7-1990

Debt and Business Cycles

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Business Economics

Volume XXV | July 1990 | Number 3

Contents

4 **The Editor's Space**

THE BUSINESS CYCLE REVISITED:

5 **A Guide to What is Known About Business Cycles** ..... Victor Zarnowitz

14 **A Primer on Real Business Cycles, or the ABCs of RBCs** ..... Mark Rush

23 **Debt and Business Cycles** ..... Hyman P. Minsky and Mark D. Vaughan

29 **International Factors Affecting the U.S. Business Cycle** ..... Marc Hendriks

THE MONEY ECONOMY:

36 **The Use of Market Price Data in the Formulation of Monetary Policy** ..... Robert E. Keleher

THE BUSINESS ECONOMIST AT WORK:

42 **Behind the Economic Indicators of the NAPM Report on Business** ..... Robert J. Bretz

49 **Inland Steel Industries** ..... Bernard Lashinsky

53 **International Perspective: Reunification in Germany — Its Economic and Financial Implications** ..... Klaus Wieners

57 **The Statistics Corner: A Brief Look at Bush's Statistics Budget** ..... Joseph W. Duncan

60 **The PC Corner** ..... John H. Qualls

63 **Monitoring the Journals** ..... Edited by Fred Bateman

BOOK REVIEWS:

68 **Political Economy and International Money: Selected Essays of John Williamson** ...James E. Payne

Debt and Business Cycles

By Hyman P. Minsky and
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Although a major depression has not occurred in the period since World War II, financial instability has increased. However, this threat to the economy is not considered in either most current theories or econometric models of the economy. Thus far, Big Government and The Big Bank have prevented an economic collapse. Given our current precarious financial structure, a useful economic theory must address the implications of financial fragility and indicate how to contain financial crises. The Post-Keynesian vision of the economy is more relevant for the 1990s, both as economic theory and as a guide to economic policy, than the available alternatives, because it integrates the real economy with the financial world in a meaningful way.

WHAT DO WE know about business cycles now, at midyear of the first year of the last decade of the twentieth century? This question may seem curious in 1990 because no serious depression has occurred for more than fifty years. Granted, the United States' economy has endured minor, short-lived recessions and rolling adjustments during which particular regions or industries suffered harshly; nevertheless, no deep, long-lasting decline in overall economic activity on the order of magnitude of the 1930s has taken place.

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For the United States and the other advanced capitalist economies, this failure of "It," a major depression, to happen again ranks as the single most important economic event of the forty-five years since the end of World War II. In the light of history, the postwar era is the anomaly; deep depressions were regular features of the capitalist experience during the century that preceded the Great Depression. Indeed, this lengthy respite from a general economic collapse implies that the capitalist economies of the second part of the twentieth century are markedly different in some essential way from the capitalist economies of the prior 100 years.

A GREAT DEPRESSION AHEAD?

Marx wrote that the specter of communism is haunting capitalism. Today, the disintegration of the "iron curtain" has laid this specter to rest; no one seriously entertains the notion that the Soviet Union or the organized Communist parties of the developed world offer a viable alternative to a market-based economy. Yet, a new specter is haunting the rich, capitalist countries of the developed world. This specter arises from the fear that our good fortune is over, the fear that a 1930s-type economic collapse lies in the immediate future.

One cause of this fear is the belief that the successful performance of the capitalist economies in the postwar era owed much to the mobilization of resources to contain what was, until not long ago, known as the evil empire. The fear is that, without a monolithic enemy to sustain government defense spending, the props buttressing the capitalist economies will buckle, thereby, leaving the industrial world to crash into depression.

