature; in the past two years, only new
loans of this kind have been granted on balance. The greater part of
them have been placed on terms oriented toward the capital market
rate. This indicates that in my country interest rates at the long end of
the market are of much greater significance than shorter-term rates.

The German capital market rate, which had stood at about 7 percent
since mid-1989 and had risen to around 9 percent before and imme-
diately after German reunification, fell to barely 5 1/2 percent, and
thus almost to an all-time low between the beginning of 1991 and the
beginning of 1994; this owed a great deal to capital inflows from
abroad, which were no doubt mainly caused by exchange rate move-
ments and expectations, as well as by confidence in the stability of the
deutsche mark.

The different movement of central bank interest rates and the capital

market rate should really have brought it home to many critics of our policy of "little steps," who were calling for a drastic reduction in official interest rates by one-and-a-half or two percentage points at a time, that the assumed mechanistic connection between interest rates at the short end and those at the long end of the market simply does not exist. At the longer end of the market, expectations—and that means the credibility of anti-inflationary policy—play a major role. In actual fact, an accelerated lowering of central bank rates would have involved the danger (especially in view of the overshooting of our intermediate target M3) of that being interpreted as a departure from our stability-oriented policy stance, which might have given rise to a loss of confidence, especially on the part of foreign investors. Ultimately, this would no doubt have resulted in an early upturn in interest rates at the long end of the market, which would have been counter-productive, at least insofar as investors are subject to money illusion.

Now that an upswing has got under way in western Germany, there is probably even less prospect of the success of any similar attempt to counteract an increase in interest rates at the long end of the market, particularly since the international environment has changed. By and large, in my view the Bundesbank, by deploying its interest rate policy, cannot successfully hold the longer-term interest rate durably below the level set by market forces.

This means that a reduction in unemployment due to a temporary deviation of the interest rate level can hardly be sustainable. And yet such an episode of central bank policy, which may result for instance, from overrating the cyclical component of unemployment, invariably gives rise to dangers of inflation, the causes of which can be traced not least to a corresponding response on the part of wage-rate policy.

Especially in Germany — given the attitude of our population, which in the wake of two hyper-inflations is particularly averse to inflation— we must try harder than some other central banks, maybe, to avert such risks. Against this background, it is also necessary to warn—as far as Germany is concerned— against the experiment suggested by Charles R. Bean in the course of this meeting, to the effect that a reduction in real wages should be aimed at by temporarily tolerating a faster pace of inflation.[6]

For the reasons I have mentioned, monetary policy cannot be expected to make an active contribution to a (lasting) reduction in unemployment. Instead, the no less arduous task of the Deutsche Bundesbank, at least, consists in creating the underlying monetary conditions that foster greater monetary stability. At the same time, this will pave the way for the responsible policy areas doing their bit toward reducing the level of unemployment.

This primarily constitutes a call to management and labor to make a higher level of employment possible by means of corresponding ongoing wage settlements, as well as by structural reforms of the wage-bargaining conditions. Parliament must embark on reforms in the same direction as well. For the individuals affected, measures of this kind may well be painful; what is more, only gradually do they promise to yield economic benefits. Both these factors together explain why such reforms will make headway only in small steps, at least in Germany.

Even so, there is no longer any reason today for fatalism and pessimism. In the 1993 wage round, and even more in this year's wage round, management and labor in western Germany — admittedly, under the impact of the deterioration of conditions in the labor market due to the recession — agreed on rates of wage increase which, if retained over the medium term, are certainly likely to yield a higher level of employment. True, the continuation of such wage restraint in the later stages of the upswing that is now under way is by no means assured.

The moderate wage-rate policy of 1994 was accompanied by a turnaround that almost merits the epithet "historic," inasmuch as management and labor for the first time reached agreement on greater flexibility of labor costs and working hours. For instance, the latest pay settlement in the chemical industry for the first time opened up an opportunity of recruiting long-term unemployed persons at a pay level below the agreed negotiated rates. This means that, for the first time, a settlement was reached from which outsiders benefit as well as insiders.

