Commentary: The Role of Demand Management Policies in Reducing Unemployment

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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 persistent 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 employment 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 π^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.

Author's Note: Discussions with colleagues in the Research Department of the International Monetary Fund, in particular David Coe, Morris Goldstein, and Michael Mussa, were helpful. However, the views expressed are those of the author and do not necessarily represent those of the Fund.

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 $\alpha = 1$ implies no learning and close to old-fashioned Keynesian case (with a constant deviation), and $\alpha = 0$ 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) $U = U(\pi_t, \pi_{t+1}, \pi_{t+2}, \ldots; u_t, u_{t+1}, u_{t+2}, \ldots)$

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) $\pi_t = \delta 1\pi_{t-1} + \delta 2\pi_{t-2} + \delta 3u_{t-1} + \delta 4u_{t-2}$

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 question 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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