THE UNITED STATES AS A HEAVILY INDEBTED COUNTRY

David H. Howard

ABSTRACT

According to data published by the Department of Commerce, the U.S. net international investment position (roughly the net external debt position with its sign reversed) at the end of 1987 was a negative $368 billion. This sum represents a deterioration of about $100 billion from the end-1986 level. The sharp downward plunge in the United States' net international investment position in recent years is, of course, a reflection of the large current account deficits recorded during most of the 1980s. In this paper, the U.S. net external debt position is examined and compared with the experience of other countries. The paper then proceeds to analyze the dynamic process of external debt accumulation. Concepts of external debt "stability" and "sustainable" external deficits are discussed. Next, a simulation model is developed with which various illustrative scenarios -- involving alternative assumptions about exchange rates and demand growth -- for the U.S. external accounts are generated and compared. Using these scenarios as background, the U.S. external adjustment process is discussed. Policy implications are then addressed, including the usefulness of focusing on the trade balance, rather than the current account, as the key indicator of external adjustment.

The United States as a Heavily Indebted Country

David H. Howard[1]

According to data published by the Department of Commerce, the U.S. net international investment position at the end of 1987 was a negative $368 billion. This sum represents a deterioration of about $100 billion from the end-1986 level. (See Figure 1.) The sharp downward plunge in the United States' net international investment position shown in Figure 1 is, of course, a reflection of the large current account deficits recorded during most of the 1980s. (See Figure 2.)
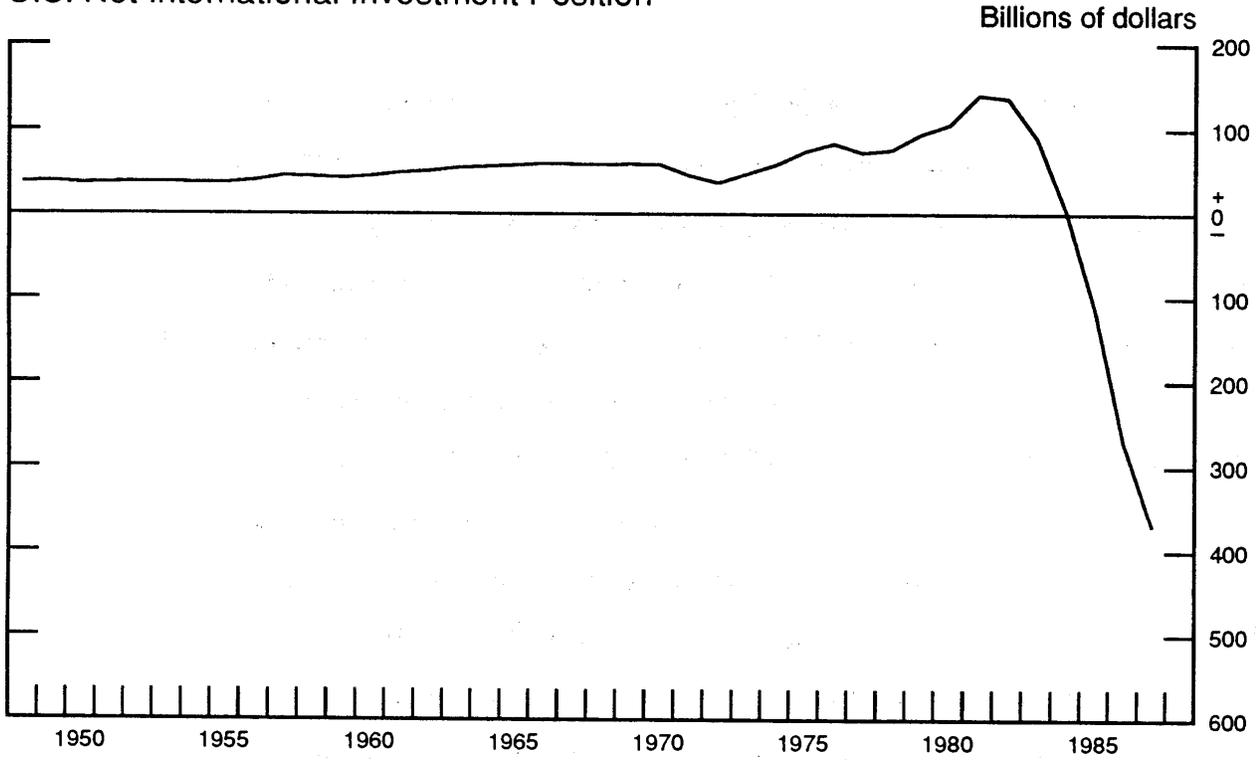
The trends depicted in Figures 1 and 2 -- particularly in the bottom panels where the nominal magnitudes are scaled by U.S. GNP -- could be viewed as alarming.[2] In this paper, the U.S. net international investment position (roughly the U.S. net external debt position with its sign reversed) is examined and compared with the experience of other countries. The paper then proceeds to analyze the dynamic process of external debt accumulation. Concepts of external debt "stability" and "sustainable" external deficits are discussed. Next, a simulation model
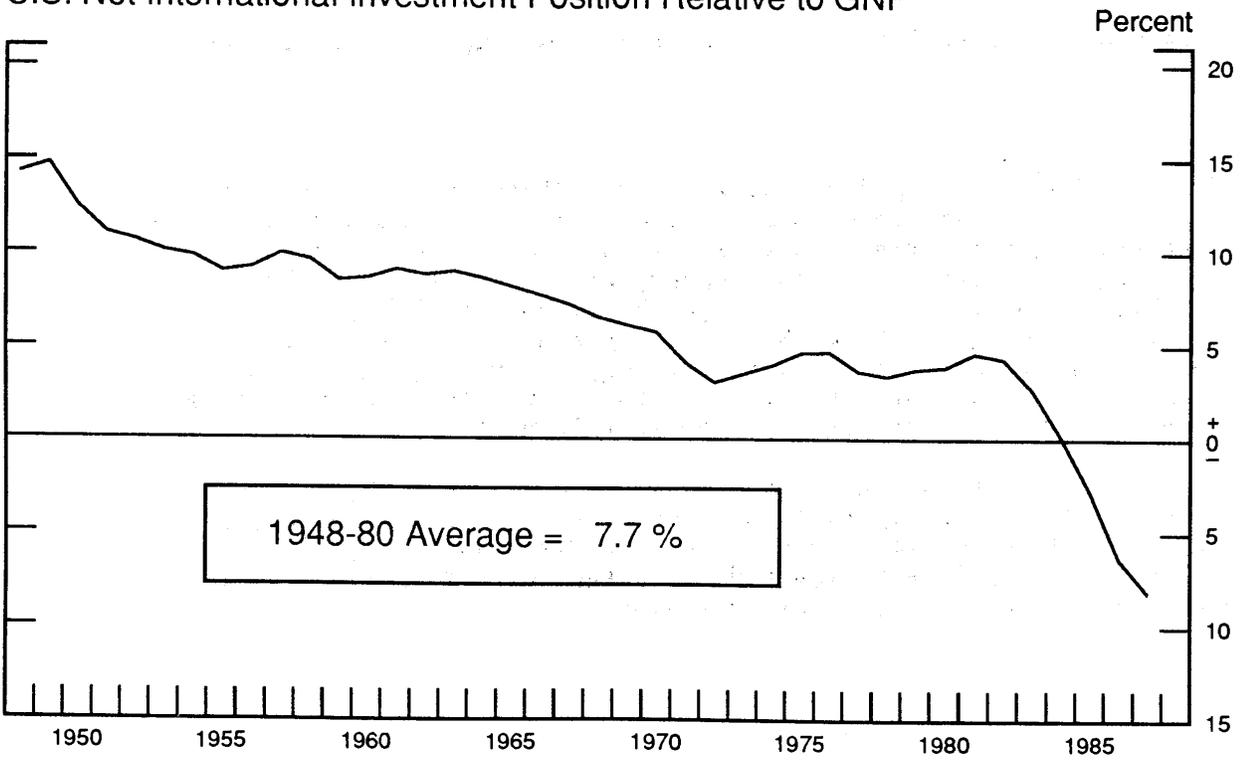
2. For example, some observers have pointed to the current account deficits and the rapidly falling investment position and have predicted a sharp fall in the dollar. Others have worried about a possible "debt crisis" for the United States and about the implications of foreign ownership of assets in the United States.