Another contributor to the fear that "It" will happen again takes the form of persistent doubts about the economy's ability to support the liability struc-

tures that the private and public sector have built up during the past forty-five years. The fearful believe that the economy is in some sense overindebted and, hence, vulnerable to a debt-deflation of the sort to which Irving Fisher attributed the Great Contraction of 1929-33.[1]

The Great Depression of the 1930s still stands as a watershed event in the history of advanced capitalist economies. It stemmed from an integrated collapse of the monetary and financial system and of what economists later came to call aggregate demand. During the aggravated decline of 1929-33, rather than promoting systemic coherence, the self-interested behavior of each economic unit — households, businesses, banks, and nonbank financial institutions — made things worse for the macroeconomy.[2] Instead of restoring stability, the free-market adjustment process exacerbated "disequilibriums."

Today, there is ample evidence to suggest that, somewhere in the capitalist world, a financial breakdown, such as was part of the process by which the United States' economy spun out of control in the early 1930s, might recur. Argentina is out of control. In Japan, real estate values as well as equity prices on the Tokyo stock exchange appear to be in a transition from a Kindleberger euphoria[3] to more realistic levels. In the United States, there is concern that the economy cannot sustain the debt-layering and pie-in-the-sky asset values that the leveraged-buyout boom left in its wake. In addition, the magnitude of the savings and loan debacle has overwhelmed the deposit insurance mechanism, thereby forcing the U.S. Treasury to intervene. These, coupled with the chronic budget and foreign trade deficits of the United States, are ominous events.

Renewed Financial Instability

No serious episode of financial instability occurred during the first twenty years of the postwar era. Due in large part to the financial structure conservatism induced by the Great Depression and the controls of World War II, extraordinarily low ratios of private indebtedness to aggregate income obtained for much of that period. As a result, the private financial structure exhibited singular robustness. In practical terms, cash flow commitments due to liabilities were very small relative to incomes.

That robustness did not endure, however. From most chronologies, the "Credit Crunch" of 1966 ushered in an era of financial instability and crisis. Since then, financial traumas have become a commonplace. In particular, serious financial disturbances marked Volcker's watch at the Federal Reserve. Although many have credited Volcker with tenaciously clinging to monetarist precepts in the formulation of monetary policy, in fact, the most striking characteristic of the 1979-87 Volcker era was the Fed's frequent and effective intervention as a lender of last resort. For example, the Federal Reserve moved to abort or to contain financial crises associated with the Belgrade meeting of the IMF in 1979, the Hunt silver crisis of 1980, the Mexican Debt crisis of 1982, the Penn Square oil patch crisis of 1982, and the Continental Bank of Chicago crisis of 1984.

THEORETICAL BACKGROUND

In spite of the frequent recurrence of financial instability over the past twenty years, conventional business cycle theory has, for the most part, completely abstracted from financial institutions and practices. As a consequence, the behavior of the U.S. and the world capitalist economies since the late 1960s has not been kind to the explanations of business cycles set forth by the leading theorists. In 1969, for example, large-scale econometric models, of the sort pioneered by Lawrence Klein, embodied the economic theory that dominated the research agenda, the macroeconomic policy analysis, and the advice that most economists offered politicians and businessmen. These models largely reflected the Hicks-Hansen[4] interpretation of Keynes, an interpretation that conspicuously overlooked the financial structure of the economy. Hence, just as President Nixon in one of his policy gyrations exclaimed, "We are all Keynesians now," one of the linchpins of this Keynesian econometric model approach, a presumed trade-off between inflation and unemployment, evaporated in the face of two serious oil shocks.[5]

Even prior to this failure of large-scale econometric models, however, new variants of the old pre-Keynesian model resurfaced and gained adherents. Monetarism, which held roughly that Federal Reserve policy could precisely control the money supply and that the money supply could effectively determine nominal national income, garnered support as the existing econometric models failed to forecast the course of inflation and as policymakers groped for a policy to contain rising prices.

Meanwhile, New Classical macroeconomics, which in many respects represented the apotheosis of monetarism, became a dominant force in business cycle research. The New Classical economists attacked the Keynesian econometric models as "fatally flawed;" they argued that these models treated

[1]See footnotes at end of text.

expectation formation, which underlay the forward-looking decisions that are of special importance in investment and portfolio management, on an ad-hoc basis rather than deriving them explicitly in a manner consistent with economic theory. This critique attracted many followers, for it seemed to offer a convincing explanation of the failure of large-scale models.

