

ECONOMIC COMMENTARY

The Federal Reserve is required by the Full Employment and Balanced Growth Act of 1978 to report to Congress its annual growth objectives for money and credit. Over the years, most attention has been paid to objectives for measures of money—particularly M1, which traditionally served as the primary guide for monetary policy. Recently, however, measures of credit have received more attention by researchers.

In 1983, the Federal Reserve began reporting to Congress expected annual growth ranges for domestic nonfinancial debt (DNFD), the aggregate net indebtedness of all nonfinancial borrowers in the United States. In addition to borrowings by U.S. households and businesses, DNFD includes debt owed by all levels of government, federal, state and local. It excludes dollar-denominated debt owed by foreigners, however, and is nonfinancial in that it excludes liabilities of financial intermediaries, such as commercial banks, thrift institutions and finance companies.

Prior to 1983, the Federal Reserve had established ranges for bank credit, but this category of credit did not seem to convey reliable information about economic activity such as output, employment and inflation. Research suggested, however, that the changes in the broader DNFD measure provided better indications of changes in future nominal gross national product (GNP). Some researchers even argued that DNFD was as closely related to economic activity as some measures of money, including the monetary base. Nevertheless, the Federal Reserve distin-

guished monitoring ranges for DNFD from target ranges for monetary aggregates to indicate a somewhat lesser status for debt in the determination of monetary policy (see box).

In recent years, there have been some strong crosscurrents affecting the behavior of financial measures watched by the Federal Reserve. It is widely understood in financial markets that financial innovation and deregulation, in conjunction with declining interest rates and

Financial Variables as Intermediate Targets

One purpose of an intermediate target is to provide guidance for policy action. The effects of monetary policy on ultimate targets (e.g. output, employment and prices) is both slow and uncertain. While not itself the ultimate concern of policymakers, a financial variable target can usually be measured more quickly and frequently than measures of ultimate policy targets and, therefore, provide more timely information about both the state of the economy and the consistency of policy actions with the ultimate objectives. Thus intermediate targets must be closely linked to ultimate targets so that policy actions that seek to achieve intermediate targets will also achieve ultimate targets. Equally important, the intermediate target must be amenable to control by policy actions.

inflation, have had a drastic impact on the relationship between M1—the most widely recognized measure of money—and nominal GNP. This is especially evident in the behavior of velocity, the ratio of nominal GNP to M1. In the 30 years prior to 1982, M1 velocity increased at a trend growth rate of 3 percent. Since 1982, however, it has not increased along any trend.

Domestic Nonfinancial Debt: After Three Years of Monitoring

by John Carlson

With the breakdown in the relationship of money to the economy, it would seem that credit might assume a greater role in the determination of monetary policy. However, the behavior of DNFD has also been unusual relative to its historical pattern. In the 30 years prior to 1982, DNFD tended to grow in proportion to nominal GNP. Since 1982, debt has tended to grow much more rapidly than nominal GNP.

In this *Economic Commentary*, we examine the recent behavior of DNFD in relation to its historical pattern. Likely factors accounting for the recent surge in debt are discussed. The implications of this large increase for the role of DNFD in the determination of monetary policy are also examined.¹

Debt and Nonfinancial Economic Activity: 1946-1982

Chart 1 displays the virtually trendless pattern of total debt, relative to GNP, that seemed evident through 1982. An intriguing characteristic of these data is that total debt remained stable despite the disparate trends evident in its major components. While the federal government ran budget deficits for most years in this period, federal debt declined relative to the size of the economy. However, as federal debt fell, private debt increased relative to GNP by roughly the same amount.

The stability of total DNFD relative to GNP through 1980 suggested to some researchers that DNFD could provide reliable information about current and future levels of nominal GNP. This implied that

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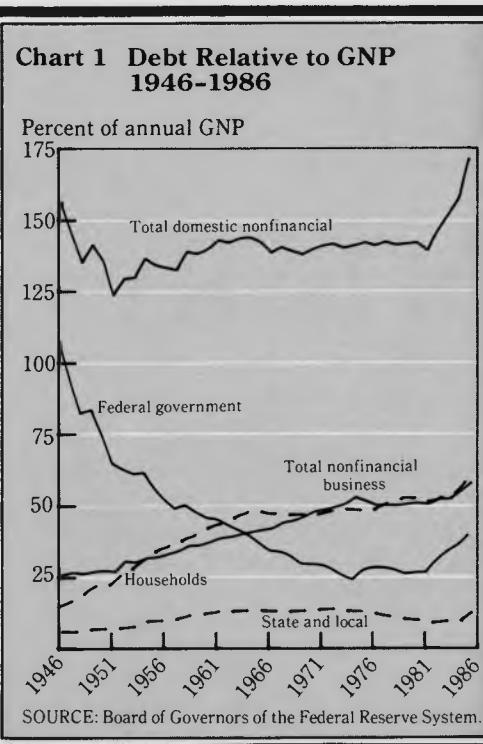
1. Some of the concerns about debt are not about its implications for short-run economic activity, but about implications for the soundness and safety of the banking system.