Figure 1

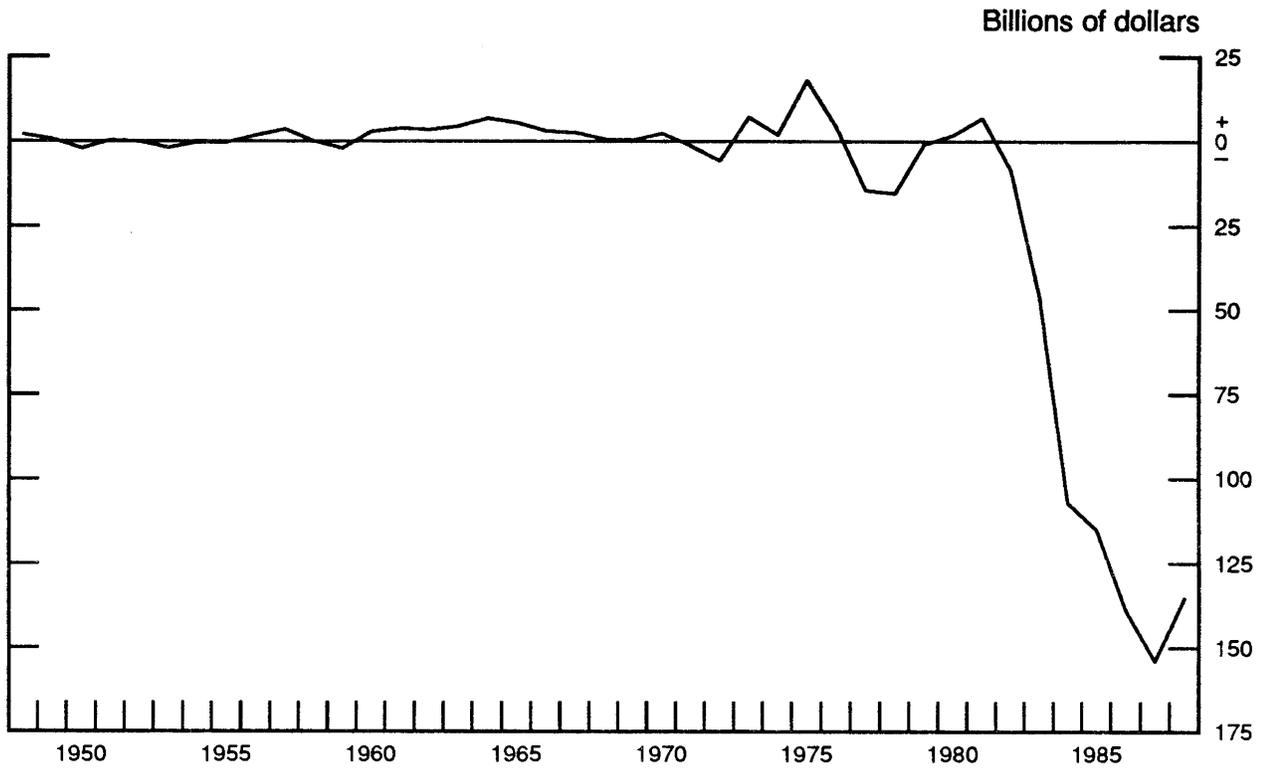**U.S. Net International Investment Position**

Billions of dollars

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                                                              200
                                                       
                                                       
                                                              100
                                                       
                                                       
                                                              + 
                                                              0 
                                                       
                                                              100
                                                       
                                                       
                                                              200
                                                       
                                                       
                                                              300
                                                       
                                                       
                                                              400
                                                       
                                                       
                                                              500
                                                       
                                                              600
  1950   1955   1960   1965   1970   1975   1980   1985
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U.S. Net International Investment Position Relative to GNP

Percent

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                                                              20
                                                       
                                                              15
                                                       
                                                              10
                                                       
                                                              5
                                                       
                                                              + 
                                                              0 
                                                              - 
                                                       
         ┌─────────────────────────────┐              5
         │   1948-80 Average  =   7.7 % │              
         └─────────────────────────────┘              10
                                                       
                                                              15
  1950   1955   1960   1965   1970   1975   1980   1985
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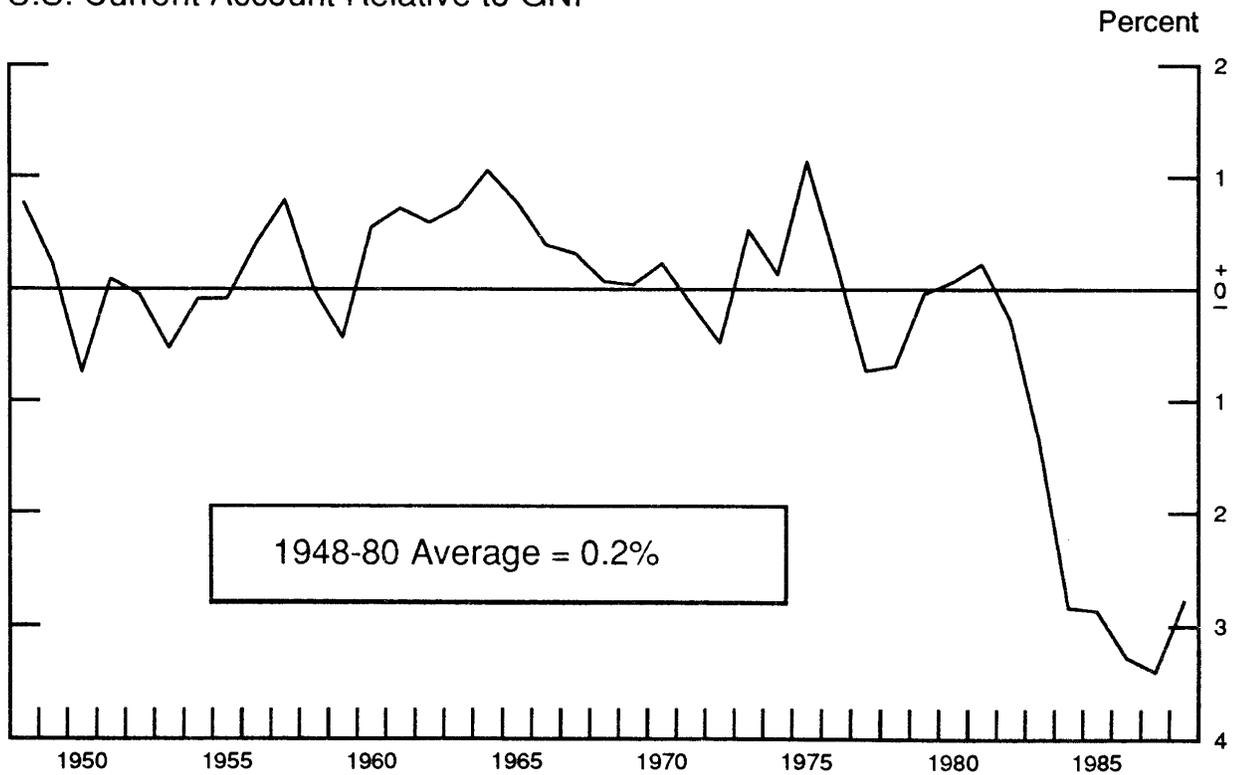
Source: Bureau of Economic Analysis, Department of Commerce