Yet, in turn, economic events of the 1980s tested both the monetarist and New Classical models and found them wanting. The correlation between the money supply and nominal income, the empirical keystone of monetarism, completely disintegrated in the 1980s.[6] Furthermore, the central policy implication of New Classical macroeconomics, namely that a fully announced, fully expected change in monetary policy will not affect real economic activity, itself proved fatally flawed. The fully advertised use of monetary restraint to break inflation during 1981-82 induced a precipitous drop in real production and pushed unemployment to postwar highs. In addition, none of the models — neither conventional Keynesian, Monetarist, nor New Classical — could explain the unparalleled accumulation of public and private debt in the 1980s.

It is easy to recite a litany of the predictive failures of the leading models of the 1970s and 1980s; the challenge to the student of the business cycle lies in spotting the common denominator in this litany and building a theory that does not suffer from this the common flaw. Econometric Keynesianism, monetarism and the New Classical economics share one common thread: They do not explicitly consider the financial relations of a capitalist economy. Ignoring financial markets while trying to explain the behavior of advanced capitalist economies is like ignoring the Prince in casting a production of *Hamlet*.

Including Financial Considerations

Ever since the late 1960s, an alternative theory, "Post-Keynesian" economics, has stressed another interpretation of Keynes that does not omit financial considerations. To Post-Keynesians, Keynes was first and foremost a monetary theorist who studied financially sophisticated capitalist economies. They point out that Keynes was not merely a Cambridge don; he was also active in "The City" and in political affairs. The power of Keynes' ideas, Post-Keynesians argue, stems from the fact that his real-world observations informed his economic theorizing.

In his magnum opus, *The General Theory of Employment, Interest, and Money*, Keynes expounded an investment theory of the determination of national income as well as a financial theory of investment. As a testament to his real world experience, Keynes' financial theory of investment began at the heart of an advanced capitalist economy, in boardrooms as bankers and businessmen negotiate the financing arrangements for capitalist enterprise. This theory is the building block for Post-Keynesian analysis and the proper starting place for business cycle theory.

In an advanced capitalist economy businessmen, bankers and portfolio managers continuously place bets about the future. These bets take the form of exchanges of money now for either the purchase of capital assets or investment outputs, which are expected to earn profits in the future, or for financial contracts, which are promises to pay money in the future. All of the participants in such financing recognize that the future cash flows generated by the capital assets and investment output are uncertain and, therefore, may prove inadequate to sustain the commitments on the liabilities.

A deeper understanding of this "betting" requires an exploration of the firm's investment decision; this, in turn, entails a recognition that capitalism operates with two distinctly different but interactive price levels: the price of current output and the price of capital assets. The decision to order investment output begins with a comparison of the price of capital assets — the capitalized value of expected profits — and the price at which producers offer to deliver investment output. Simply put, firms will invest when, adjusted for risk, they impute a higher value to an investment project than the supply price of the investment output.

One must never overlook, however, the fact that the demand for investment output requires financing. Firms may finance investment with internal funds, retained earnings, and external sources such as borrowing from banks and markets as well as the sale of equities. The financing of investment provides the arena in which business men and bankers interact.

Lender's and Borrower's Risk

In a world of uncertainty and external finance, the investing unit and the financing unit must weigh risks. Firms carry borrower's risk, and they adjust the demand price for investment output downward from the value they place on capital assets to compensate for the risks of financing by borrowing. Investing units do this because external financing raises the specter of default, with its attendant losses to the borrower. As a firm comes to rely more and more on external funds, the degree of borrower's risk will rise and the demand price of capital assets will fall.

On the other side of the financing market, lenders

also worry about the prospect of default. As the extent of external financing of an investment project increases, lenders will insist on higher rates of interest, more collateral, and shorter terms to maturity to compensate for increased risk and moral hazard. In effect, this lender's risk raises the supply price of investment output as the degree of external finance increases.

