# Implications of the Government Deficit for U.S. Capital Formation

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Widespread concern, even alarm, over the U.S. government's budget deficit has become one of the leading public policy issues of the decade. Talk about large federal deficits that will persist throughout the 1980s now dominates discussions otherwise intended to focus on specific spending needs—defense, for example, or medical care supports—or on tax restructuring. It also now dominates discussions about the proper course for monetary policy, about the effect of the dollar's international exchange rate on U.S. competitiveness, and about the outlook for the U.S. economy's continued expansion.

These fears are warranted, at least in part. To be sure, much of the discussion has not been carefully put, and some of the ideas expressed have been simply wrong. The chief problem in this regard has been the failure to distinguish clearly between passive deficits that emerge as a result of depressed levels of economic activity and fundamental deficits that persist even when the economy's labor and capital resources are fully employed. Many of the most frequently expressed criticisms of the U.S. government's deficit during fiscal years 1981–83, when economic weakness accounted for much of the deficit that the government then ran, were either largely or wholly misguided. By contrast, the deficits in prospect for fiscal years 1984–88 are indeed cause for concern.

The basic problem is that, under current policies or those now under active consideration, during 1984–88 the U.S. government will continue to run budget deficits at or near the recent unprecedented levels, even if the economy returns to a fully employed condition. (This prospect actually extends well beyond the next half-decade, but official estimates are available only through fiscal year 1988.) Increasingly during these years the deficit will reflect a fundamental imbalance between the government's revenues and expenditures at full employment, rather than a passive response to economic weakness as was the case during the past several years. If for some reason the U.S. economy continues to fall well short of full employment of its resources, then the average deficit realized during 1984–88 will be all the greater.

The principal reason why this indefinite continuation of unprecedentedly large U.S. government budget deficits is a problem is that, by sharply curtailing or even eliminating altogether the economy's net investment in new plant and equipment, it will cut deeply into the economy's ability over time to

achieve improved productivity and hence a higher general standard of living. The U.S. economy's net capital formation rate is already low in comparison either with its own past experience or with that of major industrial economies abroad. A further erosion, of the magnitude likely to accompany the government deficits now in prospect for the balance of the 1980s, will be a step in the wrong direction.

The object of this paper is to argue that significant further "crowding out" of private-sector net capital formation is indeed the most likely consequence of the course on which U.S. fiscal policy is now set. It is also to argue that the several contingencies which could possibly allow the economy to continue on this course without seriously impairing its capital formation rate appear inadequate, either individually or in combinaton, to provide a genuine solution to this problem without a major policy change. Quick or easy answers are insufficient, and relying on all of the now-unforeseen happenstances to work in the right direction is imprudent. What the situation requires is a direct policy response.

Section I sets out the basic dimensions of the U.S. government deficit problem as it now stands, documenting the transition from (relatively) small deficits on average before 1981 to large deficits thereafter, and from passive deficits during 1981–83 to the prospect of a fundamental imbalance between revenues and spending during 1984–88. Section II uses relationships among familiar economic flows as an organizing device for placing these deficits in the context of the experience of and objectives for U.S. capital formation. Section III buttresses this flow-flow analysis by considering the prospective 1984–88 deficits through the lens provided by a set of less familiar relationships involving the economy's stocks of assets and liabilities outstanding. Section IV briefly summarizes the paper's chief conclusions.

## I. The Dimensions of the Problem

Table 1 presents several alternative projections of the U.S. government deficit for each fiscal year during 1984–88. The first projection shown is a form of "do nothing different" baseline, useful as a convenient reference point—and perhaps also because there appears to be a large chance that the Administration and the Congress actually will respond to the situation by doing nothing different. The *current services* projection indicates the Administration's estimate of the likely deficit under a continuation of current tax and spending policies, adjusted to include the Administration's defense program. The table shows two versions of this current services projection, the first presented with the Administration's original budget proposals for fiscal year 1984 (in January) and the second presented as a part of the "midsession review" (in July). The more recent projection foresees smaller deficits than the earlier one, in part because it incorporates the 1983 Social Security legislation but also because it is based on a more optimistic set of assumptions

**Table 1**
**Prospects for the U.S. Government Deficit, 1984–88**

|  |  | 1984 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|
| Current Services: | Budget Proposal | $249 | $267 | $284 | $308 | $315 |
|  | Midsession Review | 217 | 220 | 233 | 244 | 224 |
| Reagan Budget: | Budget Proposal | 203 | 205 | 157 | 152 | 126 |
|  | Midsession Review | 194 | 181 | 139 | 128 | 91 |
| Adjusted Reagan: | Budget Proposal | 203 | 205 | 203 | 201 | 177 |
|  | Midsession Review | 194 | 181 | 182 | 177 | 144 |
| Congressional Resolution |  | 200 | 190 | 157 | — | — |
| Adjusted Congressional Resolution |  | 212 | 205 | 203 | — | — |

Notes:  Deficits in billions of current dollars.
     Deficit totals include "off-budget" outlays.
     Years indicated are fiscal years.
Source:  Office of Management and Budget, Congressional Budget Office.

about levels of economic activity.[1] Even so, both projections agree in show-ing that, if policy proceeds on a current services basis, the deficit will not shrink but will widen over time.

The next two projections in the table focus on policy responses pro-posed by the Administration. The *Reagan budget* projection indicates the Administration's estimate of the likely deficit after adoption of all of its cur-rent tax and spending proposals. Once again the table shows two versions of this projection, with the difference between them representing some com-bination of changes in the Administration's proposals and changes in the underlying economic outlook.[2] In contrast to the current services projec-tions, both of the Reagan budget proposals show distinct progress in narrow-ing the deficit over time, especially from 1986 onward. The great bulk of that projected progress consists of revenues to be collected under the "contin-gency tax plan" proposed to take effect in 1986 unless economic growth is somehow sufficient to reduce the deficit to less than 2½ percent of gross na-tional product (or about $100 billion) without it—an unlikely prospect at best, under any of the projections summarized here. The Administration has never even endorsed its own plan unambiguously, however, and recently of-ficial Administration spokesmen have declared it "dead."

The *adjusted Reagan* projection therefore shows deficits exactly cor-responding to those in the Reagan budget projection, but adjusted to exclude

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[1]Between the January and July estimates the Administration took account of the passage of the Social Security legislation, which will shrink future deficits, but chose to ignore the repeal of tax withholding on interest and dividend payments, which will have the opposite effect. The point is relevant below as well.

[2]Once again, the July estimates ignore the repeal of tax withholding on interest and divi-dend payments.

the revenues that that projection attributes to the contingency tax plan during 1986–88. (No other adjustments to the Administration's proposals are made, although some other elements are unlikely also.) Once again the table shows two alternative versions. Both show that, even with the adoption of all of the Administration's budget proposals except the contingency tax plan, the likely narrowing of the deficit will be modest and will not occur before 1988 in any case.

The final two projections shown focus on policy responses proposed by the Congress. The *Congressional resolution* projection indicates the deficit path for 1984–86 adopted as part of the First Congressional Budget Resolution for the 1984 fiscal year.[3] This deficit path is not unlike the corresponding years of the midsession review version of the Reagan budget projection, and indeed even the separate revenue and spending totals are closely similar. (The current disagreement between Congress and the Administration over budget matters is largely over the composition of spending, rather than the total of either spending or revenues.) Once again, however, much of the projected narrowing of the deficit is due to the inclusion of revenues from unlegislated—and, in this case, even unspecified—sources. The *adjusted Congressional resolution* projection therefore shows deficits corresponding to those in the Congressional resolution projection, but adjusted to exclude these unattributed revenues. As in the adjusted Reagan projection, the result is a deficit that shows no appreciable narrowing through 1986.

In sum, even after the recent improvement in the economic outlook there appears to be little prospect, under either current or likely alternative policies, for a significant reduction in the U.S. government's budget deficit during the remainder of the 1980s. The current services baseline shows an increasing deficit until 1988. The alternative policy proposals advanced by either the Administration or the Congress, once adjusted to exclude new tax plans now exhibiting much opposition and almost no support, show no further deficit growth but little shrinkage either. Further adjusting either set of proposals to allow for a realistically likely amount of slippage in holding to the stated spending targets would only worsen the corresponding deficit prospects.

Although nominal dollar magnitudes like those shown in Table 1 can sometimes be misleading in a growing economy, the deficits projected here are large even in comparison to the U.S. economy's expanding total size. Table 2 presents analogous projections stating each set of likely future deficits as percentages of the respective set of gross national product values used in deriving it. Allowing for economic growth and price inflation changes the appearance of the problem somewhat, but the resulting relative magnitudes are still very large. None of the projections that are most relevant shows a deficit materially below 4 percent of gross national product before 1988.

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[3]The Congressional budget process employs a three-year horizon rather than the five years used by the Administration. The projection shown is that excluding the Congressional "reserve." Including the reserve would increase the projected deficit by $9 billion in 1984, $3 billion in 1985 and $2 billion in 1986. Unlike the Administration's July estimates, this projection allows for the repeal of tax withholding on interest and dividend payments.

**Table 2**
**Prospective Deficits as Percentages of GNP, 1984–1988**

|  |  | 1984 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|
| Current Services: | Budget Proposal | 7.1% | 7.0% | 6.9% | 6.8% | 6.4% |
|  | Midsession Review | 6.1 | 5.7 | 5.5 | 5.3 | 4.5 |
| Reagan Budget: | Budget Proposal | 5.8 | 5.4 | 3.8 | 3.4 | 2.6 |
|  | Midsession Review | 5.5 | 4.7 | 3.3 | 2.8 | 1.8 |
| Adjusted Reagan: | Budget Proposal | 5.8 | 5.4 | 4.9 | 4.5 | 3.7 |
|  | Midsession Review | 5.5 | 4.7 | 4.3 | 3.9 | 2.9 |
| Congressional Resolution |  | 5.6 | 4.9 | 3.7 | — | — |
| Adjusted Congressional Resolution |  | 6.0 | 5.3 | 4.8 | — | — |

Notes:  Deficits as percentages of projected gross national product.
       Deficit totals include "off-budget" outlays.
       Years indicated are fiscal years.
Source:  Office of Management and Budget, Congressional Budget Office.

Sustained government deficits of this magnitude, either in dollars or in relation to gross national product, will be unprecedented in U.S. peacetime experience. Table 3 shows, for purposes of comparison, the average budget deficits realized by the U.S. government during the 1950s, 1960s, and 1970s, as well as the deficits for each individual fiscal year since 1971. Despite the often expressed claim that the government's budget has "always" shown a large deficit, in fact persistent deficits larger than ½ percent of gross national product have been a feature of U.S. fiscal policy only since the 1970s. Moreover, until 1982 the deficit had exceeded 3 percent of gross national product only during 1975 and 1976, in the wake of the severe 1973–75 business recession. Analogous effects of the 1981–82 recession have now swollen the deficit to more than 4 percent of gross national product in 1982, and more than 6 percent in 1983.

Unlike these relatively isolated episodes of large deficits in the past, which largely reflected the shortfall of tax revenues and increase in transfer payments due to declining employment, incomes and profits in times of recession, the deficits projected in Tables 1 and 2 for the balance of the 1980s will increasingly represent a budget that would be unbalanced even at full employment. Table 4 presents historical data, comparable to that in Table 3, for the U.S. government's deficit computed on a "high employment" basis (and compared to potential, rather than actual, gross national product).[4] Effects of economic weakness have accounted for some three-quarters of the total cumulated deficit run during the last three decades, leaving only one-quarter as the result of expenditures and revenues that would have been unequal at full employment.

[4]The high employment deficit is not exactly comparable to that shown in Table 1–3, in that it corresponds to the deficit measured on a National Income and Product Accounts basis.