Figure 2

U.S. Current Account

Billions of dollars

U.S. Current Account Relative to GNP

Percent

1948-80 Average = 0.2%

Source: Bureau of Economic Analysis, Department of Commerce

is developed with which various illustrative scenarios -- involving alternative assumptions about exchange rates and demand growth -- for the U.S. external accounts are generated and compared. Using these scenarios as background, the U.S. external adjustment process is discussed. Policy implications are then addressed, including the usefulness of focusing on the trade balance, rather than the current account, as the key indicator of external adjustment.

I.   The U.S. Net International Investment Position

The net international investment position as published by the Department of Commerce represents the difference between estimates of U.S. assets abroad and foreign assets in the United States. These components in turn are aggregates of a full range of assets, including such disparate elements as official reserve holdings, bank claims, private portfolio holdings, and foreign direct investment. Table 1 presents data on the largest sub-categories of U.S. foreign assets and foreign assets in the United States for 1986 and 1987. The changes between the two years are the net result of capital flows, exchange-rate valuation effects, and some market valuation effects.

Because of the limitations of the various estimating procedures, there is a great deal of uncertainty about the exact level of the U.S. net international investment position. Perhaps the largest source of inaccuracy is the Department of Commerce's use of book value rather than market value for direct investments. A large part of the stock of U.S. direct investment abroad was made before foreign direct investment activity in the United States became significant. Thus, presumably the book value of U.S. direct investment understates its true market value to

Table 1

U.S. Net International Investment Position at End of Year
($ billions)

	1986	1987 (preliminary)
Net international investment position of the United States	-269	-368
U.S. assets abroad	1,071	1,168
U.S. official reserve assets	49	46
U.S. government assets, other than official reserve assets	90	88
U.S. private assets:		
Direct investment abroad	260	309
Foreign securities:		
Bonds	82	91
Corporate stocks	51	56
U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns	33	30
U.S. claims reported by U.S. banks, not included elsewhere	507	548
Foreign assets in the United States	1,341	1,536
Foreign official assets in the United States	242	283
Other foreign assets in the United States:		
Direct investment in the United States	220	262
U.S. Treasury securities	91	78
U.S. securities other than U.S. Treasury securities:		
Corporate and other bonds	142	171
Corporate stocks	167	173
U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns	27	29
U.S. liabilities reported by U.S. banks, not included elsewhere	452	539

Note: Details may not add to totals because of rounding.
Source: Bureau of Economic Analysis, Department of Commerce.

a larger extent than does the book value of direct investment in the United States. If so, the Commerce Department's methodology understates the U.S. net position with respect to direct investment.

On the other hand, certain aspects of the methodology tend to overstate the U.S. net position. Unrecorded capital transactions are not estimated, they are simply omitted. Since the large positive statistical discrepancy in the U.S. balance of payments accounts that has been in evidence since 1978 may indicate large unrecorded net capital inflows into the United States, a significant amount of foreign assets in the United States may be inappropriately excluded.

Despite these considerable reservations about the precision and accuracy of the published data, the U.S. net international investment position is useful as a rough indicator of changes in the U.S. investment position vis-a-vis the rest of the world. Moreover, statistical niceties aside, its trend in recent years has accurately reflected a sharp deterioration in the underlying international investment position of the United States resulting from the string of large U.S. current account deficits recorded in the 1980s. Given the likely course of the U.S. current account, even under optimistic assumptions, the deterioration of the U.S. net international investment position -- both estimated and actual -- can be expected to continue for quite some time.

It is convenient to interpret the negative of the U.S. net international investment position as the U.S. net external "debt." With this interpretation -- which will be used throughout the remainder of this paper -- it is natural to compare the present and prospective external debt position of the United States with that of other indebted countries.

II. The U.S. Debt Situation: A Cross-Country Perspective

There are several statistical measures of a country's external debt "burden." Perhaps the two most commonly used measures are the ratio of net debt to GNP (or GDP) and the ratio of net debt to exports. Each of these ratios has its strong points as an indicator of a country's external debt situation, but neither is the definitive measure. The first measure scales the debt using the size of the economy as a proxy for the country's capacity to service its debt. The other measure scales the stock of debt using total exports as a proxy for the country's (near-term) capacity to generate foreign currency earnings and service its debt.

Cross-country comparisons of the various debt ratios are not necessarily meaningful. The economic implications of a particular level of debt or debt ratio depend on factors that can vary across countries and over time. Servicing a given level of external debt might be trivial if the foreign borrowing took place during a period of increased levels of (economically productive) investment, or onerous if the borrowing instead was associated only with a temporary increase in consumption levels. Similarly, a given level of debt is less burdensome if a country's economy and capacity to service debt are less vulnerable to economic and financial disturbances.

With these reservations in mind, it is nevertheless interesting to compare the summary external debt statistics of the United States with those of other countries. As reported in Figure 1, the U.S. net external debt as of the end of 1987 amounted to about 8 percent of nominal GNP. Comparable ratios for heavily indebted developing countries such as Argentina, Brazil, and Mexico are much higher -- roughly 25 percent of

GNP .[3] Assuming that U.S. nominal GNP grows at an annual rate of 6 percent and net external debt increases in increments equal to the 1988 nominal current account deficit (about $135 billion), the U.S. debt-GNP ratio would not approach "Latin American" levels until the second half of the 1990s.

Perhaps a more appropriate country with which to compare the U.S. external debt situation is Canada -- an advanced industrial economy with ready access to international financial markets. At the end of 1987, Canada's net external debt (that is, its net international investment position) was 40 percent of GNP. Again assuming 6 percent growth in U.S. nominal GNP and annual increases in net debt of $135 billion, the U.S. debt-GNP ratio would never reach the 40 percent level. In fact, in this exercise, the U.S. debt-GNP ratio peaks at 22 percent.[4]

The assumptions made in this section of the paper are arbitrary and are intended for illustrative purposes only. As such, they do serve to make the basic point that, by international standards, the U.S. external debt burden -- as measured by standard statistical indicators -- was not large at the end of 1987, and indeed, although growing rapidly, the U.S. debt burden is not likely soon to eclipse the level experienced (without much difficulty) by Canada. However, as discussed earlier in

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3. To make the debt-GNP ratios comparable, the developing country's assets held abroad -- including an estimate of private "capital flight" -- must be subtracted from the published external debt data in order to obtain an estimate of net external debt. The ratio of gross debt to GNP in these developing countries is on the order of 50 percent.

4. Annual increments in net debt of $270 billion -- twice the size of the 1988 current account deficit -- would yield a debt ratio that would peak at 40 percent at the turn of the century, assuming 6 percent GNP growth.

this section, there are limits to how far one can push cross-country comparisons of debt ratios and debt-servicing burdens and capacities.