Lender's risk appears explicitly in signed contracts. Borrower's risk reveals itself only in the internal decision processes of the firm. Both, however, play a large role in determining the pace of investment. A more precise statement about the determination of investment is that, in the aggregate, firms will invest up to the point where the demand price for capital assets, as adjusted for borrower's risk, equals the supply price of capital assets, as adjusted for lender's risk.

Both lender's and borrower's risk reflect the overall psychological fix of the economy. A run of good times during which the economy sustains profit flows and in which borrowing units have no difficulty meeting their obligations will attenuate these risks. It is no accident that the leveraged-buyout mania occurred after thirty-five essentially prosperous years and following the swift recovery from the recession of 1981-82. Lender's and borrower's risk as endogenous phenomena provide the key to understanding the dynamics of business cycles, for fluctuations in these variables drive and are driven by variations in cash flows.

Firms have debt and equity liabilities outstanding that finance their positions in capital assets. One can view these liabilities as generating a time-series of demand, dated and contingent payment commitments. These payment commitments arise from both the interest due and the necessity of repayment of principal. At any given time, one can characterize each firm's liability structure as hedge, speculative, or Ponzi depending on the relation, over a reasonable time horizon, between its expected cash inflows and the commitments arising from its liability structure.

Liability Structures Characterized

A "hedge" firm is one that expects the cash flow from operations to cover cash commitments. Although cash inflows will vary, they are expected to exceed the contractual cash outflows over the relevant period. Heavily equity-financed firms are hedge units. They need pay dividends only if earned, and there is no need to repay principal. Long-term debts that do not require any near-term repayment of principal tend to make a firm a hedge unit. "Hedge" firms suffer only a small exposure to the risk that financing terms will change.

For a "speculative" unit cash inflows do not cover cash payment commitments arising from debts even though profit flows are sufficient to cover interest payments due on outstanding debts. These units have to roll over maturing liabilities. The Treasury with its large amount of outstanding short-term bills is, in effect, a speculative unit, as are commercial banks. In the sense the term is used here, any financing of long-term assets with short-term debt makes the borrower a speculative unit. Obviously, the savings and loan institutions were speculative units. Also, units that borrow at floating interest rates possess the attributes of speculative units; as such these units are subject to the vicissitudes of interest rates and are, therefore, exposed to more risk than "hedge" firms.

When payment commitments on interest exceed a unit's net earnings, that unit can meet interest obligations only by increasing its indebtedness. In effect, these units capitalize interest due. Such a financial posture is called Ponzi, recalling a Boston financial innovator and swindler of the 1920s. In terms of the books of a unit engaged in Ponzi finance, the increase in debts as interest is capitalized reduces equity by a like amount. Whereas a unit engaged in rollover or speculative finance can carry on forever — provided interest due is earned — Ponzi financing has a natural terminal point as equity falls towards zero.

A rise in interest rates or a significant fall in anticipated income can transform speculative financing units into Ponzi units. For instance, the Volcker experiment with practical monetarism between 1979 and 1982 sent nominal interest rates to unprecedented highs and converted savings and loans by and large into Ponzi units. These high rates, in concert with the collapse of world commodity prices, forced the heavily indebted Latin American economies to engage in Ponzi finance. Indeed, for these nations, financing entities routinely capitalize the interest due into the principal outstanding. While units typically become Ponzi financing units when income falls below expectations or when interest rates rise far beyond what was expected, in the recent epidemic of leveraged buyouts some deals included payment-in-kind bonds by which the debtor promised to pay the interest due with additional debt.

Financial Structure Fragility

Obviously, the greater the proportion of speculative and Ponzi finance units in an economy, the greater the fragility of the financial structure. A shortfall of gross cash flows in the economy can

transform hedge units into speculative units and speculative units into Ponzi units and Ponzi units into units with no equity protection for debtors. This financial hierarchy helps explain how market reactions to, first, an era of good times and, then, a period of declining profits, can transform a stable economy into an unstable one.