**Table 3**
**Historical U.S. Government Deficit, 1951–1983**

|                      | Deficits in Billions of Current Dollars | Deficits as Percentages of GNP |
| -------------------- | --------------------------------------- | ------------------------------ |
| Average, 1951–60     | $ 1                                     | 0.0%                           |
| Average, 1961–70     | 6                                       | 0.5                            |
| Average, 1971–80     | 31                                      | 2.4                            |
| 1971                 | 23                                      | 2.2                            |
| 1972                 | 23                                      | 2.1                            |
| 1973                 | 15                                      | 1.2                            |
| 1974                 | 6                                       | 0.4                            |
| 1975                 | 53                                      | 3.6                            |
| 1976                 | 73                                      | 4.5                            |
| 1977                 | 54                                      | 2.9                            |
| 1978                 | 59                                      | 2.8                            |
| 1979                 | 40                                      | 1.7                            |
| 1980                 | 74                                      | 2.9                            |
| 1981                 | 78                                      | 2.8                            |
| 1982                 | 128                                     | 4.2                            |
| 1983                 | 195                                     | 6.1                            |

Notes:  Deficit totals include "off-budget" outlays.
        Years indicated are fiscal years.
Source:  Office of Management and Budget.

This difference between the actual and high employment budget concepts is especially important in determining what magnitudes constitute the outer limits of the U.S. economy's prior experience. In 1975 and 1976, for example, the actually realized deficits of $53 billion and $73 billion corresponded to high employment deficits of $15 billion and $21 billion, respectively. In 1981 the budget would have shown a small surplus if the economy had been fully employed, and in 1982 the actually realized deficit of $128 billion would have been only $19 billion at high employment. In comparison to the economy's size, the largest high employment deficits run during the last three decades were 1.5 percent and 1.9 percent of potential gross national product in 1967 and 1968, respectively.

Although precise esimates do not exist for all of the projections shown in Tables 1 and 2, it is clear that prospects for the remainder of the 1980s are well outside this prior experience. The Administration's estimates corresponding to the budget proposal version of the current services projection show a "structural" component rising from $181 billion out of the total $249 billion projected for fiscal year 1984 to $306 billion out of the $315 billion

**Table 4**
**Historical Deficits on a High Employment Basis, 1955–1983**

|  | Deficits in Billions of Current Dollars | Deficits as Percentages of Potential GNP |
|---|---|---|
| Average, 1955-60 | − $ 6 | − 1.0% |
| Average, 1961-70 | − 0 | − 0.1 |
| Average, 1971-80 | 13 | 0.8 |
| 1971 | 9 | 0.9 |
| 1972 | 10 | 0.9 |
| 1973 | 14 | 1.1 |
| 1974 | 5 | 0.3 |
| 1975 | 15 | 1.0 |
| 1976 | 21 | 1.2 |
| 1977 | 19 | 1.0 |
| 1978 | 20 | 1.0 |
| 1979 | 2 | 0.1 |
| 1980 | 18 | 0.7 |
| 1981 | − 7 | − 0.2 |
| 1982 | 19 | 0.6 |
| 1983 | n.a. | n.a. |

Notes:  Deficits are on a national income and product accounts basis.
        Negative values indicate surplus.
        Years indicated are fiscal years.
Source:  U.S. Department of Commerce.

projected for 1988.[5] Hence the growing structural deficit accounts for more than all of the projected growth in the actual deficit, as the economy returns to approximately full employment during this period. Similarly, the Congressional Budget Office's estimates underlying the construction of the adjusted Congressional resolution projection imply a structural component rising from $128 billion out of $212 billion in 1984 to $147 billion out of $203 billion in 1986. Because of the effects of the economy's recovery, the slight narrowing projected here for the actual deficit masks a continued widening of the deficit at high employment. In contrast to the previous maximum of 1.8 percent (in 1968) for the high employment deficit as a percentage of actual gross national product,[6] the adjusted Congressional resolution projection implies values remaining at or above 3.5 percent throughout.

[5]The Administration did not publish new high employment estimates as part of the mid-session reveiw.

[6]This value does not correspond to that in Table 4 because of the use of actual rather than potential GNP in the denominator.

What is extraordinary about the U.S. government deficits projected for 1984–88, therefore, is not just that they will be large but, more importantly, that they will represent a fundamental imbalance between the government's revenues and its expenditures. It is not possible to dismiss them simply by assuming that rapid growth will quickly restore the economy to full employment. The projected deficits are increasingly deficits at full employment, and in the absence of a return to full employment the deficits that actually emerge will only be larger. The issue now facing U.S. fiscal policy is not the familiar one of the role of automatic stabilizers, or even the desirability (or lack thereof) of temporary active deficits as discretionary stabilizers, but rather the effects of sustained deficits at full employment as a permanent feature of the economy's ongoing development. Among the most important of those effects is the impediment that such deficits will place in the way of the economy's ability to undertake capital formation.

## II. The Perspective of Economic Flows

The most familiar way to address the question of the likely impact of sustained government deficits on an economy's capital formation is to exploit the perspective provided by relationships among economic flows. Table 5 summarizes the history of the balance between saving and investment in the U.S. economy since World War II by presenting data showing the economy's respective totals of net saving and net investment, together with the major components of each, expressed as percentages of gross national product. The table also includes, as memorandum items separate from these totals, corresponding data showing the economy's capital consumption and gross private saving (equal to net private saving plus capital consumption).

What stands out immediately in the upper part of Table 5 is the relative constancy of U.S. net private saving (in the second row) in relation to gross national product. The economy's net private saving rate, consisting of personal saving plus corporate retained earnings, represents the share of total output that the private sector as a whole makes available to finance new investment beyond what is necessary simply to replace depreciating stocks of business and residential capital.[7] It is the starting point, therefore, in any analysis of prospects for net capital formation.

Despite substantial variation since World War II in such factors as tax rates, price inflation, real rates of return and income growth trends—all of which could in principle affect saving behavior—the U.S. economy's net private saving rate has hovered closely about 7 percent throughout this period. As the summary statistics in Table 6 show, the net private saving rate's postwar mean has been 7.2 percent, with a standard deviation around the mean of only 1 percent. The net private saving rate has displayed no significant time trend during this period, once the data are corrected for cyclical variation. It has varied in a modestly procyclical pattern, however,

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[7]Personal saving includes saving by unincorporated businesses. Corporate saving is adjusted to remove artificial profits due to the use of first-in-first-out inventory accounting, and artificial profits (or losses) due to accounting depreciation allowances greater than (or less than) true economic depreciation.

**Table 5**
**U.S. Net Saving and Investment, 1946–1983**

|  | 1946–50 | 1951–55 | 1956–60 | 1961–65 | 1966–70 | 1971–75 | 1976–80 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Net Saving | 10.3% | 6.8% | 6.9% | 7.4% | 7.6% | 6.4% | 5.7% | 5.1% | 1.5% | 1.1% |
| Net Private Saving | 7.6 | 7.2 | 7.1 | 7.8 | 8.1 | 7.6 | 6.5 | 6.1 | 5.3 | 5.1 |
| Personal Saving | 4.0 | 4.7 | 4.7 | 4.3 | 5.0 | 5.6 | 4.2 | 4.6 | 4.1 | 3.3 |
| Corporate Saving | 2.6 | 2.5 | 2.4 | 3.5 | 3.1 | 2.0 | 2.3 | 1.5 | 1.2 | 1.8 |
| State-Local Govt. Surplus | 0.1 | −0.1 | −0.2 | 0.0 | 0.1 | 0.6 | 1.2 | 1.2 | 1.0 | 1.4 |
| Federal Govt. Surplus | 2.6 | −0.3 | 0.0 | −0.4 | −0.6 | −1.8 | −2.0 | −2.2 | −4.8 | −5.4 |
| Total Net Investment | 9.6% | 7.4% | 6.6% | 7.6% | 7.3% | 6.7% | 5.8% | 5.0% | 1.5% | 1.0% |
| Net Foreign Investment | 1.4 | 0.1 | 0.5 | 0.8 | 0.2 | 0.3 | −0.2 | 0.1 | −0.3 | −0.6 |
| Private Domestic Investment | 8.2 | 7.3 | 6.1 | 6.8 | 7.1 | 6.4 | 6.0 | 4.9 | 1.8 | 1.6 |
| Plant and Equipment | 3.8 | 2.8 | 2.6 | 2.9 | 4.0 | 3.1 | 2.9 | 3.0 | 1.9 | n.a. |
| Residential Construction | 3.3 | 3.4 | 3.0 | 2.9 | 2.0 | 2.6 | 2.4 | 1.2 | 0.7 | n.a. |
| Inventory Accumulation | 1.2 | 1.0 | 0.6 | 1.0 | 1.1 | 0.7 | 0.7 | 0.6 | −0.8 | −0.8 |
| Memoranda: Capital Consumption | 7.7% | 8.5% | 9.3% | 8.5% | 8.4% | 9.3% | 10.5% | 11.2% | 11.7% | 12.8% |
| Gross Private Saving | 14.4 | 15.7 | 16.4 | 16.3 | 16.4 | 16.9 | 17.0 | 17.2 | 16.9 | 16.7 |

Notes:  Data are averages (except for 1981–83) of annual flows, as percentages of gross national product.
Data for 1983 are for first half only.
Total net saving and total net investment differ by statistical discrepancy.
Detail may not add to totals because of rounding.
Source:  U.S. Department of Commerce.

**Table 6**
**Summary Statistics for Saving Ratios, 1949–1982**

|  | Mean | Standard Deviation | Normalized Standard Deviation | Significant Trend | Detrended Standard Deviation | Significant Cyclicality |
|---|---|---|---|---|---|---|
| Net Private Saving | 7.16% | 1.02% | 14.2% | None | 1.03% | Procyclical |
| Personal Saving | 4.64 | .85 | 18.4 | None | .86 | Procyclical (?) |
| Corporate Saving | 2.52 | .88 | 35.0 | Negative (?) | .85 | Procyclical |
| Gross Private Saving | 16.19 | 1.14 | 7.0 | Positive | .86 | None |

Note: Trend and cyclicality are measured by ordinary-least-squares regression equations of the form

$$S_t = \alpha + \beta t + \gamma_1 X_t + \gamma_2 X_{t-1}$$

where S is in turn each specific saving rate, t is a linear time index, and X is alternately capacity utilization and the unemployment rate reciprocal.

which accounts for the slightly higher than average saving rate during the 1960s and (in part) for the distinctly lower than average saving rate thus far during the 1980s.

Of the two components of net private saving considered individually, the personal saving rate has varied less in relation to its typical size than has the corporate saving rate. Neither has displayed much time trend, although the corporate saving rate has shown a small, and only marginally significant, negative trend.[8] Both have varied procyclically, although the cyclical element in corporate saving is easily significant at standard confidence levels while that in personal saving is only marginally so.[9]

Previous discussions of the stability of saving in the United States have more typically followed "Denison's Law" in focusing on gross, rather than net, private saving.[10] The phenomenon documented by Denison was the stability, during the early postwar years (and in comparison to 1929), of the U.S. economy's gross private saving rate. Inspection of the memorandum items in Table 5 readily indicates, however, that on balance until the 1980s, as the capital consumption rate has increased, the gross private saving rate has increased along with it.[11] In other words, what appears to have been approximately level is the net, not the gross, saving rate. The summary information presented in Table 6 confirms this impression. Alone among the four saving

[8]The point estimate of the trend is − .02 percent per year. The associated t-statistic is − 1.9 if the cyclical variable is the unemployment rate reciprocal, and − 1.7 if it is capacity utilization.

[9]For the corporate saving rate, the largest t-statistic on the current or lagged cyclical term is 3.0 (for the unemployment rate reciprocal) or 2.9 (for capacity utilization). For the personal saving rate, the corresponding values are 1.7 and 2.0, respectively.

[10]The original contribution was Edward F. Denison, "A Note on Private Saving," *Review of Economics and Statistics,* XL (August, 1958), pp. 261–267. See, more recently, Paul A. David and John L. Scadding, "Private Savings: Ultrarationality, Aggregation, and 'Denison's Law'," *Journal of Political Economy,* LXXXII (March/April, 1974), pp. 225–249.

[11]The increase in the capital consumption rate has reflected both a rising capital intensity and a shift in the composition of the capital stock toward (shorter lived) equipment and away from (longer lived) plant.

measures included, gross private saving has displayed a significant positive postwar trend.[12]

If government budgets were always balanced (and if the foreign account were balanced too), the share of the economy's output available for net capital formation would simply be the share set aside as net private saving. Given the experience since World War II, that would mean a relatively steady 7 percent of gross national product over time. In the presence of government surpluses or deficits, however, what is available for net investment is net private saving plus any government surplus, or less any government deficit.