III. The Dynamics of External Debt Accumulation

    A. Assumptions

        In order to examine the dynamics of external debt accumulation, it is useful to make two simplifying assumptions. First, it is assumed that the change in the stock of nominal net external debt is equal to the negative of the current account balance for the relevant period; that is,

(1) $\quad \dot{D} = - CAB,$

where D is the stock of nominal net external debt, the dot notation signifies the derivative with respect to time, and CAB is the current account balance. Second, it is assumed that the current account balance is equal to the merchandise trade balance less interest and other current payments on the stock of net external debt; that is,

(2) $\quad CAB = TB - rD,$

where TB is the trade balance and r is "the" nominal rate of return on external assets and liabilities.

        Although useful, these assumptions are not strictly correct. For example, contrary to equation (1), during 1987, the U.S. net external debt rose by about $100 billion while the current account registered a deficit of some $150 billion. The difference is attributable to the statistical discrepancy in the balance of payments and to various valuation changes involving the outstanding stocks of assets and liabilities. Also, contrary to equation (2), in 1987, non-trade, non-investment-income current account items -- military transactions, other services, and unilateral transfers -- amounted to, on a net basis, a

negative $15 billion, approximately. Moreover, net investment income was positive ($20 billion) in 1987, despite the large negative U.S. net international investment position, reflecting a (positive) differential between the rates of return earned on U.S. assets abroad and foreign assets in the United States.[5]

Nevertheless, the assumptions embodied in equations (1) and (2) express the fundamentals of the external debt accumulation process: debt is built up through the financing of current account deficits, and net investment income is the major non-trade current account item when a country's net debt position departs substantially from zero. The assumptions also make the analysis of the debt accumulation process clear and simple, and are used in the remainder of this section of the paper.

B. The Debt Accumulation Process

Statistical measures of a country's external debt burden usually involve scaling the debt by some convenient economic aggregate, for example, nominal GNP. Let Z denote such a scale variable, and

(3) $d = D/Z$,

where d is a generic "debt ratio." Using equations (1)-(3), one can obtain:

(4) $\dot{d}/d = - (TB/D) + r - (\dot{Z}/Z)$.

For a given constant debt ratio (so that $\dot{d} = 0$), it follows from equation (4) that

(5) $TB/D = r - (\dot{Z}/Z)$.

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5. The problems of measuring the levels of outstanding stocks and the different mixes of assets involved contribute to this rate of return differential.

Thus, if the nominal rate of return on external assets and liabilities exceeds the rate of growth of the scale variable, a debtor country (D > 0) must run a trade surplus in order to maintain a constant debt ratio. If the rate of return is less than the growth rate of the scale variable, a debtor country can run a trade deficit without altering its debt ratio.

C. External Debt Stability

There are several plausible ways of defining "external balance" or "stability" with respect to net external debt. In many formal models in the economics literature, a long-run constraint is specified in which the present value of a country's net external debt position at a point in the future approaches zero as that point approaches infinity. The specification of this intertemporal constraint is made largely for a technical reason -- to rule out Ponzi schemes in which a country simply borrows indefinitely in order to make its interest payments. However, such schemes can be viable, at least in principle: as long as creditors are willing to lend, net debt can grow. There are conditions under which creditors will continue to lend indefinitely. All but one of the definitions of debt stability discussed in the present section of this paper have to do with viewing a debt ratio as the operative measure of a lender's exposure to a country. Growth in the relevant scale variable can then prompt a willingness to increase claims on the country; this process can go on indefinitely.

One concept of external debt stability is the special case in which there is no scale variable involved. In this case, debt stability means that there is a standstill of all net nominal lending to a country. In terms of equation (5), the indebted country must run a trade surplus equal to the net nominal interest payments on its external debt, a

situation not unlike that which several heavily indebted developing countries have faced at times during the post-1982 "debt crisis." This concept of debt stability is austere, particularly in an inflationary environment where a significant portion of interest payments -- the inflation premium -- actually represents amortization of the real value of the loan.

An alternative concept of debt stability that makes more sense economically is to use the general price level as the scale variable. Thus external debt stability refers to a constant real value of the debt; the nominal stock of debt can increase at a rate of growth equal to the inflation rate. In terms of equation (5), this concept of external balance implies that a debtor country must run a trade surplus that is equal, as a percentage of net external debt, to the real rate of interest on the debt.

In most discussions of external debt positions, the scale variable is taken to be some rough proxy for the debtor's capacity to service its debt. As mentioned earlier in this paper, two common examples of such scale variables are nominal GNP and nominal exports; other examples are wealth or the nation's capital stock. Another way of looking at the scale variable is as a measure of the creditors' general capacity or willingness to lend, in which case world (or foreign) wealth or GNP would be reasonable proxies. Again using the framework of equation (5), if the rate of growth of the scale variable exceeds the nominal interest rate, the indebted country can actually register trade deficits without suffering a deterioration of its external debt position, as measured by the relevant debt ratio. If the debt-GNP ratio is the appropriate external debt indicator, the crucial comparison involves the rate of

interest and the economic growth rate. If the two rates are equal, and it can be argued that in most cases they are approximately equal over the longer run, then the country has to stop recording trade deficits in order to stabilize its external debt position.

    D. <u>Sustainable External Deficits</u>

        The implications of a stable external debt situation -- as measured by a debt ratio -- for a country's trade and current account balances can be obtained by manipulating equation (5) to yield:

(6) $TB/Z = d*[r - (\dot{Z}/Z)]$, and

(7) $CAB/Z = - d*(\dot{Z}/Z)$,

where d* denotes the constant debt ratio. For the important case in which the scale variable is taken to be nominal GNP, equation (7) can be used to calculate the sustainable current account deficit as a percent of GNP for any combination of constant debt-GNP ratio and rate of GNP growth. In Figure 3, some of these combinations are plotted. The shaded area probably constitutes the maximum feasible zone for the United States, at least in the medium term, since it is bounded by nominal GNP growth rates of 5 and 10 percent (a reasonable forecast range) and debt ratios of 10 percent (about the present level of the U.S. ratio) and 40 percent (the recent level of the Canadian ratio).

        Taking the shaded area to be literally the feasible range of the sustainable U.S. current account deficit, one could conclude that the United States might be recording current account deficits representing at least 1/2 percent of GNP and perhaps as much as 4 percent of GNP for a long time. In terms of 1988 GNP, these deficits would be $24 billion and $195 billion, respectively. A conservative middle-course scenario might involve a GNP growth rate of 7-1/2 percent and a stable debt ratio of 20

Figure 3

"Sustainable" Current Account Deficits

Current Account Deficit-GNP Ratio (percent)

