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The Faster Growth of Larger, Less Crowded Locations

By Jordan Rappaport

Over the past few decades, the population and employment growth of small and large locations in the United States have diverged. Many smaller cities and rural areas saw declining population and employment from 2000 to 2017 as residents and jobs migrated to larger, more prosperous locations. This migration might suggest that the benefits of size, such as business productivity and urban amenities, have become greater over time. However, the migration might also reflect other factors, such as the disproportionate specialization of smaller locations in the declining manufacturing and agriculture sectors.

Jordan Rappaport documents the faster population and employment growth of medium and large metropolitan areas compared with smaller locations and finds growth is strongly positively correlated with population. Moreover, he finds that most of this correlation is driven by size itself rather than other characteristics. However, he also finds that this relationship breaks down for the largest metro areas. His results suggest that both the benefits and costs of size have increased over the past few decades.

Machine Learning Approaches to Macroeconomic Forecasting

By Aaron Smalter Hall

Forecasting macroeconomic conditions can be challenging, requiring forecasters to make many discretionary choices about the data and methods they use. Although forecasters underpin the choices they make about models and complexity with economic intuition and judgement, these assumptions can be flawed. Machine learning approaches, on the other hand, automate as many of those choices as possible in a manner that is not subject to the discretion of the forecaster.

Aaron Smalter Hall applies machine learning techniques to find an optimal forecasting model for the unemployment rate. His results suggest that when supplied with diverse and complex data, a machine learning model can outperform simpler time-series models as well as a consensus of professional forecasters, with better performance at shorter horizons. In particular, his results show that a machine learning model can identify turning points in the unemployment rate earlier than competing methods.

The Response of U.S. Investment to Oil Price Shocks: Does the Shale Boom Matter?

By Nida Çakır Melek

After an unprecedented decline from 2014 to 2016, the real price of oil more than doubled, renewing interest in the effects of oil price fluctuations on the U.S. economy. The oil sector has become increasingly important to the U.S. economy over the past decade, and total U.S. business fixed investment appears to have followed oil investment's pattern in recent years. This positive correlation between oil prices and U.S. investment growth may be related to the surge in U.S. oil production known as the shale boom.

Nida Çakır Melek explores the effect of unexpected oil price changes (or "shocks") on U.S. investment and examines whether this effect changed after the shale boom. She finds that U.S. investment has become more responsive to demand shocks and less responsive to oil supply shocks since the shale boom. In addition, she finds that oil investment has become more responsive to oil supply and demand shocks since the boom. Her results suggest that the shale boom led to greater spillovers from the oil sector to the aggregate economy.

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