As Table 5 shows, in recent years public sector saving and dissaving have played an increasingly prominent role in affecting the U.S. economy's overall saving and investment balance. Since the 1970s state and local governments, in the aggregate, have run ever larger budget surpluses on a consolidated basis, as current pension surpluses have grown faster than operating deficits.[13] By contrast, during this period the budget deficits run by the federal government have grown progressively larger in relation to gross national product.[14] These two trends have been in part offsetting, but increasingly unequal. By the early 1980s the federal government's deficit had grown far beyond the aggregate surplus of state and local governments. Under any of the projections shown in Table 2, it will remain so.

The U.S. economy's *total* net saving, consisting of the relatively steady net private saving plus government saving or dissaving, has therefore declined sharply since the low-deficit days of the 1950s and 1960s. The economy's total net investment, which differs from total net saving only by a fairly small statistical discrepancy, has of course declined in equal measure. Table 5 presents data for U.S. net investment, comparable to the data for net saving, and these too indicate a sharp decline in recent years. Because of a change from positive net foreign investment on balance before the mid 1970s to negative net foreign investment on balance thereafter, the deterioration of net domestic investment has been less severe than that of total net investment. Even so, net domestic investment has declined from 6.9 percent of gross national product on average during the 1960s to 6.2 percent on average during the 1970s, and only 3.0 percent thus far during the 1980s. All components of net domestic investment—business plant and equipment, residential construction, and business inventory accumulation—have shared in this decline.

In the context of this historical experience of the U.S. economy's balance of saving and investment, the implications of the U.S. government deficit projections shown in Table 2 are clear enough. If the deficit remains in

[12]The point estimate is .05 percent per year, with t-statistic above 4.5 regardless of the choice of cyclical variable.

[13]The data exclude accrued pension liabilities, however, so that the pension surpluses reported here do not imply that these governmental units are funding their pensions in excess of accruing liabilities.

[14]The data shown in Table 5 differ from those shown in Table 3 because they measure the deficit on a National Income and Product Accounts basis; the most important element in this distinction is the exclusion of off-budget outlays. In addition, the data in Table 5 refer to calendar years.

the range of 4 to 6 percent of gross national product, as now seems likely under some combination of the current services and adjusted Reagan projections, it will absorb substantially in excess of half of the private sector's normal net saving. In the absence of a vast expansion in government saving at the state and local level, which appears highly improbable, the federal government's deficit will therefore keep the U.S. net capital formation rate depressed throughout this period.

Moreover, as the discussion in Section I has already emphasized, once the economy returns to (or nearly to) full utilization of its resources the problem will bear little resemblance to the capital formation decline observed during 1981-83. With ample unemployed resources available throughout the economy, and the budget nearly balanced on a full employment basis, it is implausible to suppose that the federal deficit was responsible for the low rate of capital formation during these years. The opposite is a better description, as weakness in the investment sector both fed upon and added to weakness elsewhere in the economy, and therefore caused tax revenues to fall and transfer payments to rise. Even larger deficits, representing an active fiscal response to the 1981-82 recession, would probably have led to more capital formation rather than less in the preponderance of industries in which inadequate product demand constituted the real impediment to investment.

As the economy recovers toward full employment, however, the situation will change. Fewer unemployed or underemployed resources will be available. Product demand will not be weak. The source of the budget deficit will be not economic slack but a fundamental imbalance between the government's expenditures and its revenues. In the absence of some break from historical experience that is now difficult to foresee, the continuation of large government deficits under these conditions will then constitute a substantial impediment to capital formation.

But what if...? To be sure, any of several possible outcomes could alleviate this problem. It is never possible to foresee all of the relevant contingencies, and some contingencies that now appear possible but unlikely may eventuate anyway. It is therefore useful to consider, at least briefly, some of the events that could materially help to avoid this situation, were they to come about. Four seem especially relevant:

(1) What about a rise in the net private saving rate? After all, there is nothing magic about the 7 percent net private saving rate, and at least some of the rhetoric surrounding the passage of the Economic Recovery Tax Act of 1981 (which has done much to account for today's deficit outlook) suggested the prospect of a sharp increase in saving. To date the saving rate has fallen rather than risen, as Table 5 shows, but what if the combination of new tax incentives and higher pretax rates of return now significantly raises the saving rate? Cannot the U.S. economy then finance both large government deficits and a recovery of net capital formation?

Such an outcome is conceivable but unlikely for several reasons. First, on a priori grounds even the sign of the effect of higher interest rates on saving behavior is unknown, and to date the available empirical evidence has

been mixed to say the least.[15] There is little basis for confidence that greater returns will elicit substantially more saving. Second, despite the rhetoric that accompanied it, the 1981 tax bill contained few specifically targeted saving incentives. Except for the new IRA and Keogh account provisions—and to a large extent even they will affect infra-marginal rather than marginal saving flows for many individuals—most of the tax reduction enacted in 1981 consisted of general across-the-board rate cuts. Finally, because the projected deficits for the balance of the 1980s are so large, even an astonishing 50 percent increase in the saving rate, from the 7 percent historical norm to 10-11 percent, would only be sufficient to permit a net capital formation rate equal to that of the 1970s—hardly a period to emulate in this context. In sum, whatever rise in the net private saving rate does occur (if any) is highly unlikely to represent a solution to the problem.

(2) What about newly liberalized depreciation allowances, bolstered by a resurgence of business profits during the economic expansion? In addition to changes in the individual income tax, the 1981 legislation substantially reduced prospective corporate profit tax liabilities through the introduction of the new Accelerated Cost Recovery System. Although the argument motivating this change primarily focused on the "supply side" idea of increasing marginal after-tax returns to corporate investment, rather than the traditional "Keynesian" idea of simply leaving more funds in corporate hands to spend after taxes, cannot the latter effect still be important?

The principal reason why larger profits and more generous depreciation allowances will probably not solve the problem is that, over time, either companies will pay them out as higher dividends or shareholders will offset them with lower personal saving. More sophisticated econometric evidence confirms the casual impression given by Table 5 in this regard. The relative constancy of the net private saving rate means that, on balance, shareholders compensate for the saving that corporations do on their behalf by adjusting the saving that they do directly.[16] Rearranging the composition of net private saving is not the same as raising its total.

(3) What about foreign capital inflows? With net foreign investment already negative on balance since the late 1970s, and increasingly so in the early 1980s, why cannot foreign investors add their savings to those of Americans so as to finance the U.S. government deficit and U.S. domestic capital formation?

Further increases in foreign capital inflows will no doubt occur, but they are an unsatisfactory solution to the problem for several reasons. First, as is the case with possible saving rate responses, the likely magnitude is insufficient. Because capital inflows in the range of 3 to 5 percent of U.S. gross national product would have extreme consequences for world financial markets and the world economy, governments abroad would almost surely turn to

[15]On the a priori indeterminacy of the effect of interest rates on saving, see, for example, Martin Feldstein, "The Rate of Return, Taxation and Personal Saving, " *Economic Journal,* LXXXVIII (September, 1978), pp. 482–487.

[16]See, for example, Franco Modigliani, "The Life Cycle Hypothesis of Saving and Intercountry Differences in the Saving Ratio," in Eltis, Scott and Wolfe (eds.), *Induction, Trade and Growth: Essays in Honour of Sir Roy Harrod* (Oxford: Clarendon Press, 1970).

some combination of interest rate incentives and formal restrictions to resist them—as they have already done to some extent.[17] Second, the mirror image of a capital account inflow is a current account deficit. Solving the budget problem with capital inflows would simply mean substituting a crowding out of the U.S. economy's foreign sector, through high real exchange rates, for the crowding out of the investment sector that would otherwise come about through high real interest rates.[18] To a significant extent, that too is already happening. Third, borrowing from foreigners is fundamentally different from borrowing from ourselves. Only a year or so of net capital inflow equal to the government deficit would wipe out the total U.S. international investment position, and subsequent inflows would increasingly render the United States a net debtor nation.

(4) Finally, what about government investment? Physical investment undertaken by the private sector is not the only kind of capital formation relevant to the economy's long-run prospects for growth and productivity. Basic infrastructure in forms usually provided by government matters also, as does human capital. To what extent are the projected U.S. government deficits shown in Table 2 due to government spending for either physical or human capital formation, so that the resulting crowding out of private sector investment will represent merely a change in the composition of the economy's overall investment rather than a change in the total?

Unfortunately from this perspective, proposed government spending for purposes of nonmilitary capital formation is shrinking rather than growing. The reduced emphasis on manpower development and training that has already taken place, together with that proposed for the near future, is well known. In addition, federal government spending on nonmilitary physical investment has also declined sharply, and proposed future spending will continue this downward trend. Direct federal outlays for nonmilitary physical investment declined from 2.5 percent of all federal expenditures in fiscal year 1965 to 1.3 percent in 1980. The Reagan Administration's budget proposals for fiscal year 1984 further reduce such outlays to only 0.9 percent of the total. Similarly, federal grants to state and local governments in support of capital projects declined from 4.2 percent of all federal expenditures in 1965 to 3.9 percent in 1980, and the Administration's proposals reduce them further to only 3.0 percent in 1984. Reduced government capital formation compounded the decline in private sector investment during the 1970s, and under current proposals it will continue to do so in the 1980s.

In sum, the stark prospects for the effect of sustained full employment government deficits on U.S. capital formation suggested by the relationships among basic economic flows remain after consideration of these four "what if's." It is still possible, of course, that each possibility suggested will come about, and that their sum will be sufficient to solve the problem. Never-

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[17]For evidence on the limitations of international capital mobility in this context, see Martin Feldstein and Charles Horioka, "Domestic Saving and International Capital Flows," *Economic Journal,* XC (June, 1980), pp. 314–329.

[18]The subject of exchange rate effects of the deficit lies beyond the scope of this paper, but it is potentially very important. Indeed, the two sets of effects are complemenary. See Krugman's paper in this volume.

theless, it is surely imprudent to base important public policy decisions on an assumption that each of the relevant random outcomes will fall in just the right direction.

### III. The Perspective of Asset and Liability Stocks[19]

One reason for seeking to go beyond the familiar flow-flow analysis of the U.S. government's deficit prospects developed in Section II is simply the desire to have an alternative analysis either to reinforce or to refute the results of the more conventional approach. A perhaps more compelling reason, however, is the fear that well-known measurement problems may distort the meaning of changes over time in some of the flows which are most central to the conventional analysis. For example, public debt interest payments included in the current services and adjusted Reagan deficit projections shown in Table 2 amount to 3.3 percent of gross national product and 2.9 percent, respectively, on average during 1984–88—large amounts in comparison to the average projected deficits. Given prior and continuing price inflation, some part of these interest payments really represents a repayment of debt principal, but how much? Allowing for these and similar adjustments is by itself a significant task, and a difficult one at that.[20]

An alternative approach is to base the analysis instead on relationships involving stocks of assets and liabilities outstanding. To the extent that nominal interest payments include repayment of debt principal, for example, focusing on movements over time in debt stocks (relative to, say, gross national product) effectively compensates for this effect. Stock-flow relationships are both less familiar and potentially more complicated than flow-flow relationships, especially in a dynamic setting, so that spelling out formal analytical models is in this case more challenging.[21] Nevertheless, data on U.S. stock-flow relationships exhibit sufficient regularity to facilitate an analysis readily comparable to that of Section II. To anticipate, this alternative analysis reinforces the conclusions summarized there.

The chief regularity that stands out in the U.S. economy in this regard is the close relationship of the *total* debt outstanding, issued by *all* U.S. borrowers other than financial intermediaries, to U.S. gross national product.[22]

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[19]This section draws in part on two earlier papers. See Benjamin M. Friedman, "Debt and Economic Activity in the United States," in Friedman (ed.), *The Changing Roles of Debt and Equity in Financing U.S. Capital Formation* (Chicago: University of Chicago Press, 1982); and "Managing the U.S. Government Deficit in the 1980s," in Wachter and Wachter (eds.), *Removing Obstacles to Economic Growth* (Philadelphia: University of Pennsylvania Press, forthcoming).