10% Growth in
Nominal GNP

5% Growth in
Nominal GNP

Constant Debt-GNP Ratio
(percent)
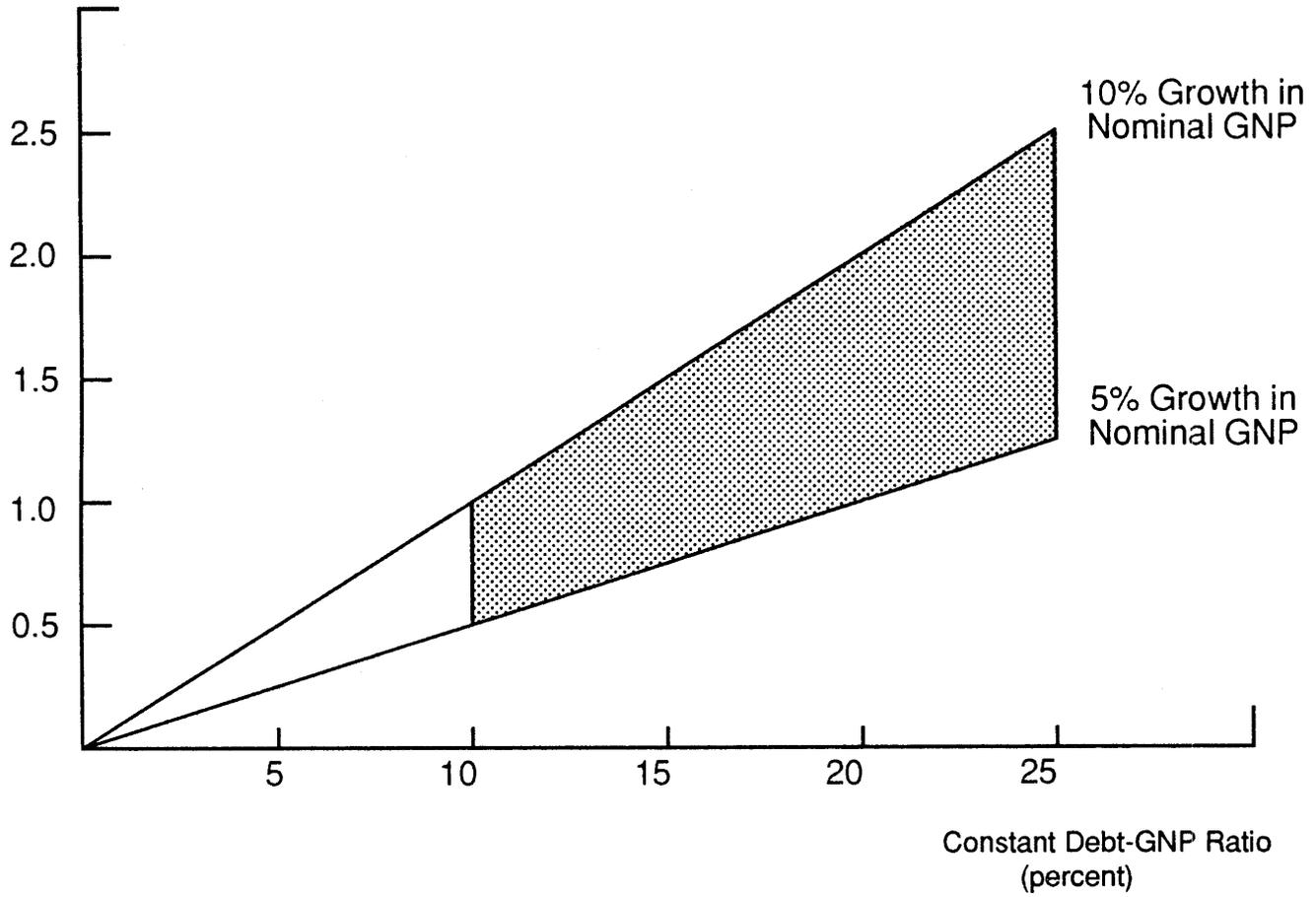
percent. In this case, the sustainable U.S. current account deficit would be 1-1/2 percent of GNP ($73 billion in terms of 1988 GNP), about half the size of the deficit recorded in 1988, but considerably larger than the deficits registered by the United States prior to the 1980s. [See the discussion of the evolution of the U.S. current account in Howard (1989).]

IV. External Adjustment: Illustrative Scenarios

   A. Simulation Model

      In order to get some idea of possible paths of the U.S. external debt position, a simulation model of the debt accumulation process is useful. Equations (1) and (2) constitute the basic framework for the simulations used in the present paper. The trade balance -- TB in equation (2) -- is generated by using the trade block of the current account model developed by Helkie and Hooper (1988); the rate of return variable -- r in equation (2) -- is exogenous; and the stock of net external debt -- D in equation (2) -- is determined endogenously according to equation (1). Specifically,

(8) $TB_t = f(\cdot)$,

(9) $CAB_t = TB_t - rD_{t-1}$, and

(10) $D_t = D_{t-1} - CAB_t$,

where the subscript denotes the time period and $f(\cdot)$ is a shorthand notation for the Helkie-Hooper trade equations.

      The simulations use the actual 1988 outcome as the starting point, and produce projected annual values for the trade balance, the current account balance, and the nominal stock of net external debt. These projected variables are then scaled by the nominal value of GNP implicit in the assumed path of real income and prices.

Details about the Helkie-Hooper trade model are reported elsewhere [see Helkie and Hooper (1988)]. In brief, the trade equations consist of export and import volume equations involving, as right-hand-side variables, income and relative price terms as well as a few other factors, and export and import price equations.

B. The Baseline Path

The purpose of the baseline simulation is to provide a reference path that illustrates how the U.S. external situation might evolve under conditions that are relatively unchanged from those prevailing prior to the beginning of the simulation. To that end, a series of assumptions are specified: 3 percent real growth in U.S. GNP and foreign GNP; 3 percent price inflation rates in the United States and abroad; a constant real exchange rate; constant oil and commodity prices relative to the general price level; constant relative capital stock and capacity utilization terms; no dock strikes; no changes in tariff rates; unchanged physical levels of U.S. oil production and exports; no changes in oil stocks; and a 6 percent nominal rate-of-return variable. (Note that the rate of return is specified to be approximately equal to the rate of growth of the scale variable -- nominal GNP.)

Using these specifications, the Helkie-Hooper trade model, and equations (8)-(10), the projected paths of TB, CAB, and D as percentages of nominal GNP are as shown on Figure 4. Both the trade and current account balances strengthen (as a percent of GNP) through 1991. After 1991, the strengthening trend ends: the trade deficit as a percent of GNP is essentially flat at around the 2 percent level for the next two years while the current account deficit -- reflecting ever-growing debt-service payments -- increases steadily from its low of just under 3 percent of