In the metal industry, in order to safeguard employment, enterprises can now reduce the agreed weekly working hours from 36 to 30,

without full pay being mandatory, at times when order books are thin. Moreover, Parliament has meanwhile taken initial steps toward reform, or such moves are impending. Among other things, private job placement, which hitherto has been permissible only for a few professional groups, has been allowed since the middle of this year. Under a new proposal by the federal government, the granting of unemployment assistance, which at present is virtually unlimited, is to be limited to two years. Furthermore, the replacement rate of unemployment insurance has been lowered by three percentage points; for recipients with at least one child, by one percentage point.

None of these are by any means spectacular measures, but rather initial small steps, but they do at least warrant hopes for the future. If this route is followed further 'in wage-rate policy and in dismantling structural impediments, there are certainly good prospects of pessimistic labor-market forecasts, such as those of the EC Commission, not corning true.

All of this applies in principle to eastern Germany, too, where the reasons for the present unemployment rate of 15.1 percent are, of course, far more complex. There is little doubt that the high level of unemployment in eastern Germany is mainly due to the sudden opening of the frontiers, the abrupt introduction of the deutsche mark, and the transfer of a not-very-efficient economic system into a full global competitive situation. This external shock has entailed profound changes in production and sales structures. At the same time, completely different'patterns of behavior on the labor market are required.

The adjustment process in eastern Germany is undoubtedly taking place more dramatically and more rapidly than in the other former CMEA countries of central and eastern Europe. On the other hand, it is also being fostered more strongly by transfers of financial resources and know-how from western Germany. A relatively high level of unemployment is presumably inescapable for a transitional period, since the changes in structures and patterns of behavior will take time. In my view, however, some of the present unemployment might well have been avoided.

It seems to me that a gradual introduction of monetary union (for instance, with variable exchange rates to begin with) was impossible. This is because that would have necessitated the preservation of the Wall for a time as the border between the two Germanys. Moreover, I think that the impact of the conversion rate of one-to-one for current payments chosen upon the introduction of the deutsche mark is overrated (especially by foreign observers), much though I personally would have preferred a different rate.

To my mind, the crucial reason for the current unduly high level of unemployment in eastern Germany is the largely unprepared transfer of the west German system of wage formation, of the education system, and of social legislation to eastern Germany, and the overly rapid harmonization of the general wage level without taking due account of the differences in productivity between east and west and between the individual economic sectors and enterprises.

But in this area, too, there are meanwhile initial signs of a possible moderation of the pace of wage harmonization between east and west and of greater flexibility in wage levels between enterprises. And yet, the impatience in eastern Germany to reach at an early date a standard of income which is fully comparable to that in western Germany remains unmistakable, and is understandable, too, in some respects.

In this connection, the economists still have a major job of persuasion to do. We at the Bundesbank are taking pains in our publications to do our bit to help, even if this is not always'much appreciated by those concerned. As I see it, however, independent central bankers not only bear responsibility for good monetary policy but also have a duty to enounce economic truths and draw attention to economic relationships, regardless of whether that suits those to whom it is addressed.

Endnotes

[1]Solow (1994).

[2]EC Commission (1993).

[3]Institut für Arbeitsmarkt-und Berufsforschung (1994).

[4]Franz/König (1986), Layard and others (1988), Flanagan (1987), Franz (1987), Gordon (1988).

[5]OECD (1993).

[6]Bean (1994).