[20]The most comprehensive effort to date along these lines is that summarized in Robert Eisner and Paul J. Pieper, "A New View of the Federal Debt and Budget Deficits," *American Economic Review,* forthcoming. See also the paper by de Leeuw and Holloway in this volume.

[21]Most formal models of economic growth treat stocks of financial assets in fairly rudimentary ways, and abstract from liabilities (and therefore inside assets) altogether.

[22]The reason for excluding the debt of financial intermediaries is simply to avoid double counting. The resulting total is analogous to Gurley and Shaw's concept of primary securities. See John G. Gurley and Edward S. Shaw, *Money in a Theory of Finance* (Washington: The Brookings Institution, 1960).

The U.S. economy's total debt ratio has displayed essentially no trend, and only a limited amount of cyclical variation, throughout the post World War II period. More importantly for the purpose at hand, the stability of this relationship between outstanding debt and nonfinancial economic activity has not merely represented the stability of a sum of stable parts. Neither private sector debt nor government debt has borne a stable relationship over time to economic activity, but their total has.

The heavy solid line at the top of the chart shows the total credit market indebtedness of all U.S. nonfinancial borrowers as of the end of each year since the Korean War, measured as percentages of fourth-quarter gross national product, as well as the corresponding total indebtedness as of midyear 1983, measured as a percentage of gross national product in the second quarter of the year. The lines below divide this total into the respective indebtedness of each of five specific borrowing sectors: the federal government, state and local governments, nonfinancial business corporations, other nonfinancial businesses, and households.

The strong stability of the *total* nonfinancial debt ratio stands out plainly in contrast to the variation of the individual sector components shown below. Although the total debt ratio rose sharply during the most recent business recession, as gross national product in the denominator weakened while substantial credit expansion continued, data for the first half of 1983 already show the beginning of a return toward the historical norm of about $1.45 of debt for every $1 of gross national product.[23] The experience of a similar, though less pronounced, cyclicality in prior recessions also suggests that the 1982 bulge does not represent an interruption of the basic long-run stability. Moreover, the stability of the U.S. economy's total debt ratio is of longer standing than the three decades plotted in the chart. With the exception of a sharp rise and subsequent fall during the depression of the early 1930s (when much of the debt on record had defaulted de facto), and to a lesser extent during World War II, the total debt ratio in the United States has been roughly constant since the early 1920s.[24]

By contrast, the individual components of the total debt ratio have varied in diverging ways both secularly and cyclically. In brief, the post World War II secular rise in private debt has largely mirrored a substantial decline (relative to economic activity) in public debt, while cyclical bulges in public debt issuance have mostly had their counterpart in the abatement of private borrowing. Households have almost continually increased their reliance on debt in relation to their nonfinancial activity throughout this

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[23]The "income velocities" of the major monetary aggregates also exhibited unusual movements in 1982. For a comparison of the stability of the debt-GNP relationship to that of analogous relationships for the monetary aggregates, see Benjamin M. Friedman, "The Roles of Money and Credit in Macroeconomic Analysis," in Tobin (ed.), *Macroeconomics, Prices and Quantities: Essays in Memory of Arthur M. Okun* (Washington: The Brookings Institution, 1983).

[24]For a discussion of the behavior of the total debt ratio since World War I, see Benjamin M. Friedman, "Post-War Changes in the American Financial Markets," in Feldstein (ed.), *The American Economy in Transition* (Chicago: University of Chicago Press, 1980). See Friedman, "Debt and Economic Activity in the United States," for a review of behavioral hypotheses that could account for this phenomenon.

Figure 1

# Outstanding Debt of U.S. Nonfinancial Borrowers

% of GNP
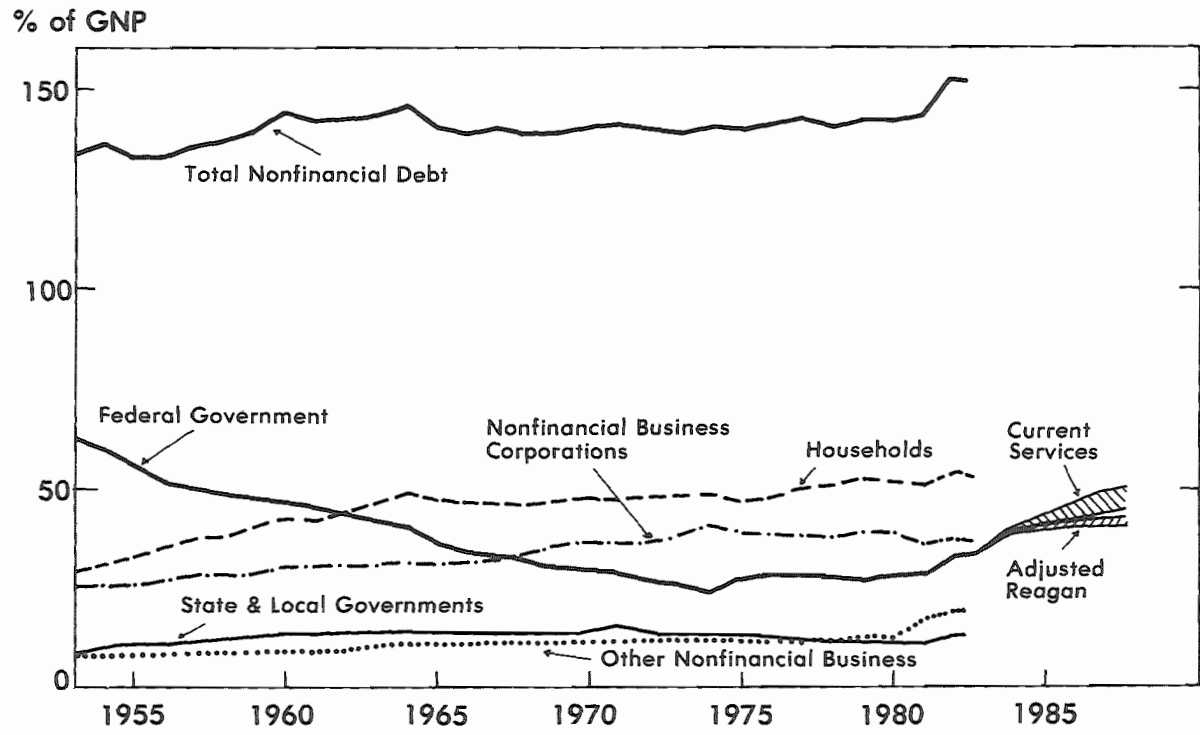
period. Both corporations and unincorporated businesses have also issued steadily more debt, on a relative basis, except for temporary retrenchments during recession years. State and local governments steadily increased their relative debt issuing activity during the 1950s and 1960s, but just as steadily reduced it during the 1970s. Finally, except only for 1975–76 and 1980–83—years marked by large deficits due to recession and its aftermath, as Tables 3 and 4 show—the federal government has reduced its debt ratio in every year to date since 1953, although this relative debt reduction has also been slower in years when even milder recessions have temporarily inflated. the government's deficit (and, again, depressed gross national product in the denominator).

Given the long-standing stability of the U.S. economy's total debt ratio, the evolution of the federal government's debt ratio provides a useful perspective on the magnitude and import of the federal budget deficit. During the post World War II period as a whole, the federal debt ratio has declined not just from 62.9 percent in 1953 but from 103.4 percent in 1946. Indeed, the 24 to 29 percent range in which the federal debt ratio fluctuated during the 1970s, and until 1982, corresponded favorably to the 27.4 percent value in 1918. The past decade has already marked an important departure from prior experience, however. The years 1975 and 1976 were the first since 1953 in which the government debt ratio rose, and the renewed decline during 1977–79, which was subsequently reversed by the recession years 1980–82, was not sufficient to reduce the ratio to its 1974 low. The government debt ratio rose still further during 1983, and the deficit projections shown in Tables 1 and 2 indicate that it will continue to do so for the foreseeable future.

This increase in the federal government's debt ratio is relevant to the implications of fiscal policy for private capital formation because, in the context of a stable economy-wide total debt ratio, it represents a useful summary measure of the net impact of federal deficits on the environment for private financing. If the government deficit were sufficiently small, or if either real economic growth or price inflation were increasing the gross national product sufficiently rapidly, then the government debt ratio would be falling—as it was, almost continuously, throughout the first three decades following World War II. Conversely, when the deficit is sufficiently large in relation to the economy's size and growth, then the government debt ratio is rising—as it did during 1975–76, and has during 1980–83. Moreover, the nature of this stock-flow relationship is that, by comparing the nominal stock of outstanding government debt to the nominal gross national product, it implicitly allows not only for economic growth but also for the real capital gain that the government earns by inflating away its prior debt obligations. A further incidental, but also helpful, result of focusing on the government debt ratio measure is that it also readily illustrates the lack of fundamental importance to be attached to a precisely balanced government budget in a growing economy.

If the economy's total outstanding debt remains approximately stable in relation to gross national product over time, then a sustained movement in the government debt ratio implies an offsetting movement in the aggregate

debt ratio of the private sector. A falling government debt ratio like that ex-
perienced during 1946–74 implies a rising private debt ratio, while a rising
government debt ratio like that during 1975–76 and 1980–83 implies a falling
private debt ratio. The relevance in turn of a rising or falling private debt
ratio for the economy's ability to undertake capital formation stems from the
traditionally close connection in the United States between debt financing
and net private investment, including both homebuilding and investment in
new plant and equipment.[25]

In the absence of a major change in financing patterns, therefore, the
economy's ability to achieve a greater capital intensity—that is, to increase its
capital stock in relation to total output—depends at least in part on the
private sector's ability to increase its debt in relation to gross national prod-
uct. Over time, however, the private sector's debt ratio moves inversely with
the government debt ratio. In the end, the rise or fall of the *government* debt
ratio is therefore likely to be an important factor shaping the relationship be-
tween growth of the capital stock and growth of the economy's total output.

The shaded extensions to the "Federal Government" line plotted in the
chart indicate the respective implications for the government debt ratio asso-
ciated with several of the projected 1984–88 deficit paths shown in Table 1.
Under the budget proposal version of the *current services* projection, the
U.S. government's outstanding debt will rise from 33.4 percent of gross na-
tional product as of midyear 1983 to 51.0 percent at the end of fiscal year
1988. Under the midsession review version of the same projection, the corre-
sponding rise will be smaller—to 44.5 percent in 1988—because of different
assumptions about economic growth, Social Security legislation, and the
other factors discussed in Section I. The actual outcome under a continua-
tion of current tax and spending legislation will probably be between these
two extremes. The upper shaded extension in the chart plots the range im-
plied by these two versions of the current services projection (each with its
respective underlying assumptions about the growth of gross national prod-
uct) for 1984–88.

The lower shaded extension plots the analogous range implied by the
budget proposal and midsession review versions of the *adjusted Reagan* pro-
jection. These projected deficits imply increases in the government debt ratio
to 39.5 percent and 42.4 percent, respectively, at the end of fiscal year 1988.
Once again, the actual outcome under the adoption of all of the Administra-
tion's tax and spending proposals except the contingency tax plan (and with
the repeal of interest and dividend withholding) will probably lie within this
range. The figure does not show an analogous range for the adjusted Con-
gressional resolution projection, because in this context it is un-
distinguishable from the range already shown for the adjusted Reagan pro-
jection through 1986.

[25]The nonfinancial corporate business sector, which typically accounts for three-quarters of
all U.S. investment in plant and equipment, relied on external debt financing for 64 percent of its
total net sources of funds on average during 1956–80. This percentage presumably understates
the importance of external funds in financing *net* investment. Within this period business cor-
porations' reliance on external debt has shown an irregular but nevertheless increasing trend.
Unincorporated businesses financing new plant and equipment and households financing new
homebuilding have also relied heavily, and increasingly, on borrowed sources of funds.

The main point of the set of extrapolations illustrated in the chart is that the ranges for both the current services and the adjusted Reagan deficit projections will continue to carry the government debt ratio further upward, instead of returning it toward the 24.8 percent postwar low reached in 1974, or stabilizing it at the 1982 level of 30.1 percent or even the midyear 1983 level of 33.4 percent. These projected further increases will raise the government debt ratio to levels last experienced two decades or more ago—the early 1960s under the adjusted Reagan projection, or the 1950s under the current services projection.

