

ECONOMIC COMMENTARY

Federal Reserve Bank of Cleveland

Can Conventional Theory Explain the Unconventional Recovery?

by David Altig and Michael F. Bryan

The real state therefore is one that is in continuous oscillation around a central equilibrium point, which itself is in motion.

Pareto

Ask the average intelligent observer of economic matters to define a business cycle and chances are good that you will receive an explanation along the following lines: Advanced economies are characterized by long-run trends in the level of gross domestic product (GDP) that can be predicted with virtual certainty.¹ However, the actual path of output is not smooth. GDP will sometimes be above its trend level, and sometimes below. It is this "cycling" around the long-run trend that defines the periods of contraction and expansion that constitute the business cycle.

Though intuitive, this view oversimplifies the actual method of measuring turning points in business activity employed by the official arbiter of business cycles, the National Bureau of Economic Research (NBER). Following the pioneering work of former Federal Reserve Chairman Arthur Burns and economist Wesley C. Mitchell, the NBER defines peaks and troughs of business activity as contractions and expansions in "aggregate economic activity," as captured by a collection of economic data. In Mitchell's words: "...a cycle consists of expansions occurring about the same time in many economic activities, followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle" (emphasis added).²

This is a distinction with a difference.

The narrow vantage point of cyclical activity as a sequence of transitory deviations of GDP from a relatively stable trend—which we will for simplicity refer to as the "conventional view" of business cycles—leads naturally to the presumption that the economy does not function properly in the short run. Indeed, this view practically invites the common belief that economic swings reflect some breakdown of the invisible hand that is supposed to direct markets, whether as a result of price or wage inflexibility, of misperceived price signals arising from volatile and uncertain monetary policy, or of imperfections in credit markets. This interpretation of business fluctuations also invites the perspective that monetary policy plays a central role in the generation of the business cycle.

The inevitability of this world view is substantially undermined once cyclical fluctuations are perceived as contractions and expansions that are "occurring about the same time in many economic activities." To think of business activity as a collection of stylized facts concerning the comovements of all economic variables is to conceive of an organic economic universe in a process of continuous adjustment, where each piece is a part of larger, sensible whole. Fluctuations in such a universe could indeed reflect the temporary breakdown of market mechanisms along an otherwise smooth and predictable trajectory. But equally plausible is the possibility that the economy's trajectory shifts frequently and that economic aggregates move

In examining current conditions, we should look beyond the conventional view of business cycles to see that permanent, structural change may be largely responsible for the recovery's sluggishness. In fact, structural adjustment seems to be an important component of all economic fluctuations. What distinguishes the current economy is the lack of a typically "cyclical" element.

together in consistent fashion, in both the short and long run, precisely because markets are working.

To entertain this possibility is to interpret economic fluctuations first as the result of a market equilibrium in which the participants exhaust all mutually advantageous gains from trade. We argue that this approach provides a useful framework for understanding the supposedly aberrant behavior of the economy in recent years. We contend that recent phases of the U.S. business cycle reflect not so much a failure of the marketplace as a fundamental change in the economy's structure. Consequently, we reject the notion that our slow recovery stems from inadequate aggregate demand that can be remedied by expansionary monetary or fiscal policies. In fact, the current economic climate is not distinguished by an unusual amount of structural change; such adjustments are common in economic fluctuations. Rather, it is the absence of a cyclical, or temporary, component in the economy's recent downturn that is uncommon.

■ The Conventional View and the Conundrum of Cycle vs. Trend

The difference between cyclical and structural movements in the economy involves an important, though subtle, distinction. As the term is generally used, a cyclical movement is a deviation from economic equilibrium, back to which the economy will ultimately "recover." Structural or trend movements, on the other hand, are motivated by a change in the economy's potential and are reflected by a reallocation in the economy's resources.

Unfortunately, it is impossible to differentiate, empirically or theoretically, between cyclical and structural movements without a complete model of the economy. If we cannot locate the economy's potential, we can never clearly separate *oscillations* around the trend from *movements* of the trend. Typically, structural changes are assumed to be gradual, long-term phenomena that can be reasonably represented by a smooth, long-term growth trend. In the conventional view, cyclical movements can be seen as the variations around that trend (see figure 1).