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Closing Remarks

George Shultz

Without trying to summarize — I wouldn't try that task — let me make a couple of comments myself. First of all, I like the premise of this conference, which I take to be that the levels of unemployment in the Organization for Economic Cooperation and Development (OECD) countries as we see them measured are too high. They are undesirably high partly because unemployment represents lost output, partly because of the impact on individual people, and partly because of the undesirable social consequences when people are unemployed for too long and they do, in fact, change. So that is fundamentally the premise. And judging from the discussion, the basic proposition advanced is that a great deal of the explanation for the undesirably high levels of unemployment lies in what's identified as a rise in the natural rate of unemployment — that is, with various things that have happened in the way the labor markets work that cause that rate to rise.

Now there has been a certain reluctance — particularly expressed this morning — to accept that completely, a feeling that maybe it's a cop-out by those who are in charge of demand management. But nevertheless, it seems to me the power of the analysis that labor market problems are responsible for this undesirable characteristic has been put forward convincingly. So the question is, what to do about it?

Here it seems to me what we have been offered is modest, and perhaps appropriately so. To use a baseball analogy, perhaps this is one of those areas where you have to say there is no home-run ball. And the way you get your runner around the bases is through singles,

stolen bases, hit batsmen, and so on. It's that kind of a game where you look for incremental changes that move you in the right direction. That is **particularly** so since we are dealing with an area where the political-economic intersection is extremely sensitive. So you have to look for things that can pass **through** a fairly small eye of a needle.

In that sense, a subsidiary part of what I announced as Assar **Lindbeck's** law—that users of the system are smarter about how it works than people who design and administer it—is that a lot of the people who are unemployed and that we are worrying about are smart. They understand the system they are in, and they are spending an awful lot of their time figuring out how to work the system. So we look for those incremental changes that will cause these people to change the direction of their ingenuity, to say: How can I use this system to get into another one that's better? And we have been offered a few recommendations for such changes.

To a degree, it seems to me that we can be a little optimistic—at least in the sense that the start of solving one of these problems is always recognizing that you have one. And until you recognize that you have a problem, you're really not going to face up to doing something about it. In that sense, we can feel reasonably optimistic, and we can say that it's the job of people like those who are gathered here to be looking for those things that will be helpful so that they will be ready for that political moment when perhaps they can be adopted in the various countries involved.

I would like to say a word about a little different problem. It's an unemployment problem, yet it has been hardly noticed here, only hit on very gingerly once or twice. But it seems to me that our discussion has been largely about people who, though unemployed, are nevertheless within a system. We understand the parameters of that system, so we can argue about it and work to improve it. But there is another group of people that I feel is growing in the United States—I don't know about Europe—that are not really in this system. They are in a system of crime and drugs, of no family attachments, and of gang attachments. Just because they are not in school doesn't mean they aren't smart. Sometimes they are extremely ingenious. But they are in a different pattern, a different system. They are not in the system

that we were **talking** about. And it's a real problem. They are unemployed in one sense, but they are busy as all get out in another sense. And I think that we have to address those issues because they are difficult and they are extremely important. It is a threat to society if we don't do something about people in this alternative system.

Just to make the point, I would like to mention something totally outside the scope of what we have been talking about. I had a conversation a few months ago—maybe six or eight months **ago**— with the then-prime minister of Algeria. (He's not prime minister anymore.) I asked him what he could tell me about the threat that I read about all the time of Islamically motivated violence as a problem both in Algeria and elsewhere. And he said: "I would have to say that the government has done such a terrible job of managing the Algerian economy that the bulk—like two-thirds--of young people in Algeria are unemployed. They don't have a job, and they don't have any prospect of having a job. So what are they doing? They are just hanging around, and it's a very explosive situation. It's not truly a religiously based situation. It is instead a situation that derives from this economic hopelessness."

Now that would be way overdramatic as a characterization of the situation in the United States, but I think there are places in the United States which are **kind** of like Algeria. So this is a different kind of unemployment problem that was only touched on here. Perhaps the closest thing to something prescriptive about it was the comment of Jim **Heckman** that there are undoubtedly big payoffs to early action at very early ages, and for efforts to get at least the very young out of the cycle that leads an undesirably large and yet still growing group of people into this other pool.

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