A sustained increase in the government debt ratio of anything like these magnitudes will be unprecedented in the U.S. economy's postwar experience. If the economy's total debt ratio continues to remain near its historical norm, this increase in the government debt ratio therefore implies a comparably unprecedented decline in the private sector's debt ratio. As of midyear 1983, the debt ratios of the household and combined (corporate and unincorporated) nonfinancial business sectors were 53.2 percent and 53.0 percent, respectively—already down from 53.9 percent and 54.5 percent, respectively, at yearend 1982. A decline of 15 to 25 percent, applied either to households or businesses alone or to both together, will represent a substantial readjustment. The market forces (chiefly high real interest rates) which constrain the private sector to limit its debt expansion to a slower pace than that of nonfinancial economic activity—and not as a temporary retrenchment in recession, but on a sustained basis at full employment—will probably also affect private sector capital formation.

Although a renewed depression of residential construction could perhaps be sufficient to reduce household mortgage borrowing by enough to absorb the entire required decline in the private sector's debt ratio, especially under the smaller adjusted Reagan deficits, even that extreme outcome would probably not permit any growth at all in the business sector's debt ratio—nor would sacrificing homebuilding to such an extent necessarily be desirable anyway.[26] More probably, business debt relative to income will also have to decline in order to make room for the ballooning federal government debt. Without the ability to raise external funds in the credit market, the business sector will largely have to forego taking advantage of the recently legislated investment incentives unless it turns massively to equity financing—an unlikely prospect in light of long-standing U.S. business financing patterns. In terms of the factors directly confronting business investment decisions, the problem will be that the increased real cost of financing (and, for some companies, reduced availability) will outweigh the added attractiveness of new investment due to the large favorable tax changes. Under these conditions business net capital formation will probably decline still further from the recent low level.

The conclusion of this analysis from the perspective of stock-flow relationships therefore matches the conclusion reached in Section II on the basis of flow-flow relationships. In the absence of some break from historical pat-

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[26]Mortgage debt typically constitutes nearly two-thirds of all debt owed by U.S. households.

terns of economic behavior that is now difficult to foresee, the continuation of the large government deficits now projected even for after the economy's return to full employment will constitute a substantial impediment to the U.S. economy's net capital formation.

But, once again, what if...? Here too, several contingencies could materially alleviate this problem, were they to come about. Two seem especially worth consideration:

(1) What about equity financing? There is no necessary reason why businesses (or, for that matter, households) must finance net capital formation so heavily on a debt basis. Why cannot the nonfinancial corporate business sector rely more on some combination of retained earnings, bolstered by the newly liberalized depreciation allowances, and new stock issues? By doing so, the business sector can reduce its aggregate debt-equity ratio, and hence enable the economy to achieve a greater ratio of capital to gross national product despite a lower ratio of private debt to gross national product.

Greater reliance on equity financing of capital formation would indeed reduce the need for debt financing, but it is unlikely to be a sufficient solution to the problem for two (essentially identical) reasons. First, as the discussion in Section II has already noted, over time personal saving responds so as to offset sustained changes in the volume of corporate retained earnings. In the context of relationships among asset and liability stocks, what would therefore be needed is not just a change in business financing preferences but a change in the portfolio preferences of the individuals who ultimately hold the corporate sector's outstanding debt and equity claims. Second, reliance on new external equity issues in sufficient volume to matter much here would be entirely out of character for the U.S. nonfinancial corporate business sector. New equity issues provided only 5 percent of corporations' total sources of funds on average during 1956–82. During this period what new equity corporations did issue was often preferred stock, and one industry (utilities) accounted for much of the small amount of common stock.[27] Further, even a continuation of new equity issues at the record $33 billion per annum pace set in the first half of 1983 would make only a limited contribution to the problem illustrated in the chart, even on the strong assumption that none of the larger volume of new issues was a substitute for retained earnings.[28]

(2) What about a rise in the economy's total debt ratio? There is no a priori reason for the total debt ratio to be 145 percent—or, for that matter, any other constant value. An increase to 160 percent or 170 percent would enable the economy to absorb the projected increase in the government debt ratio (at least through 1988) without requiring any offsetting decrease in the

[27]For a review of the interrelation between preferred equity and debt in U.S. corporate sector balance sheets over a half-century, see John H. Ciccolo, Jr., "Changing Balance Sheet Relationships in the U.S. Manufacturing Sector, 1926–77," in Friedman (ed.), *The Changing Roles of Debt and Equity in Financing U.S. Capital Formation* (Chicago: University of Chicago Press, 1982).

[28]For a comprehensive review of the experience of the U.S. corporate sector's aggregate balance sheet from several perspectives, see Robert A. Taggart, Jr., "Secular Trends in Corporate Finance," in Friedman (ed.), *Corporate Capital Structures in the United States* (Chicago, University of Chicago Press, forthcoming).

private debt ratio. Surely the equilibrium total debt ratio (if it exists) is not invariant to changes in such factors as asset returns, taxes, economic risks, bankruptcy arrangements, international financial integration, and so on. Given the changes that have occurred during the past six decades in all of these potentially important determinants of aggregate debt levels, is it not more puzzling that the U.S. economy's total debt ratio has remained so steady over this period than unreasonable to expect that it may rise in the future?

The relative constancy of the U.S. economy's total debt ratio indeed stands as a major puzzle, but it does not follow that a deviation from past behavior, in a specific direction, is therefore likely. At the a priori level, there is no lack of theoretical structures that could determine the economy's aggregate debt in a fixed relation to its gross national product, given certain patterns of preferences and prevailing external circumstances. Such models can focus on the behavior of either borrowers or lenders, or (more plausibly) on both.[29] The puzzle is that the observed total debt ratio has not changed much despite large changes in some of the presumably important circumstances (like those listed above). In terms of standard models relating asset holding and liability issuing to income levels, such a result implies that various income and wealth elasticities are close to unity, while various substitution elasticities are weak at best.

In the absence of a fully articulated and carefully tested model with both a theoretical structure and a set of empirical parameter estimates that can account for this phenomenon, some degree of caution about whether it will continue is entirely appropriate. Wholly disregarding the observed experience is not appropriate, however. To whatever extent the absence of a satisfactorily articulated and tested model warrants reservations about the future evenness of the U.S. economy's total debt ratio, its absence precludes any confident judgment that the debt ratio will move in a specific direction. As is the case with the relative constancy of the economy's net private saving rate in the discussion in Section II, only a major and sustained deviation from prior experience would eliminate the negative implications for capital formation described here. Such a break from the past is, of course, always possible. There is no ground, however, for judging it likely. Simply assuming that it will occur is hardly a sound basis for making public policy.

In the absence of such a change, the analysis of stock-flow relationships here provides further support to the conclusion suggested by the flow-flow relationships examined in Section II. Sustained U.S. Government deficits of the magnitude now projected for the balance of the 1980s will probably be a significant impediment to U.S. capital formation.

[29]See again the brief discussion in Friedman, "Debt and Economic Activity in the United States."

## IV. Summary of Conclusions

Under either current tax and spending legislation or any set of alternatives now commanding serious support, the U.S. government's budget deficit will remain unprecedentedly large during the balance of the 1980s. The unusual feature of this deficit is not just its size, even in relation to a growing economy, but the fact that it will persist even after the economy returns to full employment of its resources. In the past, large federal government deficits have mostly been a passive response to economic weakness. The deficits now projected for the remainder of the 1980s will, instead, increasingly represent a fundamental imbalance between the government's expenditures and its revenues.

Analysis of the U.S. economy's balance of saving and investment since World War II suggests that the continuation of large sustained government deficits at full employment will stand in the way of an increase in the economy's already low rate of net capital formation. Deficits of the size now projected will absorb more than half of the economy's net private saving. Such a drain is warranted during times of business recession, when the private economy generates an excess of saving over investment anyway, but not on a continuing basis at full employment. In the absence of a break with prior experience that is difficult to foresee or consider likely, these deficits will constitute a major impediment to a revival of U.S. net capital formation in the 1980s.

Analysis of the U.S. economy's stocks of assets and liabilities outstanding further supports this conclusion. Continuation of government deficits of the size now projected will lead to a rise in the government's outstanding debt, relative to nonfinancial economic activity, that will be unprecedented in U.S. peacetime experience. If the economy's total debt ratio remains approximately stable, as it has over many years, this rise in the government debt ratio means that the economy's private sector will not be able to increase its outstanding debt in pace with the economy's growth. Given the importance of debt in financing capital assets in the United States, this squeeze on the economy's private debt ratio also implies an inability to achieve any major increase in U.S. net capital formation during the remainder of the 1980s.

# Discussion

## Robert M. Solow*

I have no basic quarrel with Ben Friedman's paper. Once you accept the idea that outstanding government debt can absorb cumulative private saving, the broad outline of his argument follows pretty straightforwardly. One can always quibble over the numbers. But his main point doesn't depend on a half a percent here and there; it is larger scale than that. There are parts of his argument that seem less securely based than others. I find myself falling into the well-known economist's line: "It's OK in practice, but does it work in theory?" But I rather expect Friedman will agree with me on this score, and we share the expectation that a plausible account can be given of the statistical regularities he depends on.

Everyone knows by now that it is possible to invent a world in which bond-financed tax reduction automatically evokes incremental private saving to offset the government's dissaving, so the national saving rate is invariant to deficit finance on the part of the Treasury. But I have the impression that hardly anyone takes that story seriously as more than a virtuoso cadenza. Our world is just not enough like that world. I presume that is Friedman's opinion too. He doesn't even bother to mention the abstract possibility of invariance because he is not writing an abstract paper. In his Table 5, for instance, the increase in the federal deficit (or combined federal-state-local deficit) after 1970 is accompanied not by an increase in net private saving but by a decrease. Let us accept the universe.

My comments therefore amount to a number of queries and remarks on various aspects—empirical and analytical—of Friedman's findings.

(1) The paper gives the unmistakable impression that Friedman regards the rise in government dissaving which, with the apparent constancy of the net private saving rate, implies a fall in the net investment quota, as a Bad Thing. But he does not say what he thinks the appropriate remedy would be. Lower public spending and higher tax rates by themselves, would be contractionary in an economy which is not expected in these projections to reach high employment even in 1988. Would he rather see an aggregatively neutral but distributionally regressive shift of the tax burden from investment to consumption, or would he rather see fiscal contraction offset by monetary ease?

Any attempt to subsidize investment through the tax system will inevitably be regressive. Any effective investment incentive is likely to increase after-tax profits. If aggregate neutrality is to be preserved, the revenue loss will have to be recouped somewhere. If it is from transfer payments, the regressivity is compounded. A distributionally neutral tax increase brings us

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to my second alternative. These are difficult choices and anyone who recommends facing them owes us a suggested resolution.

(2) As Friedman points out, one of the advantages of the analysis in terms of the stock of debt relative to GNP is that it corrects for the increasing weight—and now very large weight—in the federal deficit of high nominal interest payments which really represent return of capital eroded by inflation. I wish he had carried some of this sort of analysis into the flow statistics even approximately in view of the possibility that the consumption component of those interest payments—certainly of the inflation-premium part and maybe of the rest as well—may be quite small.

I can imagine a scenario in which a deficit bloated by large interest payments on the debt fails to have the normal automatic-stabilizing effect because the marginal propensity to spend interest proceeds is so small.

(3) I am not sure I understand exactly the meaning of the total credit-market indebtedness of all U.S. borrowers other than financial intermediaries, i.e., the numerator of the ratio whose behavior is described in Figure 1. If a nonfinancial U.S. corporation holds some Treasury bills, I presume those as well as the corporation's own debt are included in the total. Wouldn't it be better to have some sort of breakdown of private wealth, with and without government debt, in the numerators? Maybe just measurement problems make it impossible to do the stock analysis after a little more netting out.

(4) One of the reasons Friedman gives for dismissing the chance that the growing public debt might drive production investment into equity finance, rather than crowding it out entirely, is that debt and equity securities appear to be very poor substitutes for one another.

This would suggest that small changes in relative supplies would be accompanied by large changes in relative yields. Has this happened?