Figure 4

External Balances Relative to GNP: Baseline

Percent

Trade Balance

Current Account

1989 1991 1993 1995 1997 1999

Net External Debt Relative to GNP: Baseline

Percent

1989 1991 1993 1995 1997 1999
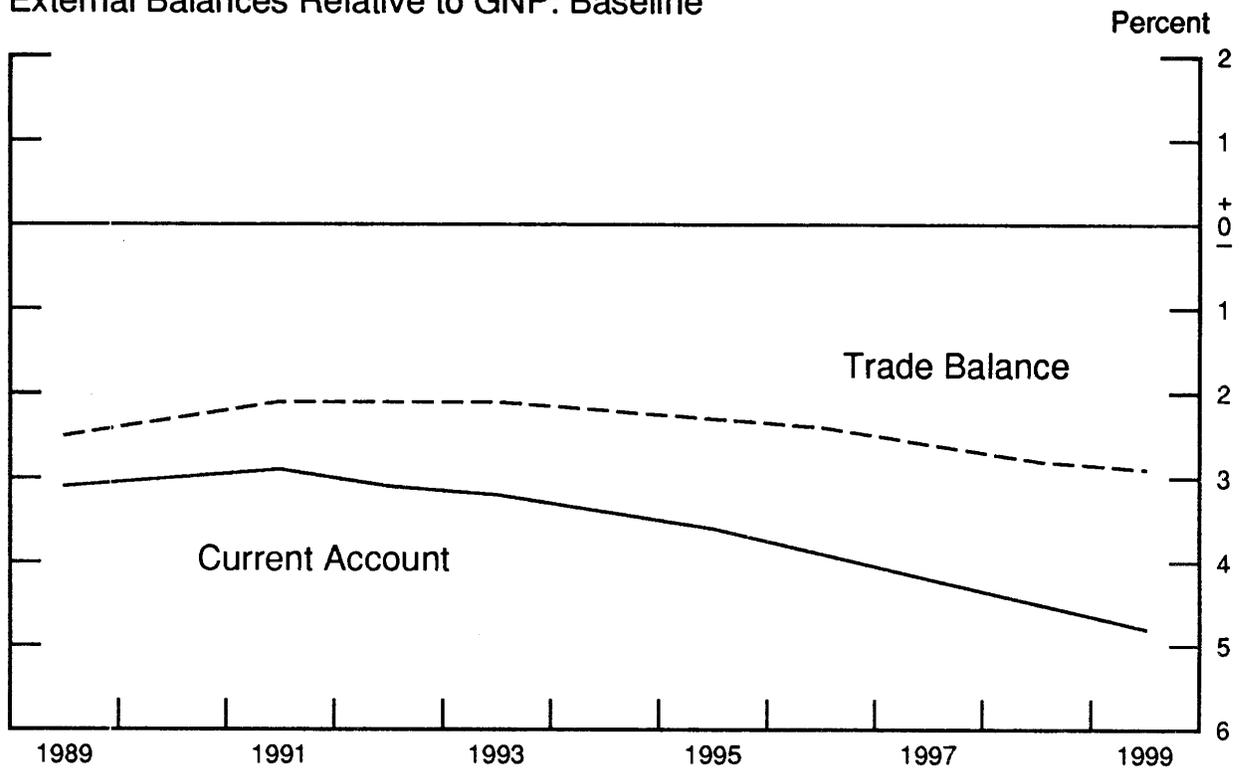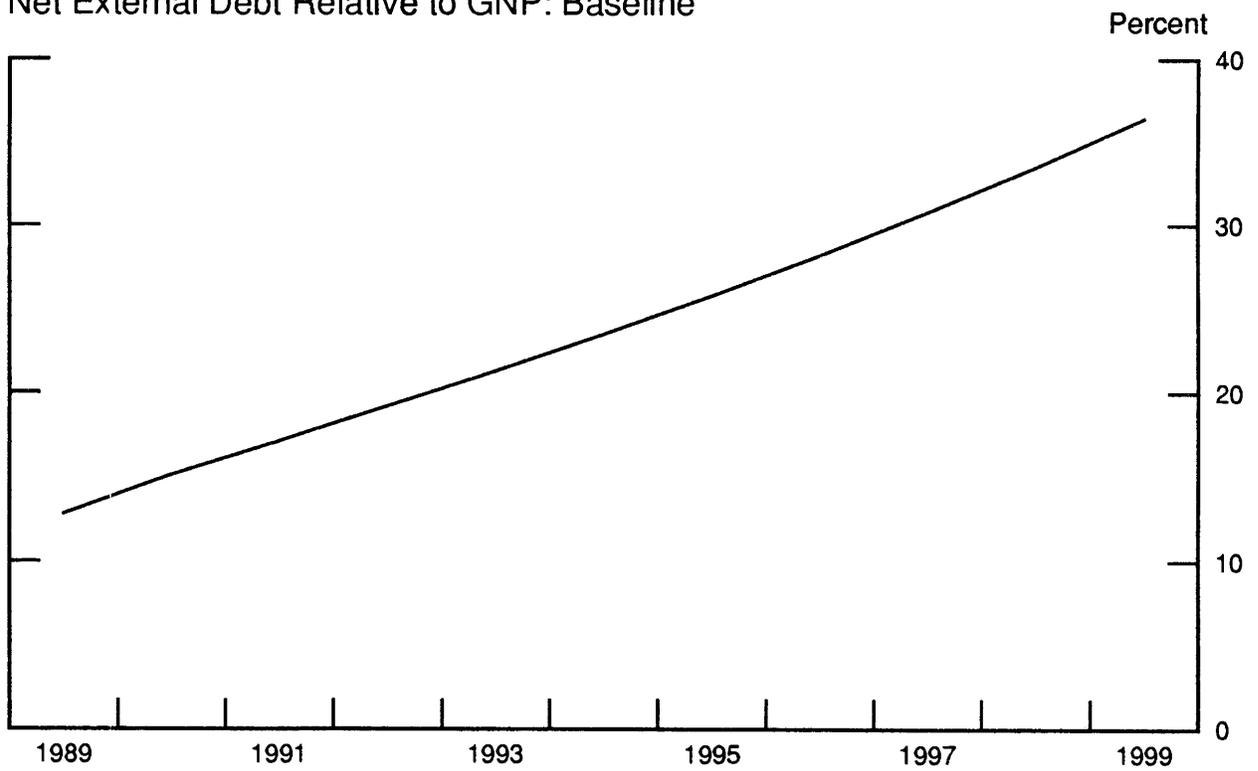
GNP. During the remaining years of this simulation, both external deficits become progressively larger as a percent of GNP. By 1999, the end-point of the simulation exercise, the trade deficit is some 3 percent of GNP and the current account deficit is almost 5 percent of GNP. The net external debt to GNP ratio climbs throughout the simulation, reaching nearly 40 percent by the end of the simulation period.

In this baseline scenario, the external adjustment process stops well short of a zero merchandise trade balance, and the debt-GNP ratio does not stabilize. In fact, by the end of the simulation period, the debt-GNP ratio is approaching the recent Canadian level mentioned earlier in this paper, and increasing by some 3 percentage points a year. Such a situation would not appear to be sustainable. In the rest of this section, some alternative scenarios are presented in which the trade balance does become zero (or positive) during the simulation period and the debt-GNP ratio stabilizes (or declines).

C. Alternative Scenarios

The scenarios surveyed in this paper are artificial exercises in that a few alternative assumptions are imposed on the baseline simulation with little attention given to how these altered conditions come about or what their effects on other variables might be. A good example is the path of the exchange rate: alternative rates of depreciation are specified, but the mechanism through which the exchange rate path is changed is left unexplained, and it is assumed that there are no feedback effects on such variables as general price levels and output. Thus, the various scenarios presented in this paper are intended to be illustrative only. In no sense are they realistic forecasts. Indeed, the non-merchandise-trade current account items are modeled with equations (9) and

(10), which serve the purpose of capturing the dynamics of external debt accumulation but certainly are not a satisfactory forecasting model of the non-merchandise-trade current account. In an actual current account projection -- particularly for the near term -- it would be more appropriate to use the complete Helkie-Hooper current account model, which includes several equations for non-merchandise-trade items.

There are two general types of simulation exercises undertaken. The first involves specifying different paths for the real, or price-adjusted, exchange rate of the dollar. All other assumptions are left unchanged. The exchange rate paths examined are:

1. sharp depreciation -- the dollar declines at a 10 percent annual rate during the first two years of the simulation period, and remains constant at the lower level thereafter;

2. gradual depreciation -- the dollar depreciates at a 2-1/2 percent annual rate throughout the simulation period.