The existence of an aggregate liability structure heavily weighted by speculative and Ponzi finance will make an economy fragile in the sense that a further need by significant sets of units to capitalize interest will push the system toward endogenous instability. Because bankers' and businessmen's evaluation of lender's and borrower's risk determines the extent of external finance and because an extended period of successful debt service leads to an increase in the degree to which both lenders and borrower are willing to finance externally, an economy will migrate from financially robustness to financially fragility. The evolution of financial usages and structures over a protracted period of good times explains how capitalist economies endogenously generate conditions conducive to serious depressions.

CHANGING CAPITALIST ECONOMIES

In Post-Keynesian theory, investment and available finance determine the path of business activity through time; hence, the key to understanding business cycle phenomena lies in the recognition that today's financial structure embodies the past, the present, and the future. Today's financial structure reflects contracts drawn in the past. Today's production employs capital assets that were yesterday's investment output. Today's investment output and financing arrangements hang on expectations of tomorrow's profits. Given this complicated, intertemporal set of relationships, only a complex, nonlinear model can adequately capture the dynamics of an advanced capitalist economy.

Equipped with these insights, we can return to the proposition we advanced earlier: the post-World War II capitalist economies differ in some essential feature from the capitalist economies of the prior century. In spite of the increase in business and household indebtedness and the recurrence of financial crises in the 1970s and 1980s, nothing approaching a debt deflation has occurred in the United States or, with only a few exceptions, the other rich countries of the developed world.

Fundamentally, using Jan Kregel's words, the rise of Big Government and The Big Bank, explains the difference between the two capitalisms. Big Government contains the downside instability of aggregate demand and business profits, thereby assuring an orderly pace of investment. The Big Bank, serving as a lender of last resort, intervenes to prevent collapses in asset values, thus insuring that local shocks do not evolve into global shocks. It is ironic that it is currently fashionable to hold Big Government and The Big Bank in contempt, for their success in preventing a catastrophic depression has created the complacency that fathered this contempt.

Big Government

To be more specific, how do the levers of Big Government and The Big Bank work to contain economic collapse? First, consider Big Government. The story begins with gross business profits. These profits comprise the cash flows that enable businesses to fulfill their commitments on liabilities. If these cash flows are adequate, they will validate the prices paid in the past for the firm's capital assets. In addition, adequate current profits not only provide internal funds for financing investment, they also signal that outside investments in the specific firms generating those profits are likely to prove successful.

Investment serves as the dynamic element in the determination of each period's aggregate demand. In a simple, highly abstract model of the economy, financed investment forces prices and outputs to be such that, in the aggregate, profits equal investment. If a government that spends and taxes is added to the model, then, again under abstract conditions, profits equal investment plus the government deficit.

In both a small government and a big government economy, a decline in investment will lower profits. In a small government economy, a federal deficit cannot stanch this decline. In contrast, in a big government economy, an induced rise in the deficit can largely offset the impact of a decline of investment upon business profits. Unquestionably, the rise of big government in the postwar era, as exemplified by the rise in federal spending from 3 percent of GNP in 1929 to roughly 24 percent today, has stabilized business profits during recessions. Such profit stabilization enables firms, in the aggregate, to fulfill their payment commitments, and, in addition, supports dividends and retained earnings. As a result, no sustained fall in capital assets prices can take place. For example, even in the deep recession of 1974-75, large cyclical federal deficits pushed aggregate business gross profits higher during the quarter in which unemployment peaked than they had been a year earlier. In short, the deficits big government runs in a recession obviate the possibility of a debt-deflation.