The role of the government in such a world is clear—to minimize the economy's fluctuations around trend through the use of well-timed countercyclical fiscal and monetary actions. In the case of monetary policy, the Federal Reserve System is called upon to lower interest rates when the economy is operating below its potential, and later to increase rates to offset any growing inflationary pressure when the economy rises above its potential.

According to the conventional view, the economy has been operating below its potential since late 1989, suggesting that the central bank should be actively pursuing policies aimed at accelerating growth. Indeed, the Federal Reserve has reduced money market interest rates by roughly 400 basis points during the past 20 months. Although there were accessory considerations, such as below-target monetary expansion, the economy's sluggish performance was certainly the principal motive for these interest-rate cuts. Similarly, both Congress and the administration are actively espousing the implementation of tax cuts specifically

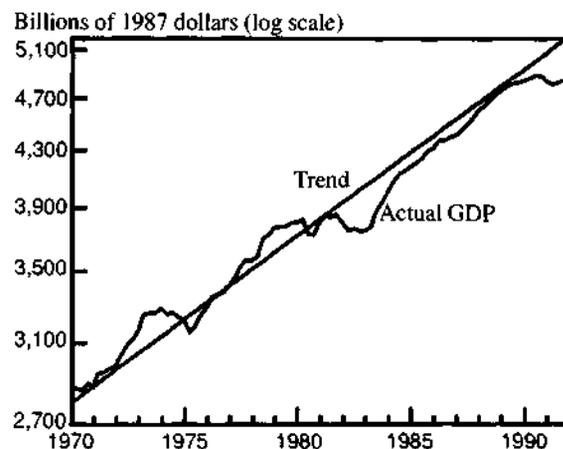
designed to stimulate economic growth. But the role of economic policy in the case of structural adjustments is much less clear. If the economy is in transit from the old equilibrium to a new one, attempts to alter its course will only frustrate and prolong the transition.

■ Beyond the Stable Trend

Although few, if any, economists take literally the view that the long-run trend of the economy is completely predictable, a common presumption is still that the economy's trend changes only slowly over time. Thus, for example, the trend line that represents potential output in figure 1 implies that only 1 percent of the variance in real quarterly GDP growth is accounted for by fluctuations resulting from structural changes that affect trend. In a 1982 paper, economists Charles R. Nelson and Charles I. Plosser issued an important and far-reaching challenge to standard thinking on the dichotomy between the cyclical and trend phenomena that underlie figure 1.³ The thrust of their article was that, as a statistical matter, most macroeconomic variables (including total output) are not well described as fluctuations around a constant trend. Rather, they argued, macroeconomic variables are best seen as responding to a variety of shocks, some of which permanently affect the levels of those variables and some of which have only transitory effects. The Nelson-Plosser view implies that the GDP trend is not smooth or slowly changing over time, but is itself random, fluctuating constantly in response to structural shocks such as oil shortages, droughts, and changes in technology—events that permanently change the economy's long-run equilibrium.

This article provided the impetus for a good deal of research aimed at disentangling the permanent and transitory components of economic fluctuations. Various studies now estimate that the contribution of trend changes to the quarterly variance in national output ranges from 27 to 72 percent.⁴ Stated plainly, changes in the economy's trend may account for a large share, if not most, of its quarter-to-quarter fluctuations. These conclusions are, of course, conditioned on the economic model and econometric assumptions that underlie each

FIGURE 1 THE CONVENTIONAL VIEW



SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; and authors' calculations.

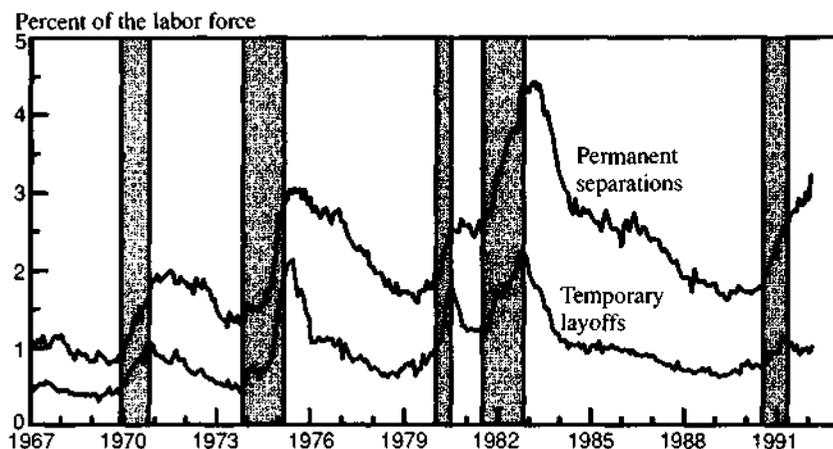
particular study. But even in the most conservative case, the contribution of permanent, structural effects to quarterly economic swings far exceeds that implied by the conventional view.