DNFD was a reasonable variable to consider as an intermediate target for monetary policy. It also suggested that relatively steady growth in DNFD might be associated with steady growth in nominal GNP. This latter view is analogous to that of Friedman and Schwartz (1963), who built an extensive argument for monetarist policies on the basis of the stability of the velocity of money.²

Benjamin Friedman (1981) applied a variety of *empirical* methodologies along the lines of Friedman and Schwartz to argue an equally "persuasive" case for the importance of debt in explaining changes in nonfinancial economic activity.³ The central thrust of this case was to document and explain the relative stability of the ratio of DNFD to nominal GNP from 1953 to 1980. Overall, Friedman found that changes in DNFD explained changes in nominal GNP at least as well as alternative measures of money, including the monetary base.

While DNFD fared well in empirical comparisons with money, the relationship of DNFD to GNP lacked the extensive theoretical basis underlying models of money demand. Models for the demand for transactions balances had been derived from principles of individual behavior. In lieu of such rigorous underpinnings for debt, B. Friedman offered three alternative explanations for the stable pattern. Each of these explanations relates the observed stability of the DNFD-to-GNP ratio to the savings and consumption patterns of individuals.

Total consumption and savings in the economy tend to remain fairly constant in proportion to income over time because individuals like to smooth their spending over their lifetimes. They tend to spend more than their income (dissave) in their younger years, save in their middle years and run down their savings in later years. In the overall economy, demographics must be such that this behavior is possible; that is, a large enough segment of the population must save so that others without savings can borrow to smooth spending over their lives. Since the ability of some (including businesses and the government) to borrow *on net* depends on the willingness of others



to save, Friedman suggested that explanations for the stability of DNFD-to-income ratio could be related to the stable savings ratio in different ways.

His first explanation alleges that individuals "see through the shell" of both corporations and government. If corporations save more (less), individuals adjust by saving less (more) from their wage income to keep the private saving ratio and hence the amount of net debt relative to income constant. This seems reasonable because individuals ultimately own the corporations and receive the profits that arise from corporate saving, that is, the returns from corporate investment. Consequently, individuals could view corporate savings as their own.

The "see-through-the-shell" argument is more controversial as it applies to government debt. Essentially, it is assumed that the public in some way seeks to maintain a constant level of liabilities-owned relative to national income. The result is that it is the amount of private borrowing that adjusts to changes in government borrowing, not private saving. This hypothesis is in conflict with another popular hypothesis that treats government saving as equivalent to private saving. The latter

hypothesis presumes individuals have a strong bequest motive. If individuals save, in part, to leave wealth to their heirs, then they might save more (less) when government debt rises (falls) in order to offset any expected future tax increase (decrease) associated with the debt. This would affect the private savings rate in a manner that would offset federal government dis-saving. While this latter view seems to be more soundly based on principles of individual behavior, it is nevertheless inconsistent with the relatively constant private savings rate in the postwar period.

Friedman's second explanation argues that the growth of total debt is limited by the availability of tangible assets that provide collateral for the debt. He assumes in this argument that individuals regard government debt (which they hold in their portfolios) as part of their net wealth; that is, they do not associate a liability with government debt. If the government would reduce its debt, individuals would reshuffle their portfolios, acquiring more tangible assets to maintain their constant savings rate. Friedman argues that the increase in tangible assets would, in turn, provide additional collateral against which consumers and firms could borrow. Thus, private debt could increase by the amount government debt decreased.

Friedman's third explanation assumes that the public holds both debt assets and nondebt assets in its portfolios, each in proportion to income. If the government reduces its debt outstanding, the relative return on government securities would fall and individuals would shift their portfolios toward private debt securities. It is implicitly presumed that prices of private securities would increase sufficiently to induce an additional supply of private debt to match the amount of the decline in government debt. This also presumes that individuals do not wish to hold more tangible assets or equity as relative yields change.

Each of Friedman's three explanations for the stability between DNFD and GNP had some plausibility until 1982. Yet each is rather *ad hoc*, lacking the theoretical underpinnings that money-demand hypotheses enjoy, and none has independent empirical support like money-demand equations. Indeed, based on other research, Friedman was careful not to suggest relying too much on DNFD or, for that matter, on any one

2. See Friedman, Milton and Anna Schwartz. *A Monetary History of the United States: 1867-1960*, Princeton University Press, Princeton, (1963).