The Big Bank

The operation of The Big Bank, has also contributed to the failure of "It" to recur, and these operations largely reflect lessons learned in the Great Depression. The failure of the Federal Reserve and other central banks to contain and reverse the debt deflation of 1929-33 led to fundamental reforms of the banking system in the United States. One aspect of this reform was the creation of specialized deposit insurance organizations for banks, savings and loan associations and credit unions. The unfolding story of the savings and loan industry in the years after the destruction of their equity by the interest rate inversion of the 1970s and 1980s provides one of the juicier episodes in United States financial history. Nevertheless, deposit insurance has prevented a pass-through of institutional negative net worth to depositors. No doubt, without the imposition of the full faith and credit of the government to protect depositors and prevent the dumping of the S&L assets, the macroeconomic repercussions would have been severe. One may argue that Treasury paid (and is paying) a steep price to sustain the value of S&L deposit liabilities; still, the bill probably amounts to only a small part of the lost GNP that would have resulted if the government had not contained the crisis.

CONCLUSIONS

Manifestly, "It," a debt-deflation such as the U.S. experienced in the 1930s, cannot happen again provided government deftly employs the stabilizing levers of government deficits and lender of last resort interventions. However, every contained financial disturbance, every successful lender of last resort intervention, and every financial innovation alters the landscape of financial markets. Indeed, in our capitalist financial world, "one cannot step in the same river twice;" hence, any model of the business cycle that does not encompass a description of how capitalist finance affects system behavior and that does not allow for the financial structure to evolve as a natural byproduct of self-interested behavior will not enjoy long-lasting success.

Clearly, then any policy to contain business cycles must allow for the possibility that what once worked may not work in the future. In 1990, we know that the combination of big government deficits and lender of last resort refinancing by central banks has enabled the main capitalist economies to avoid another debacle such as that of the 1930s. We also know that modern capitalism can boast success because a repeat performance of the 1930s has not occurred. Finally, we know that having happened once, economic policymakers and business conditions analysts must always consider a 1930s-style economic collapse as a practical possibility.

In the logic of the econometric Keynesian models, the monetarist models and the new classical macroeconomic models, a grand failure of capitalism just cannot happen.

This conclusion stems from a studied ignorance in the construction of their models of the financial structure and the two-price level nature of the economy. Yet, since 1966, the specter of financial breakdown has arisen, time and again, when asset values have threatened to collapse relative to the supply prices of current output. Because the logic of these models does not allow the possibility of such a collapse, they offer no guidelines on how to avoid or contain such a breakdown.

Given our current precarious financial structure a useful economic theory must address the implications of financial fragility and indicate how to contain financial crises. The Post-Keynesian vision of the economy is more relevant for the 1990s, both as economic theory and as a guide to economic policy, than the available alternatives because it integrates what economists like to call the real economy with the financial world in a meaningful way. As a result, it offers a better guide to the use of both government fiscal policies and central bank intervention than either the Keynesian econometric models or the new variants of pre-Keynesian thinking.

FOOTNOTES

[1]Irving Fisher, "The Debt-Deflation Theory of Great Depressions," *Econometrica*, 1(1933), pp. 337-57.

[2]Milton Friedman and Anna Jacobson Schwartz, *Monetary History of the United States 1867-1960*, Princeton, New Jersey: Princeton University Press, 1963. See Chapter 7, "The Great Contraction, 1929-33."

[3]Charles P. Kindleberger, *Manias, Panics and Crashes: A History of Financial Crises*, Revised ed. New York: Basic Books, 1989.

[4]J.R. Hicks, "Mr. Keynes and the 'Classics': A Suggested Interpretation," *Econometrica*, 5(1937), 99. 159. Alvin Hansen, *Monetary Theory and Fiscal Policy*, New York: McGraw-Hill, 1949.

[5]For a complete survey of the problems with large scale econometric modelling, see Robert E. Lucas, and Thomas J. Sargent, "After Keynesian Macroeconomics," pp. 295-320, in *Rational Expectation and Econometric Practice*, Minneapolis: University Minneapolis Press, 1981.

[6]Benjamin M. Friedman, "Lessons on Monetary Policy from the 1980s," *Journal of Economic Perspectives*, 3(1988), pp. 51-72.