■ The Equilibrium View of Economic Fluctuations

The evidence presented by Nelson and Plosser reinforced an idea that had already gained considerable influence by 1982—that economic fluctuations in general could be understood as equilibrium outcomes. By the late 1970s, this idea had been designated as "New Classical" theory, although "equilibrium business cycle" theory more accurately describes its essence. The seminal work during this period was still rooted firmly in conventional business-cycle theory, in that aggregate demand shocks—namely, misperceived changes in the money supply—remained a key force driving cyclical fluctuations.

A significant shift in the emphasis of equilibrium business-cycle models occurred in the early 1980s. In place of the presumption that monetary policy changes were the underlying cause of cyclical variations came the suggestion that real shocks to the economy were an important, and perhaps the primary, agent of such fluctuations. Because of the emphasis on real shocks, this variant of the equilibrium business-cycle approach became known as real business cycle theory. This perspective introduced the possibility that

FIGURE 2 CYCLICAL AND STRUCTURAL JOB LOSS



NOTE: Shaded areas indicate recessions.
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

the very same factors at work in determining the economy's potential could help to explain short-run fluctuations.

Consider, for example, a change in tax policy that reduces incentives to save and to accumulate capital. Although we might expect the economy to return eventually to its pre-policy rate of growth in the absence of other shocks, we would also expect the amount of capital in the economy, and hence the level of output and consumption, to be permanently lower than that which would have been realized under the old taxation rules.⁵ Additionally, changes in wages, interest rates, and output would exert important influences on the near-term behavior of households and firms as the economy made the transition to its new long-run equilibrium. Thus, tax policy would not only affect the long-run state of the economy, but it would also cause business activity to exhibit short-run fluctuations as the adjustment to that state unfolded.

The innovation of the real business cycle approach was the demonstration that cyclical phenomena could be replicated quite well as the equilibrium outcomes of generic shocks to the productivity of capital and labor. This perspective does not require that money is literally neutral, that factor mobility is frictionless, that information is perfect, or any of the other extreme assumptions of which real business cycle theorists are sometimes accused.⁶ Indeed, it is likely (in our view) that one

or more of these complications are necessary to explain cyclical patterns in at least some macroeconomic variables. But real business cycle models, along with the empirical observations of Nelson and Plosser, invite us to return to our notion of short- and long-run economic activity as a sequence of equilibrium outcomes that is intelligible by the application of our cumulated knowledge of how households and firms respond to an ever-changing environment. This, we believe, is the necessary context in which to understand the U.S. economy in 1992.

■ The Slow Recovery:

A Case for a Structural Explanation
Despite recent monetary policy actions, the economy has not responded with any potency. Although we might make the standard appeal to "long and variable lags" of monetary policy effects, we believe that the sluggishness of the current recovery reflects a more fundamental shift in the economy that may not be easily addressed using the standard monetary/fiscal incentives.⁷ This perspective was described in the 1992 Economic Report of the President:

Our recent economic problems are a reminder that even a well-functioning economy faces the risk of temporary setbacks from external shocks or other disturbances. Market economies, such as the United States, are continually restructuring in response to technological changes and external events. (p. 3)

The existence of a large, ongoing structural adjustment is suggested by recent patterns of economic expansion. The economy was growing substantially below average for several years prior to the 1990-91 recession and has continued on a sub-par pace for almost a year following its trough. In fact, business analysts agree almost uniformly that the factors responsible for the latest downturn were in place well before the recession began, and are continuing to restrain our rate of expansion today.

We can gauge the amount of structural change in the economy more directly by examining patterns in unemployment data (figure 2). Since the recession officially began in July 1990, there has been a sharp rise in the unemployment rate resulting from jobs lost, a pattern that is characteristic of all recent recessions. However, unlike the case in previous downturns, virtually all of the job loss during the latest recession resulted from permanent (structural) separations, rather than from temporary (cyclical) layoffs.