3. See Friedman, Benjamin M., "The Relative Stability of Money and Credit 'Velocities' in the United States: Evidence and Some Speculations," Working Paper Series, No.645, National Bureau of Economic Research, March 1981.

financial variable for policy purposes. This caution was well advised; after 1982, the link between DNFD and GNP no longer seemed very stable.

DNFD Since 1982

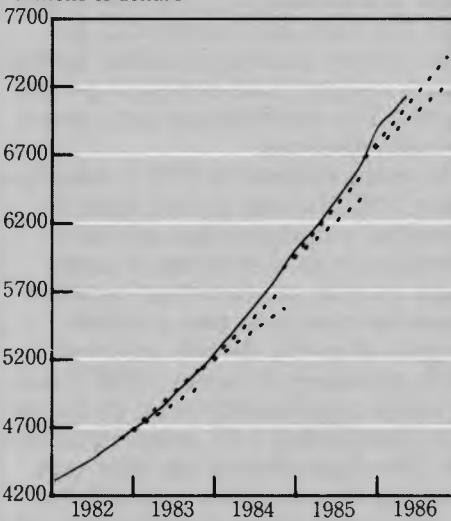
As stressed above, the reported growth ranges for DNFD are for monitoring credit growth and are not target ranges. That is, the Federal Reserve attempts to anticipate its growth in relation to other goals, but would not necessarily respond to movements outside the stated ranges. It is evident from the monitoring experience that the acceleration of debt growth was largely unanticipated (chart 2). In each of the years since 1983, when monitoring ranges were first announced, actual DNFD growth exceeded the upper bound of the range. This largely reflects an unanticipated disturbance to a seemingly stable relationship between debt and income. The most striking aspect of this change is that both private and government debt components surged in relation to income.

The large increases in federal debt relative to the size of the economy are largely a result of the Economic Recovery Tax Act (ERTA) of 1981, a tax initiative that sharply reduced the growth rate of tax revenues. Large tax cuts were instituted with the expectation that there would be subsequent spending reductions in nonmilitary programs, as well as additional revenues generated by more rapid economic growth. Subsequent output growth was relatively strong and generated proportionately more revenues, but the impact of ERTA fell short of supply-side claims that it would produce sufficient revenue growth to eliminate the deficit. Moreover, Congress did not accept all the spending cuts initially sought by the Administration. This imbalance is likely to persist if Gramm-Rudman objectives for future deficit reductions are not achieved.

The resurgence of growth in Federal debt in recent years was not matched by a decline in private debt that would have been required to maintain the historical stability of DNFD/GNP. In fact, nonfederal domestic debt resumed the upward trend that characterized its pattern for most of the postwar period. This new movement—uniform across all nonfederal borrowing sectors—seems to contradict the three explanations

Chart 2 Domestic Nonfinancial Debt and Monitoring Ranges

Billions of dollars



Monitoring Ranges

Year	Percent	Actual
1983	8.5 to 11.5	10.8
1984	8.5 to 11.5	13.4
1985	9.0 to 12.0	13.1
1986	8.0 to 11.0	

SOURCE: Board of Governors of the Federal Reserve System.

that account for the stability of the ratio.

The greatest impetus in private borrowing came from the household sector, with increases in mortgage debt and a surge in consumer installment credit. The rise in household mortgage debt was not particularly strong when viewed against comparable stages of the business cycle. The pace of consumer installment credit since 1982 has, on the other hand, exceeded that of any period since World War II. This appears to be attributable to several factors. First, households have increasingly expanded their use of credit cards for their convenience in transactions, as opposed to spending in excess of their incomes. Many credit card users pay off their new balances in full each month, thereby avoiding interest charges. The additional "free" debt created as this form of usage increases is more like a transactions balance than debt, and adds nothing to debt burden. The convenience use of credit cards helps to explain why this form of debt has grown so rapidly in spite of the high interest charges on balances not paid off immediately.

Another factor contributing to the acceleration in consumer debt may be a consequence of the lengthening

in the maturity of debt. For example, an increasing number of new car buyers have been choosing the five-year loans over the historically more common three-year loan, thus extending the average maturity of this debt, for example, to 50.2 months in December 1984, from 41.3 months in 1983. Again, debt burden, the monthly interest and principle payments, has not increased as rapidly as debt because monthly payments are reduced (assuming cars last longer).

Third, demographic factors probably could also have contributed to the upward movement in consumer installment credit.⁴ The movement of baby boom generation members into the stage of their life where they tend to borrow more raises the aggregate level of borrowing in the economy. This factor, in turn, undermines the stable relationship between wealth and income that was assumed in the explanations offered for the stability of DNFD/GNP.