(5) The reason I ask about that is because one can easily imagine models of growth in which optimizing households would achieve a constant ratio of wealth to income. We have to take it on faith, I suppose, that a plausible theory of financial structure could lead to the ultimate constancy of Friedman's ratio as well. I don't find that hard to believe; but so much of the force of the analysis in stock terms depends on the apparent constancy of this hybrid ratio of debt to GNP that I would feel more comfortable if there were direct evidence that federal debt displaces private debt in some ultimate portfolio sense.

(6) Friedman is very careful to distinguish between the consequences of federal borrowing when the economy is very slack and when the economy is near full employment. In one case it is the *job* of the deficit to absorb private saving and thus to keep aggregate income from falling. In the other, the deficit may divert saving from productive investment. We all know that, but it bears repeating in any publication that has circulation outside the profession.

There is a real danger that untimely tax increases, in the name of deficit-busting, could have the perverse effect of keeping the economy from achieving full employment in 1986 or 1988 or whenever. Those projections

of falling unemployment through 1988 are not serious forecasts. A long expansion is by no means guaranteed, only a possibility to be cultivated.

It is equally important to emphasize the role of high real rates of interest in the dynamics of the public debt. To the extent that it contributes to the persistence of high real interest rates, Federal Reserve complaints about the deficit are faintly reminiscent of the well-known story of the boy who murdered his parents and threw himself on the mercy of the court as an orphan.

# Discussion

## Albert M. Wojnilower*

Psychologists tell me that individuals who think they are or should be omnipotent often experience deep guilt when they are unable to achieve their goals. Since no one is omnipotent, the sense of guilt may have no basis in reality. Whether it does or not, however, the tendency often is to displace the blame for the failure to achieve perfection onto causes and persons that are quite innocent.

Many American economists, their proud claims for forecasts and policies disappointed, may be evincing this syndrome. It is a manifestation of a similar syndrome in the country as a whole. We all look back with nostalgia to those lost halcyon days of the 1940s and 1950s when the United States did in fact bestride the world with effortless self-confidence—and we look for villains to blame.

The concern that Ben Friedman and others feel about the presumed inadequacy of investment is, it seems to me, one aspect of this hopeless search. First, there may be nothing to be guilty about: it is not at all clear that the ratio of investment in national output has declined significantly. Of course this ratio is and always will be less than we think it ought to be, because people always are and will be accusing themselves of making less provision for the future than they should. Second, what we commonly label as "investment" for accounting and econometric purposes does not necessarily correspond at all closely to what is needed to provide a rich future for our children. (If we have any children or care what happens to them, which these days is not to be taken for granted!) Third, and most germane to this discussion, to the extent we are or in future may be underinvesting, it is not the federal budget deficit that is the villain. Friedman is right to be concerned that by undertaking an excessive total of spending commitments, public and private, we may be piling up big trouble for the future. We may well face an incipient deficit in the national budget of real resources. But displacing the blame onto the federal deficit is a copout. It diverts attention from genuine issues to statistical abstractions and wastes our limited political attention.

### Are We Guilty of Underinvesting?

Is the net investment ratio really falling? The purpose of this section is to raise questions about the reliability of the data on which the allegation of the falling investment rate is based. Of course, even if it could be demonstrated that the investment ratio was rising rather than falling, it would still be argued that, if not for the budget deficit, investment would rise faster

still and that this would be desirable. Nevertheless, it is useful to be re-
minded that the measurement problems are serious and complex, and that
how they are treated can make a considerable difference in the *Gestalt* of
the situation.

Students of American national income accounts will recall the alarm
that used to be expressed over the declining rate of personal saving. Later,
with less fanfare, the figures were revised upward. Thus, the rate of saving
out of disposable income for the decade 1970–79 is now given as 7.3 per-
cent, compared with the 6.4 percent published in 1980.

The investment story has its similarities. Measures of the current capi-
tal stock are derived by adding annual estimates of deflated business and
housing investment to, and subtracting the appropriate depreciation from,
the previous year's similarly derived stock. Serious problems arise in the
measurement of nominal investment, and even more so as regards the price
deflators and depreciation. For a long time, the investment lobby was able
to cite a low and sometimes falling rate of gross investment relative to GNP.
Suddenly in October 1980, after publication in the *Survey of Current Busi-
ness* of major upward revisions in plant and equipment purchases going
back to 1948, the official statistics no longer supported this case. According
to the new figures the domestic investment rate, especially for plant equip-
ment, had been rising! Fortunately, by inserting the little word "net" in
front of "investment," the worriers were able to republish their jeremiads
without rewriting.

Why should growth of net investment be lagging, when gross invest-
ment isn't? Essentially it is because beginning with 1975 the annual data
show an abrupt shift within the investment total away from long-lived struc-
tures toward shorter-lived equipment. As a result, the depreciation sub-
tracted in reducing gross investment to net has lurched upward. At least un-
til the next major data revisions, our allegedly laggard net investment is not
the penalty for high living, but for having changed the investment mix.
Since the change probably took place for good reason, I find it hard to get
terribly upset about it.

After all, we want capital goods not for their own sake, but for the sake
of their output. As between two equal purchases of short- and long-lived
capital goods, the shorter-lived one will yield the greater annual services (as
indicated by the larger depreciation). So there is no reason for current
regret—indeed, the opposite.

The issue is what happens later, if the capital good expected to be
shorter-lived does indeed wear out sooner (which is not altogether certain,
since depreciation, much like the size of oil reserves, is an economic as well
as a technological variable). In this regard, I would be inclined to take a
"permanent consumption" view of investment and expect that the asset will
be replaced in full. For the same purchase price today, a family may buy a
fancy refrigerator (or a firm a fancy computer) with a 10-year life or a plain
machine with a 15-year life. Whichever its choice, the family or firm has
committed, with or without realizing it, to replace the machine in 10 or 15
years. Chances are that if the fancier 10-year machine is chosen today, it
will be replaced with a similar or still fancier machine 10 years hence. Thus

today's shift to shorter-lived investment might be viewed as an implicit commitment to more investment in the future.

In our national income accounting system, only business purchases, but no government or household purchases whatsoever (other than of residences), are permitted to be counted as investment. Friedman deals with a part of this problem in his discussion of the investment intensity of federal expenditures. Each year, the federal budget (Special Analysis D) reports the amount of federal investment outlays. Most of these turn out to be military (although some federal grants-in-aid are noted as financing outlays on physical capital by states and localities). To debate what military purchases should be recorded as investment, and whether bullets should count for less than bases, would take us far afield. Let it be noted, however, that in one tabulation not used by Friedman, the budget also adds outlays for research, development, and education. This broader definition might well be appropriate for private investment as well and, as demonstrated by the papers given here last year, would considerably modify some prevailing impressions about these matters.

The facts are less than ironclad. The entire climate of the debate might be altered by taking some statistical judgments differently. But let us leave this to be disputed by our research assistants.

**What Kind of Investment Do We Want?**

The label "deficit" is pejorative. It reeks of waste. "Investment," on the other hand, competes with Lincoln's mother's dog in its wholesome qualities. Such are the unavoidable semantic burdens under which this discussion labors. But as economists, we are supposed to know that what counts is not what is spent but what is produced. We also know, as already mentioned, that the correspondence between actual investment and what we define as investment in our national accounts leaves much to be desired. And why of all people should economists, who are suckled on the milk of "diminishing returns," take the view that when it comes to investment, more must always be better?

Our recent history is replete with monstrous examples of misdirected, that is to say, wasted investment. In the years before the oil price shocks, when the price of energy may have been unrealistically low, we enjoyed a major boom in the construction of electric utilities and investment in electrical equipment. When the price of oil exploded, the usefulness of many of these undertakings was called into serious doubt. The higher oil price prompted, in its turn, a huge wave of investments in the search for oil and oil substitutes. Reducing the dependency on OPEC oil was urgent if we were to conduct foreign policy free of blackmail, but it made no commercial sense since the cartel had ample production capacity and cost advantage with which to undercut most of the new finds. Now that the oil price has leveled off far below the forecast prices that prompted the energy investment boom, that sector of capital spending has plummeted. We are pleased to count the investments already made in our capital stock, but what is the true value of a capital stock that is unused?

In the recent revision of its capacity statistics, the *Federal Reserve Bulletin* (July 1983) plaintively reports:

> The latest revision of data on the real capital stock in manufacturing by the Department of Commerce has produced a troublesome puzzle: growth in the capital stock is estimated to have increased substantially during 1973-79 and again during 1979-1981; yet...data from business and trade associations imply a slowdown in capacity growth after 1973.

It is possible for private investment, just like government spending, to be wasted.

If our investment ratio had been lower because these by hindsight misdirected investments had not been made, would we be worse off today—even if the same resources had been used up in pure consumption? And had they been used to build sturdier highway bridges, or a stronger military more respected in the Middle East, would we be worse off today—even if those outlays had increased the federal deficit? Making the right investments is more important than making more investments.

One of the problems with policies designed to promote investment is that they tend to stimulate replication of those investments that already exist and may be redundant—and to do so especially during the exuberant phase of business upswings when anticipation of future demand and prices is most overoptimistic. But more dinosaurs do assuage our statistical guilt: a new industrial policy to subsidize the building of long-lived but empty textile factories or unusable nuclear power plants, financed by a heavy tax on short-lived office computers, would get our depreciation down and our net investment back up.

A great ambivalence in all these discussions surrounds homebuilding. Sometimes homebuilding is counted as investment, that is to say, with the anointed. Many writers, however, relegate it to consumption (thumbs down). Much more is at stake than a matter of definitional choice. Suppose standard analysis were correct in its assertion that smaller budget deficits would give us the same national income with lower interest rates and more investment. The actual additional investment would consist mainly of housing, which has the largest response to the lower interest rates. I don't believe that outcome is at all what the investment advocates want to achieve.

Let me hasten to add, however, that in my opinion the standard analysis mostly holds only for small changes over short intervals. The computer games in which, by manipulating monetary policy with the left hand and fiscal policy with the right, we can produce the same level of output with any interest rate, or alternatively with any desired proportion of investment and consumption, are highly instructive pedagogical devices—but they are only games. Houses are not built to have their boilers and airconditioners running at cross-purposes, so that any combination of rooms can be heated and others chilled at the same time. Neither is our economy.

To determine whether we need more investment and what kind, we will have to overcome the handicap that our data define investment not primarily by what is produced, but rather by whom it is bought. The computer

in my office is an investment, but the home computer on which I am drafting this paper is not. A new race track or casino is an investment, but a new public school or state university building is not. Indeed they fall into that most disreputable of the GNP categories, a nonmilitary government expenditure. A kidney machine in a private hospital is an investment, but in a Veteran's Administration hospital it is not. A medical check-up or the cost of a college education, because the expenditure is by a household, is consumption. More casinos and more privately owned kidney machines, no matter how desirable and profitable, will not help solve what is worrying Friedman and others, myself included. For that, we will have to search our souls, not our statistics.

## Do Deficits Hurt Investment?

For a small corner grocery, it is probably correct to assume a close correspondence between bank loans and inventories. But the larger the enterprise, the less likely is any close relation between particular sources of funds and particular expenditures. We would not try to relate specific federal outlays to specific taxes or borrowings. Trying to associate the public's purchases of the government securities which finance the deficit with specific changes in the composition of private expenditure is not likely to be much more fruitful. At this Olympian level of aggregation, fungibility of sources and uses of funds is so great that categorizing particular sources of funds as supportive of, or hostile to, particular outlays is largely conjectural.

Government deficits may well promote rather than deter investment. The government may borrow to finance its own investment outlays. It may borrow to finance grants-in-aid that are earmarked for state and local investment outlays. It borrows to finance the investment tax credits, accelerated depreciation allowances, and other subsidies that support private investment. Would narrowing the budget deficit by the abolition of these tax incentives promote private capital spending? It is hard to visualize realistic circumstances in which a larger deficit would not be associated with larger profits and investment than if the deficit were smaller.

A similar lack of a predictable relationship between borrowing and aggregate investment also holds for borrowing by other sectors. Borrowing by business isn't necessarily for investment. Businesses do borrow to finance the extension of consumer credit or to pay dividends, with the result that consumption rather than investment is expanded. And consumer credit, like tax cuts, may stimulate retail sales, boosting the profits of industry and furthering investment.