The other general type of simulation exercise involves shifts in demand in the United States and its trading partners. The specific demand shifts examined in this paper are an annual growth rate of real GNP of 2-1/2 percent throughout the simulation in the United States and of 3-1/2 percent in the rest of the world. (In the baseline, the growth rate of GNP is specified as 3 percent in the United States and in its trading partners.) All other assumptions are unchanged, except that the capacity utilization terms reflect the altered paths of real GNP.

In Figures 5 and 6, the results of the three different exchange rate paths are presented. In the case of the sharp depreciation of the dollar (Figure 5), external adjustment takes place fairly quickly. In four years' time the trade balance levels off at around zero, the current

Figure 5

External Balances Relative to GNP: Sharp Depreciation
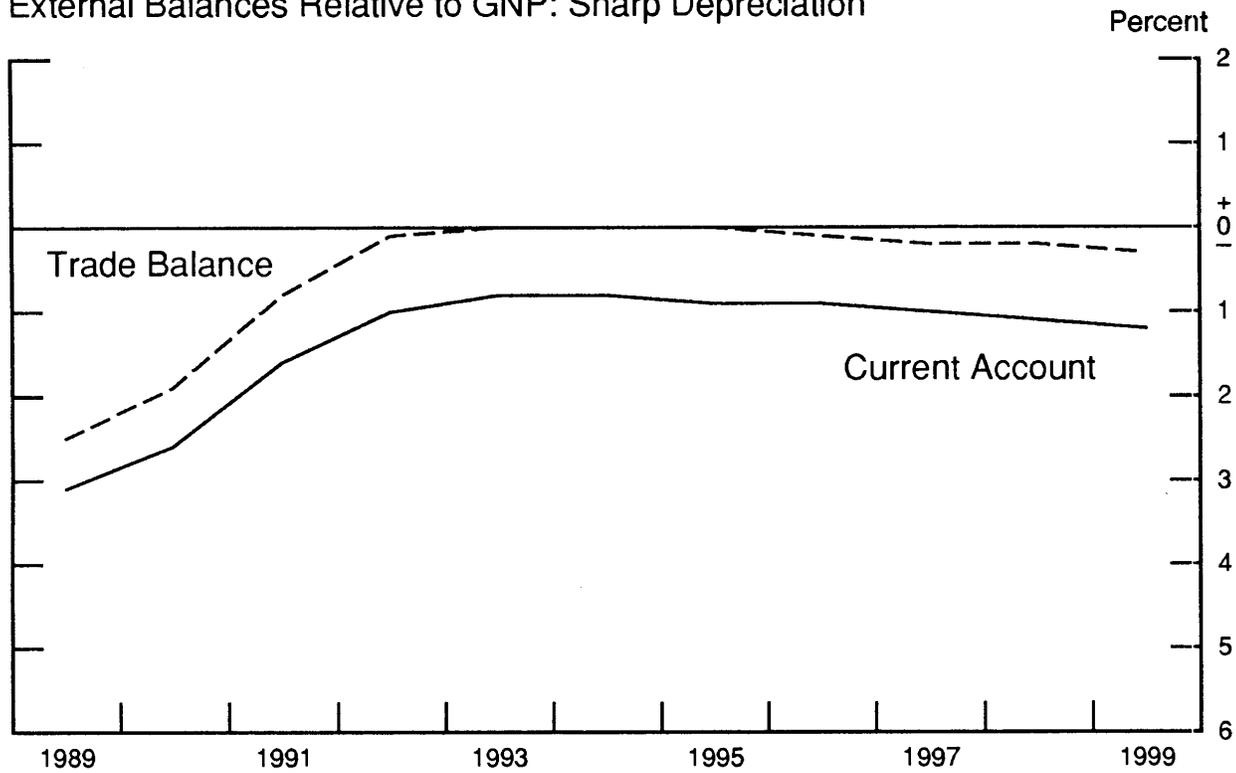
Net External Debt Relative to GNP: Sharp Depreciation
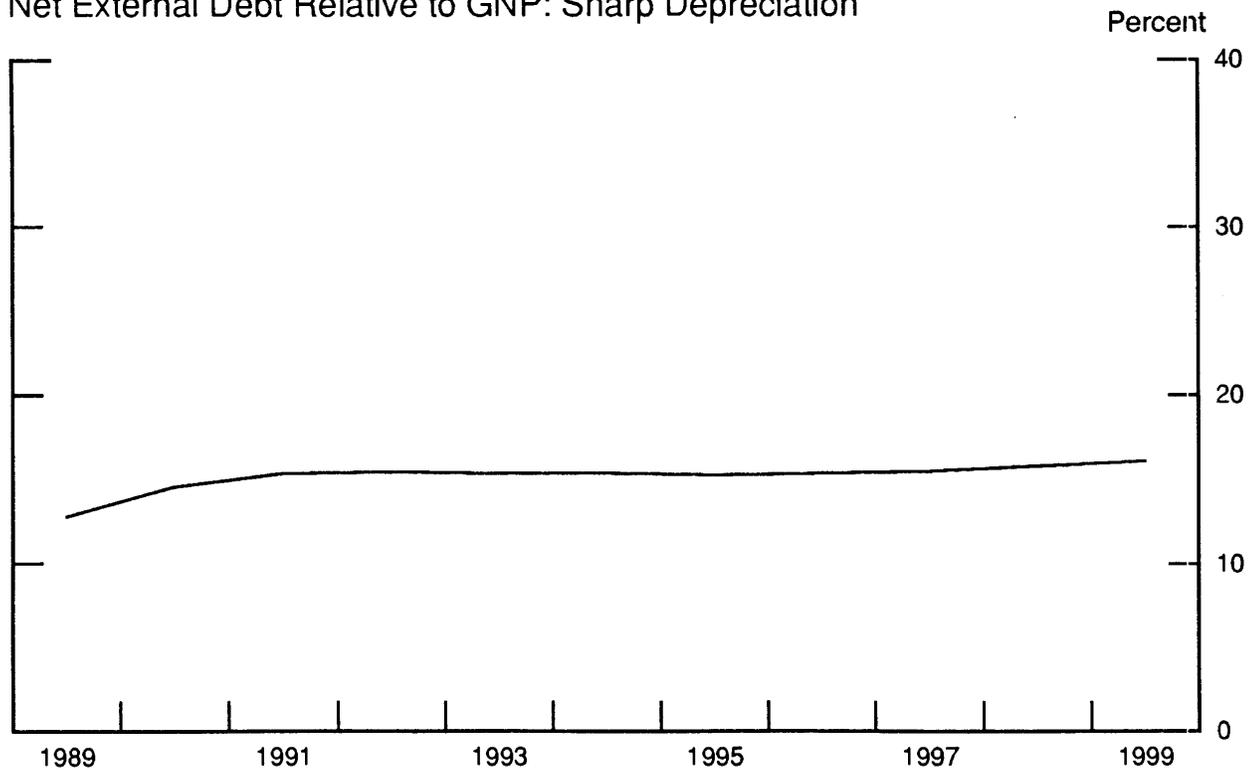
Figure 6