Although part of the recent increase in business borrowing may reflect cyclical factors, a significant amount can be attributed to tax-related incentives that may account for its longer-term upward trend. Firms may deduct interest payments from business income for tax purposes, but not dividends. This, in effect, makes the cost of funds acquired from issuing debt relatively cheaper than from issuing equity.

While these tax incentives have existed for many years, the recent spate of mergers and leveraged buyouts seems to have induced corporate financial managers to more fully exploit the tax advantages of debt. The increase in mergers and leveraged buyouts reflects, in part, other bases for perceived arbitrage opportunities. Many of the takeover targets were viewed as undervalued, particularly before the recent surge in stock prices. Furthermore, recent developments in financial markets, such as the trend toward junk bond financing, have made corporate

4. Warshawsky (1985) presents theoretical evidence casting doubt on the underlying assumption about the stability of the wealth-to-income ratio. These results undermine the fundamental basis advanced by Friedman to rationalize the observed stability between debt and income. See Warshawsky, Mark, "The Fundamental Determinants of Aggregate Debt and Wealth," Board of Governors of the Federal Reserve System, August 1985.

takeovers and leveraged buyouts much easier to accomplish and, thereby, may have induced an acceleration in business debt above its longer-term trend rate.

The apparent increase in debt of state and local governments since 1982 is essentially a consequence of double counting. In recent years, state and local governments have increasingly assumed the role of financial intermediaries, i.e., borrowing funds directly at tax-exempt interest rates and making the proceeds available to other borrowers (some for private purposes). Late last year, the House tax bill threatened to significantly limit the incentives leading to this kind of intermediation. Consequently, many state and local governments came to market early to avoid missing opportunities that they thought would be taken away January 1, 1986.

Flush with additional funds, these issuers invested the surplus amounts in credit market instruments. While much attention was given to the increased demand for SLUGS (a special class of treasury issues sold only to state and local governments), state and local governments invested heavily in a wide spectrum of U.S. government and agency issues. Over 90 percent of the assets acquired were U.S. government securities. Private assets acquired through mortgage bonds and student loan bonds were sold off.

Because state and local governments are essentially acting as financial intermediaries—buying federal debt—much of their debt should not be counted in DNFD, that is, as nonfinancial debt. Because it is,

however, federal debt is counted both directly as a federal liability and indirectly as “financial” debt of state and local governments. In fact, since 1982, the buildup in state and local debt has been associated with an even greater buildup in credit market assets held by state and local governments. The nonfinancial component actually declined.

It seems evident in DNFD behavior since 1982 that the recent spate in financial innovation has not been selective in its disruption of seemingly reliable relationships between financial measures and ultimate targets of policy. As has occurred with measures of money, DNFD has deviated significantly from its historical relationship with economic activity. The disruption of the debt relationship was probably also affected by the recent surge in federal government budget deficits.

The seemingly stable nature of the ratio, DNFD/GNP, before 1982 is perhaps even more curious now than ever before. It would appear that the winding down of federal debt from its World War II buildup coincidentally equaled the rise in private debt over the same period. Many of the factors that accounted (albeit more intensively) for the recent surge—such as convenient use of credit, tax arbitraging, etc.—also accounted for the upward trend in private debt before federal debt began to balloon.

DNFD was a monitoring range, while the growth ranges for money measures had typically been target ranges. This indicated that deviations in debt from its expected path would be weighed less heavily in the policymaking process than money measures, particularly M1. In fact, with the breakdown in the relationship between money and income, the Fed has placed less reliance on M1 as a short-term guide to policy. For much of the period since 1982, no one financial measure has proved to be reliable enough to be a sole short-term policy guide.

In retrospect, the reluctance to rely much on a credit measure as a guide for short-run policy actions appears appropriate. The extremely rapid growth in DNFD has not been followed by excessively rapid growth in nominal GNP, as would be suggested by the simple historical relationship. Without a well-developed framework linking DNFD to economic activity, and strong empirical support for the framework, it seems unlikely that DNFD will provide information about the economy that is sufficiently reliable for predicting near-term growth of the economy.

Over a longer horizon, however, the continued trend of DNFD/GNP cannot be sustained without having serious economic consequences. If debt were to continue to grow around 6 percent faster than GNP, as it has since 1982, then sometime early next century, the public would be forced to borrow the equivalent of the entire gross national product simply to pay the interest on the debt. In view of the longer-term concern, it seems appropriate to continue to monitor DNFD growth, despite its limitations as a short-term policy guide.

Policy Implications

When first announcing annual growth ranges for DNFD, the Federal Reserve made the distinction between monitoring ranges and target ranges. The growth range for

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