In fact, the pattern of structural job loss is not the uncommon feature of the recent rise in joblessness. Increases in permanent separations have occurred in roughly the same magnitude in every recession of the past 25 years, suggesting that structural change has been an important element in each of the past five downturns.⁸ Rather, it is the absence of a rise in cyclical layoffs during the latest recession that is unusual from a historical perspective. That is, our current economic landscape is almost entirely the product of permanent, structural change.

■ Conclusion

We can readily identify factors that have spurred significant structural adjustments in the U.S. economy. Again, as stated in the 1992 Economic Report of the President,

The American economy experienced an unusual confluence of such imbalances in recent years, for example in the financial and real estate sectors, and in household, corporate, and governmental debt. At the same time, a major reallocation of resources from defense to other sectors has been under way. (p. 3)

To these we would add the imbalances that resulted from government policies such as the Tax Reform Act of 1986 and regulatory changes in the financial sector—reforms that policymakers hope will ultimately result in a stronger, more efficient economy.

That fluctuations associated with structural adjustment should accelerate in designated recessionary episodes is not surprising in a historical context: There appears to be a rather strong relationship between temporary layoffs and permanent job loss. Specifically, changes in cyclical layoffs generally precede changes in permanent separations for periods of up to seven months.⁹

Unlike the gradual, almost plodding, description of the economy's potential provided by conventional economic theory, the message indicated by the timing of permanent separations and temporary layoffs is that a disproportionate share of structural adjustment occurs when the economy is in a period of recession. Thus, while it may be that structural imbalances accumulate gradually over time, structural change may take place over relatively short intervals. This description seems particularly apt as we contemplate the current state of the U.S. economy.

■ Footnotes

1. Our well-informed average intelligent observer knows that referring to gross national product—which differs from GDP by the addition of output produced beyond domestic borders—is hopelessly passé.
2. See Wesley C. Mitchell, *Business Cycles: The Problem and Its Setting*. New York: National Bureau of Economic Research, 1927.
3. See Charles R. Nelson and Charles I. Plosser, "Trends and Random Walks in Macroeconomic Time Series: Some Evidence and Implications," *Journal of Monetary Economics*, vol. 10, no. 2 (September 1982), pp. 139–62.
4. For an accessible review of this research, see John Boschen and Leonard Mills, "Monetary Policy with a New View of Potential GNP," Federal Reserve Bank of Philadelphia, *Business Review*, July/August 1990, pp. 3–10.
5. A growing number of economists subscribe to the view that real shocks of this sort will permanently change the growth rate of the economy. For a particularly readable explanation of this view, see "Economic Growth: Explaining the Mystery," *The Economist*, January 4, 1992, pp. 15–18.
6. In this respect, the "real business cycle" nomenclature is somewhat unfortunate. To be accurate, real business cycle models are equilibrium variants of the quantitative-theoretic modeling approach, a description of which is given in Edward C. Prescott, "Theory Ahead of Business Cycle Measurement," Federal Reserve Bank of Minneapolis, *Quarterly Review*, vol. 10, no. 4 (Fall 1986), pp. 9–22. The importance of money as a causal factor in cyclical fluctuations is not an assumption of this approach, but rather an object of investigation. On this issue, see Finn E. Kydland, "The Role of Money in a Business Cycle Model,"

Federal Reserve Bank of Minneapolis, Institute for Empirical Macroeconomics, Discussion Paper 23, December 1989.

7. Although we profess to be in recovery, the NBER has not yet officially designated the dates of our most recent recession. In fact, it is common to hear claims that the recession has not yet ended. By most accounts, however, the trough of the last cyclical downturn occurred sometime in the second quarter of 1991, and we make this assumption here.

8. For a detailed discussion, see Robert W. Bednarzik, "Layoffs and Permanent Job Losses: Workers' Traits and Cyclical Patterns," *Monthly Labor Review*, September 1983, pp. 3–12.

9. This estimate comes from examining the cross-correlations of temporary and permanent layoff changes from February 1967 to February 1992.

David Altig and Michael F. Bryan are economists at the Federal Reserve Bank of Cleveland. An early version of this paper was presented at Baldwin-Wallace College, Berea, Ohio, on February 7, 1992. The authors would like to thank Omecron Delta Epsilon, the economics honorary, for providing the forum for these remarks.

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