In most circumstances more borrowing and more spending raise the level of nominal income, investment, and saving. If the extra debt is private debt, private saving will tend to expand, because someone has to hold the extra securities. Economists used to call this "forced" saving. If the extra securities are government securities, private saving again will be higher but national saving as we measure it cannot be, because the larger government

deficit is defined as dissaving (even if the government spent every penny on machinery and structures).[1] To be sure, if greater borrowing enlarges income unduly, the result will be inflation, but as long as prices inflate faster than costs, profits and investment will thrive.

As one who has done so much to deepen our understanding of "crowding in" and "crowding out," Friedman is well aware of these relationships. Were the sides reversed, he could no doubt make my case much more elegantly. I suspect that—perhaps like one of his namesakes—he has been diverted from doing so by his fascination with an apparent statistical regularity. I refer, of course, to the constancy he claims to have found in the ratio of domestic nonfinancial debt to GNP. It is this that leads him to infer that relative growth in the federal debt must come at the expense of business debt and investment.

Now I have a great deal of affinity for "natural" ratios. My favorite is the long-range stability of sorts exhibited by the personal saving to disposable income ratio, for which history and sociology provide a good deal of justification, and which just might be the kernel of truth at the center of Friedman's ratio. Be that as it may, however, in the last couple of years the apparent constancy of his ratio has evaporated (Table 1), as government borrowing has exploded without crowding out any other components. A stock of liabilities that can rise by 10 percent of GNP in one year is hardly to be viewed as stable.

The recent surge in the ratio would be even greater, but the level no longer abnormal, were it not for the questionable omission of corporate equity securities. While new stock issues have been quantitatively minor for a long time, in the last three quarters they have run at a $32 billion annual rate and been the dominant source of corporate external funds. Were Friedman to include equities with their large price fluctuations, his ratio would no longer seem stable, nor would it be in any obvious danger of rising "out-of-bounds" because of prospective budget deficits (Chart 1). But if the concern is that growth in the stock of government liabilities might crowd out private liabilities, why should not corporate equity be counted?

Even if one accepted the Friedman ratio and its stability, this would nevertheless be consistent with huge year-to-year fluctuations in the ratio of debt generation to GNP, and in its distribution among sectors (Chart 2). These data also highlight a strong uptrend from cycle to cycle in the borrowing-to-GNP ratio. The reason this uptrend does not carry over to the Friedman ratio until recently probably is that his ratio starts out from an exceptionally high level due to war debt. Even his ratio would show an uptrend, however, had he not decided for unexplained reasons to exclude foreign debt.

In sum, I question whether Federal debt has been or threatens to be inimical to business borrowing or investment. Within a business cycle context, surely, it is business borrowing to finance investment that, once having gathered momentum, is virtually impossible to deter except through a credit

[1]For what little it is worth, for annual changes (1930–1982) the simple correlation between the ratios of (a) the federal national-income accounts surplus to GNP, and (b) total private saving to GNP, is −0.72. When the budget moves toward surplus, private saving tends to decline.

**Table 1**
**Outstanding Debt Issues by Nonfinancial Borrowers as Percent of 4th Quarter GNP**

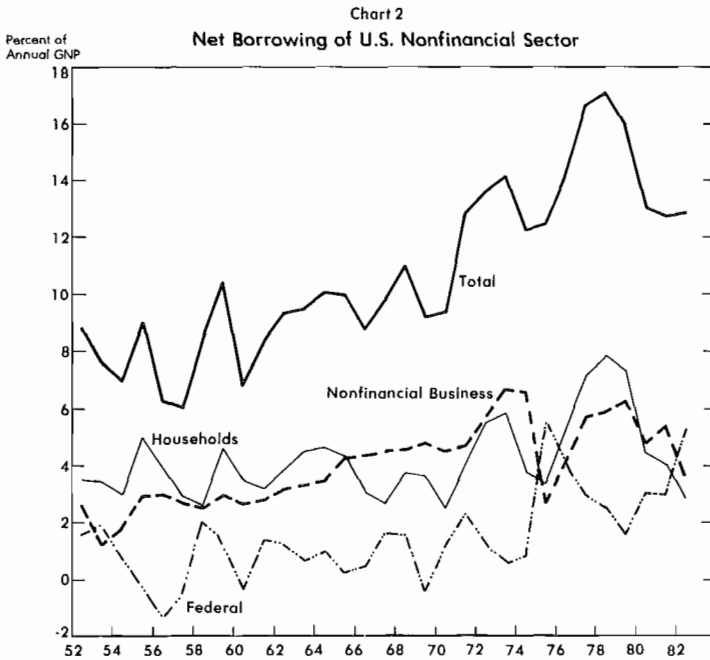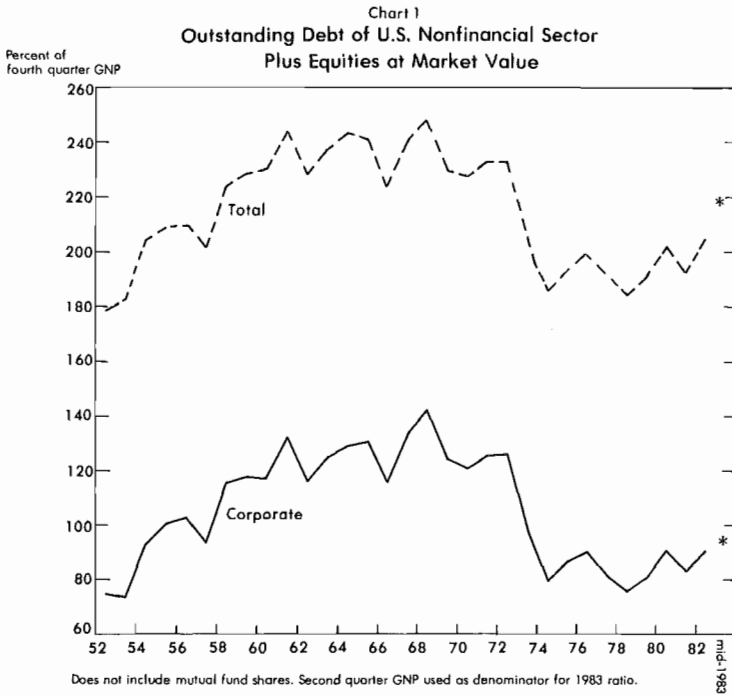|  | Total | U.S. Govt. | St. & Local Govt. | House-Holds | Nonfin. Business | Memorandum: Foreign |
|---|---|---|---|---|---|---|
| 1952 | 127.8 | 61.5 | 8.7 | 26.0 | 31.6 | 4.2 |
| 1953 | 134.5 | 62.9 | 9.7 | 29.3 | 32.6 | 4.5 |
| 1954 | 136.8 | 61.5 | 10.9 | 31.2 | 33.2 | 4.4 |
| 1955 | 133.8 | 56.0 | 11.3 | 33.4 | 33.2 | 4.0 |
| 1956 | 133.4 | 51.9 | 11.6 | 35.5 | 34.5 | 4.0 |
| 1957 | 135.9 | 50.0 | 12.2 | 37.4 | 36.2 | 4.2 |
| 1958 | 137.3 | 49.5 | 12.9 | 38.1 | 36.8 | 4.4 |
| 1959 | 139.8 | 48.1 | 13.4 | 40.5 | 37.7 | 4.3 |
| 1960 | 144.0 | 46.8 | 14.3 | 43.3 | 39.7 | 4.5 |
| 1961 | 142.0 | 44.9 | 14.2 | 43.3 | 39.6 | 4.6 |
| 1962 | 143.4 | 43.6 | 14.5 | 44.7 | 40.5 | 4.8 |
| 1963 | 143.7 | 41.5 | 14.6 | 46.3 | 41.2 | 5.0 |
| 1964 | 145.4 | 40.2 | 14.7 | 48.3 | 42.3 | 5.3 |
| 1965 | 141.2 | 36.6 | 14.4 | 47.9 | 42.3 | 5.2 |
| 1966 | 139.2 | 34.3 | 14.1 | 47.4 | 43.4 | 5.0 |
| 1967 | 140.6 | 33.9 | 14.2 | 47.2 | 45.2 | 5.1 |
| 1968 | 139.1 | 32.5 | 14.1 | 46.8 | 45.7 | 5.0 |
| 1969 | 139.2 | 30.0 | 14.3 | 47.4 | 47.5 | 5.0 |
| 1970 | 142.0 | 29.8 | 14.8 | 47.7 | 49.7 | 5.0 |
| 1971 | 142.0 | 29.5 | 15.1 | 47.6 | 49.8 | 5.0 |
| 1972 | 140.3 | 27.6 | 14.7 | 47.9 | 50.1 | 4.9 |
| 1973 | 139.4 | 25.4 | 14.1 | 48.7 | 51.3 | 4.9 |
| 1974 | 142.1 | 24.5 | 14.2 | 49.1 | 54.3 | 5.4 |
| 1975 | 141.1 | 27.5 | 13.7 | 47.9 | 52.0 | 5.6 |
| 1976 | 142.9 | 29.1 | 13.4 | 48.9 | 51.5 | 6.2 |
| 1977 | 143.5 | 28.8 | 12.7 | 50.5 | 51.5 | 6.2 |
| 1978 | 141.0 | 27.4 | 12.0 | 51.4 | 50.3 | 7.1 |
| 1979 | 144.0 | 26.5 | 11.7 | 53.9 | 51.9 | 7.3 |
| 1980 | 144.3 | 27.1 | 11.5 | 53.7 | 52.0 | 7.7 |
| 1981 | 142.6 | 27.4 | 10.7 | 52.6 | 52.0 | 7.8 |
| 1982 | 151.5 | 31.9 | 11.6 | 53.8 | 54.2 | 7.3 |
| 1983 June† | 152.9 | 33.8 | 12.6 | 53.6 | 52.9 | 7.1 |

†Author's estimate of midyear outstandings as percent of 2nd Quarter GNP.
Source: "Flow of Funds Accounts," Board of Governors of the Federal Reserve System.

crunch. At such prosperous times it is household borrowing, primarily for the purchase of durables and housing, that is the principal loser in these crowding-out episodes. Friedman should be pleased. Unhappily, once household borrowing declines sharply, soon private investment also falls in response to disappointing retail sales. When consumption is chilled, so is the rest of the economy. Could it be that the path to investment bliss is simply large borrowing by all sectors all the time?

## What Does It Really Mean to Reduce the Deficit?

The budget is like the weather. Everybody complains about it but nobody does anything about it—and no one is expected to. Whenever any-

Chart 1
**Outstanding Debt of U.S. Nonfinancial Sector
Plus Equities at Market Value**

Percent of
fourth quarter GNP



Does not include mutual fund shares. Second quarter GNP used as denominator for 1983 ratio.

Chart 2
**Net Borrowing of U.S. Nonfinancial Sector**

Percent of
Annual GNP

one does try to influence the weather, the rest of us become very apprehensive, because we sense danger in disturbing the balance of nature. Analogously, profound budgetary changes may endanger the balance of the economy. The transformation of budgetary policy wrought by President Reagan, whatever its accomplishments, also had large risks and costs, some of which may not become apparent for a long time. Radically transforming the budget again, even in a direction many of us would prefer, would expose us to a new set of hazards.

How could we significantly reduce the deficit, and what would be the fallout? Look first at the expenditure side. Of about $850 billion spending in fiscal 1984, some $300 billion will go for retirement payments and Medicare, $250 billion for the military, and over $100 billion for interest. These three expenditure categories, aggregating $650 billion out of an $850 billion' total, are programmed to rise rapidly for the foreseeable future. In the present political climate, talk of spending cuts that will be significant in aggregate is demagoguery.

But let us suspend disbelief for a moment. Cutting military outlays would probably yield the most direct and reliable benefits in the release of financial and real resources for private investment. If this is what Friedman and others advocate, let them say so. It is a subject well worth debate, even if it can't be framed in an econometric model.

Once we leave the military budget, other spending reductions are much more problematical in their results. If we focus on curtailing civilian outlays other than the transfers to the elderly, it seems quite probable that infrastructure and education outlays would suffer most. These, however, are just the sectors that Friedman, to his credit, would like to spare. And if we cut the expenditures for the elderly, who knows how the society might react? I do not mean to swallow whole the Barro proposition[2] that just as much would be provided to the elderly by the public acting as individuals as is now done collectively, but some offsets to a reduction in governmental transfers surely would develop, including less saving by the elderly. All in all, selecting those nonmilitary spending cuts that would reliably promote investment is so difficult that, even in the absence of the obvious political constraints, it hardly seems worth the effort.

The picture as respects tax increases is similar. Presumably these would be chosen to target consumption. But of course there is and has been a lot of investment in the consumer goods industries and the firms that produce equipment for them. A successful consumption tax will not encourage such investment; indeed, existing investments will be devalued. For what could be a prolonged transitional period, the net impact on investment might even be adverse. There is a flavor in these discussions that perhaps we really want to invest only in those endeavors that produce capital goods which produce still more capital goods *ad infinitum,* but never more consumer goods. Investment for investment's sake!

Furthermore, it is treacherous to presuppose that aggregate consumption can in fact be reduced by taxation. Friedman himself notes, in several

[2]Robert J. Barro, *The Impact of Social Security on Private Saving: Evidence From the U.S. Time Series,* American Enterprise Institute, 1978.

contexts, the tendency of personal saving to adjust to compensate for saving rate changes in other sectors. It takes *force majeure,* such as war, crop failure, a cutoff in vital imports, or high unemployment to drive a society down from what it regards as its rightful standard of living. In totalitarian countries it takes brutal repression. In the United States, we may have been able to limit consumption modestly in wartime. In peacetime we have only experienced consumption declines when unemployment has increased sharply. And bringing on the recessions and unemployment has depended on stern credit crunches to prevent people from borrowing more in order to replace the purchasing power being destroyed by inflation or other forms of taxation.

This does leave a case for taxing away future income increases before they become incorporated in the "rightful" living standard. The proposed "contingency" tax (I don't know whether to call it Martin Feldstein's or the Administration's) would serve this role. Of course we already have a similar tax that is about to lapse. It is known, affectionately, as "bracket creep." It recognizes, as the tax system should, that the prices of what government buys will rise faster than the general price level. But in 1985, to the joint applause of such fiscal conservatives as Jack Kemp, the *Wall Street Journal,* and the *New York Times,* it will disappear. Who wants to bet strongly that the contingency or any other tax will take its place? Absent crisis, rarely if ever are people willing to impose genuine inhibitions on their own living standard.

The deficit is a bogus issue. Viewing ourselves for the moment as a closed economy without international linkages, reductions in the underlying budget deficit are meaningful only if the public recognizes and consents to material reductions in real military spending, in outlays for and by the elderly, and/or in the consumption standard of the population at large.

### Do We Have to Do it All?

But of course we are not a closed economy. We can and do draw real and financial resources from abroad. Thus we are not limited in domestic investment by our own saving, nor in our total use of resources by what we alone can produce. That a nation's use of resources can be greatly augmented by drawing on the rest of the world is familiar from recent LDC practices, as well as from numerous episodes in the history of the United States and other countries.[3] There is, to be sure, a pleasant symmetry to a world in which those who are poorer and less developed borrow from the richer. As a practical matter, however, it is at least as realistic for the strong to draw on the weaker, as the United States is doing now. It may even make economic sense because, the textbook notwithstanding, the marginal return to capital is not necessarily highest where the capital stock is small. Chad or Chile are not necessarily the ideal places in which to invest. Ideology and

[3]"Specifically, over the past two decades, changes in the national saving rate have increasingly been matched by changes in net foreign rather than domestic investment." George M. von Furstenberg, "Domestic Determinants of the Current Account Balance of the United States," *Quarterly Journal of Economics,* August 1983.

culture do matter. In any event, we are not having to beg foreign govern-
ments to support the dollar, as we had to during the Vietnam years. It is in-
vestors the world over who insist on stampeding into American assets.

Huge quantities are involved. One way to look at these inflows is as a
way to finance increases in Friedman's debt ratio without pinching domestic
borrowers. Conceptual and statistical difficulties abound in relating the in-
ternational accounts to Friedman's numbers, but the following result is il-
lustrative. Using the current-account deficit as the measure of net capital in-
flow (Table 2), foreign net lending to the United States in the year to
mid-1983 spurted so dramatically as to "finance" virtually a full percentage
point increase in his ratio. If the inflow were to continue at the $26½ billion
rate of these four quarters for yet another year—and many forecasts project
an even higher number—another percentage point will be financed. Because
Friedman's ratio relates the stock of debt to (a presumably growing) GNP,
the offset from the capital inflow is "permanent" until such time as capital
*outflow* (current-account surplus) resumes at a growth rate faster than that
of GNP.

So long as the structural geopolitical and tax considerations that are
lending the dollar its strength persist, and our economy grows more rapidly
than the rest of the world, large inward flows of capital also will persist.
Business investment here will do well, as recent surveys of capital spending
plans already are foreshadowing. The budget deficit will further the inflows
because the nature of international political and credit risks and market im-
perfections is such that U.S. Treasury securities fulfill for the rest of the
world, especially for official accounts, the same functions that money-
market deposits perform for our domestic public. The $26½ billion capital
inflow of July 1982 to June 1983 included $22½ billion in recorded net
foreign purchases of Treasury obligations. Government securities are our
most successful export. The instrument and the technical facilities for its
purchase and sales boast incomparable comparative advantage.

I suggested earlier that the true issue in assessing the need and potential
for additional investment was not the deficit but the military program, the
resources devoted to the prolonging of high-consumption longevity, and the
consumption standard in general. The international aspects mean that it is
to some extent a question of "our" standard of living against "theirs."
Foreigners may well argue that longer lifespans in the United States are
competing with potential reductions in infant mortality abroad. Americans
may argue that the free world is stealing a free ride on our military build-up.
Ever since President Reagan took office, I have been warning foreign clients
that if other industrial countries refused to accept larger military burdens
directly, they would nevertheless end up sharing the burden through a dete-
rioration in their terms of trade with the United States.

These are ugly issues.

## How Are We Guilty?

Our problem is not an unbalanced federal but an unbalanced national
budget. As a nation and as individuals, we are probably committed to ex-
pend more in real resources than we will be able to produce. Many of these

**Table 2**
**Net U.S. Stock of Foreign Capital as Percent of GNP**

|  | 4th Qtr. GNP $ billions | Balance on Current Account $ millions | Cumulative Balance on Current Account $ millions | Cumulative Balance on Current Account as % of GNP |
|---|---|---|---|---|
| 1946 | 220.7 | 4,885 | 4,885 | 2.21 |
| 1947 | 244.0 | 8,992 | 13,877 | 5.69 |
| 1948 | 265.9 | 2,417 | 16,294 | 6.13 |
| 1949 | 256.8 | 873 | 17,167 | 6.68 |
| 1950 | 306.3 | -1,840 | 15,327 | 5.00 |
| 1951 | 339.2 | 884 | 16,211 | 4.78 |
| 1952 | 360.0 | 614 | 16,825 | 4.67 |
| 1953 | 363.1 | -1,286 | 15,539 | 4.28 |
| 1954 | 375.6 | 219 | 15,758 | 4.20 |
| 1955 | 411.0 | 430 | 16,188 | 3.94 |
| 1956 | 432.1 | 2,730 | 18,918 | 4.38 |
| 1957 | 444.0 | 4,762 | 23,680 | 5.33 |
| 1958 | 467.0 | 784 | 24,464 | 5.24 |
| 1959 | 495.0 | -1,282 | 23,182 | 4.68 |
| 1960 | 504.8 | 2,824 | 26,006 | 5.15 |
| 1961 | 542.6 | 3,822 | 29,828 | 5.50 |
| 1962 | 574.3 | 3,387 | 33,215 | 5.78 |
| 1963 | 612.4 | 4,413 | 37,628 | 6.14 |
| 1964 | 648.8 | 6,822 | 44,450 | 6.85 |
| 1965 | 717.2 | 5,428 | 49,878 | 6.95 |
| 1966 | 774.9 | 3,031 | 52,909 | 6.83 |
| 1967 | 823.3 | 2,582 | 55,491 | 6.74 |
| 1968 | 900.3 | 612 | 56,103 | 6.23 |
| 1969 | 962.0 | 394 | 56,497 | 5.87 |
| 1970 | 1,009.0 | 2,328 | 58,825 | 5.83 |
| 1971 | 1,105.8 | -1,436 | 57,389 | 5.19 |
| 1972 | 1,233.5 | -5,795 | 51,594 | 4.18 |
| 1973 | 1,376.7 | 7,138 | 58,732 | 4.27 |
| 1974 | 1,473.8 | 2,120 | 60,852 | 4.13 |
| 1975 | 1,621.8 | 18,277 | 79,129 | 4.88 |
| 1976 | 1,772.5 | 4,206 | 83,335 | 4.70 |
| 1977 | 1,988.9 | -14,514 | 68,821 | 3.46 |
| 1978 | 2,281.6 | -15,447 | 53,374 | 2.34 |
| 1979 | 2,502.9 | -967 | 52,407 | 2.09 |
| 1980 | 2,736.0 | 421 | 52,828 | 1.93 |
| 1981 | 3,032.2 | 4,588 | 57,416 | 1.89 |
| 1982 1st half | 3,070.2† | 1,998 | 59,414 | 1.94 |
| 1982 2nd half | 3,109.6 | -13,217 | 46,197 | 1.49 |
| 1983 1st half | 3,272.0† | -13,299 | 32,898 | 1.01 |

†Second quarter GNP.
Note: Current account cumulative from 1946.
Source: U.S. Department of Commerce, *Survey of Current Business.*

expenditures are liable to be wasteful from the standpoint of those who will come after us.

The large budget deficit is harmful mainly because it undermines discipline in federal as well as national spending. Its very size makes most feasible economies in government spending seem so small as to be meaningless and not worth the political effort. On the national and international level, the huge mass of Treasury debt engendered by the deficit and the need to maintain the unquestioned liquidity of that debt make it much more difficult to discipline aggregate demand.

But aside from the damage it does by undermining economic discipline, the budget deficit itself is not important—only how it is spent. As regards military outlays, to be sure, possibly the international tensions in our world are such that outlays should not be restrained, although, as mentioned earlier, that is surely a subject open to greater debate. A more serious issue is, I believe, the intensifying economic conflict between the elderly and the young. In light of the fraying of the bonds of family and community, of course the elderly want their economic claims established on the basis of irrevocable entitlement. The young support the aged in this view, because the young desire the same privilege as they age, and because they rightly fear the extraordinary material risks—at present uninsurable except through government—of supporting their parents under modern conditions of longevity and medical care. Because belief in the hereafter has waned, the aged wish to live longer, and at a higher consumption standard. For similar reasons, and because they labor under the ineradicable cloud of nuclear holocaust, the young also aspire to more immediate and larger consumption. To some extent, they are balancing their budgets by more work and fewer children. It is comforting to talk about a bloodless and abstract budget, rather than to face the terrifying ethical and societal issues that have made the budget what it is.

Fortunately for us the rest of the world has been furnishing us a critical and growing margin of resources. The large trade deficit we are generating is a sign of this shortfall. Were it not for this inflow of goods at low prices that reflect the strength of the dollar, we would even now be at the threshold of an inflationary surge that would force us to throttle back our economy. Cyclically as well as long range, however, this reliance on others has its risks and limits. Far easier, however, to flog the budget than to seek to determine an appropriate balance between the rights and obligations of free-world leadership.

If trees are to be planted whose shade is to be enjoyed by our heirs, we need to choose the right trees (whether or not they happen to be labeled "investment"); to find a mutually caring and respectful balance between young and old; and to avoid undue exploitation by or of others. Whether progress toward these goals increases or reduces the budget deficit is immaterial.

Let it be recognized, too, that every aspect of the task is a matter not only of calculation but also of conscience. The economic and moral choices are duals: each economic decision implies a moral choice and vice versa. By conducting the national debate as though the moral dimension did not exist, we assure that the debate will remain fruitless and richly earn the burden of guilt the deficit inspires.