External Balances Relative to GNP: Gradual Depreciation
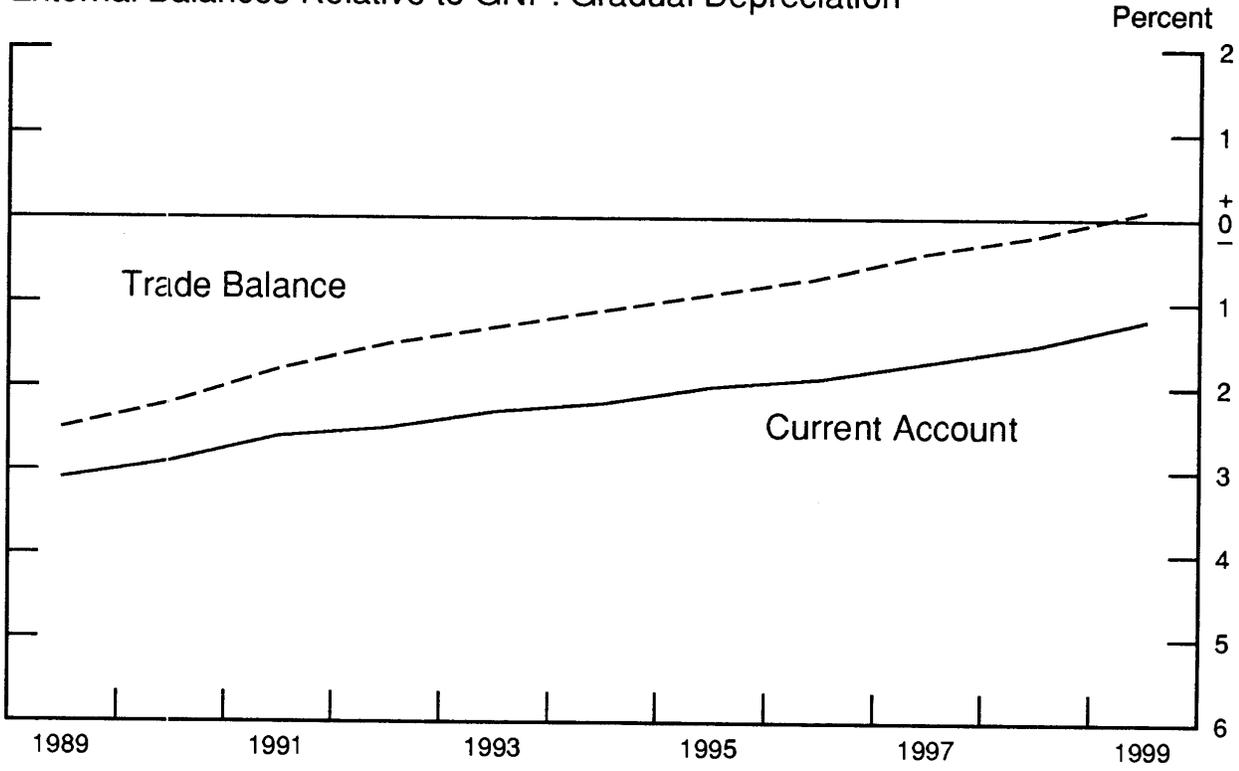
Net External Debt Relative to GNP: Gradual Depreciation
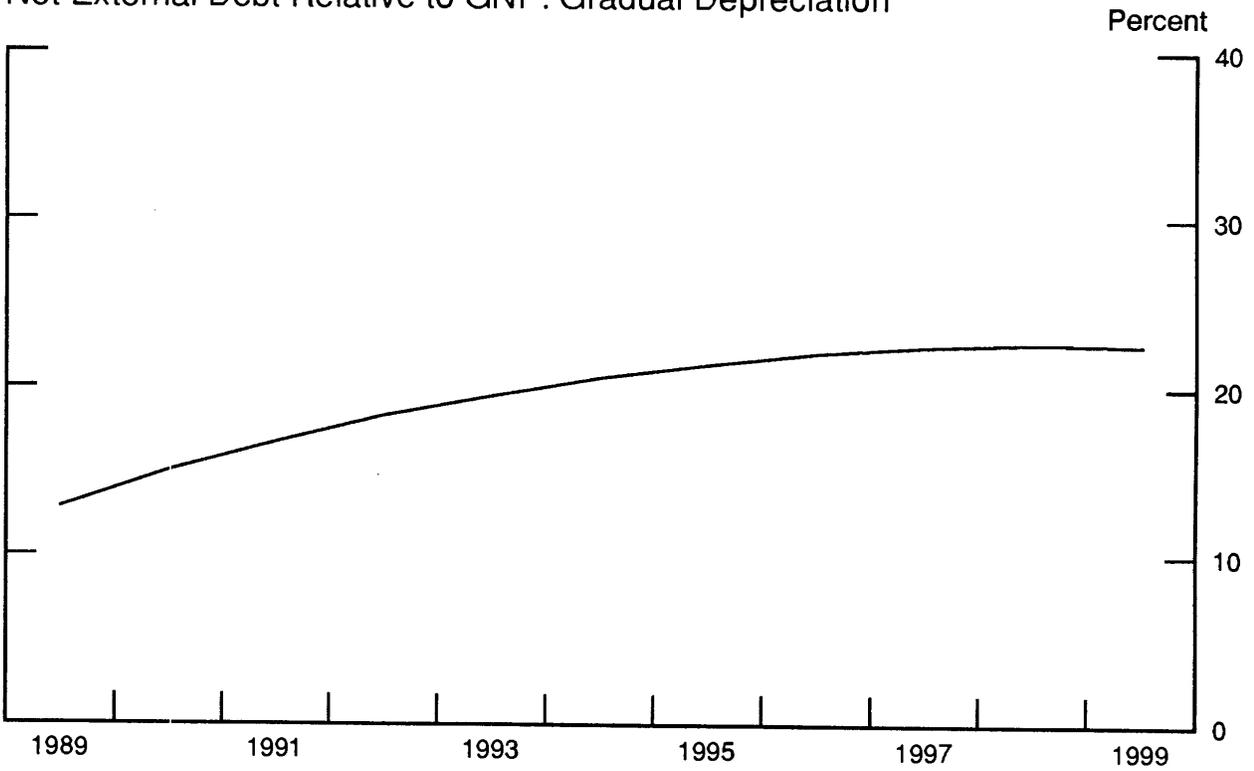
account registers a deficit equal to about 1 percent of GNP, and the debt-GNP ratio stabilizes at a little over 15 percent. (Toward the end of the simulation period, the trade balance and the current account start to weaken, and the debt ratio resumes climbing.)

A 10 percent rate of decline in the dollar for two years may be somewhat extreme. As shown in Figure 6, the scenario in which the dollar's depreciation is more gradual has a more drawn-out adjustment. With a steady 2-1/2 percent per year depreciation (Figure 6), the trade deficit does not disappear until 1999; the 1999 current account deficit is about 1-1/4 percent of GNP and the debt-GNP ratio is nearly 23 percent.

The alternative scenario in which there is a significant <u>and</u> <u>sustained</u> shift in the pattern of world demand, including a marked decrease in U.S. real growth and a similar increase in foreign growth, is presented in Figure 7. The prolonged nature of this shift is unrealistic, but the paths of the external accounts plotted in Figure 7 are instructive. Such demand shifts constitute a powerful method of effecting external adjustment, <u>but</u>, even under this scenario, the trade balance would not swing into surplus until 1999 (ten years after the postulated change), the current account would still be registering deficits at the turn of the century, and the United States would remain a net external debtor well into the twenty-first century.

V. <u>The External Adjustment Process</u>

In principle, any path is possible for the U.S. external accounts; moreover, the path need not be smooth. The crucial question is the willingness of the world's investors to hold U.S. assets in their portfolios. Nevertheless, it is reasonable to conclude, when looking at

Figure 7

External Balances Relative to GNP: Demand Shifts
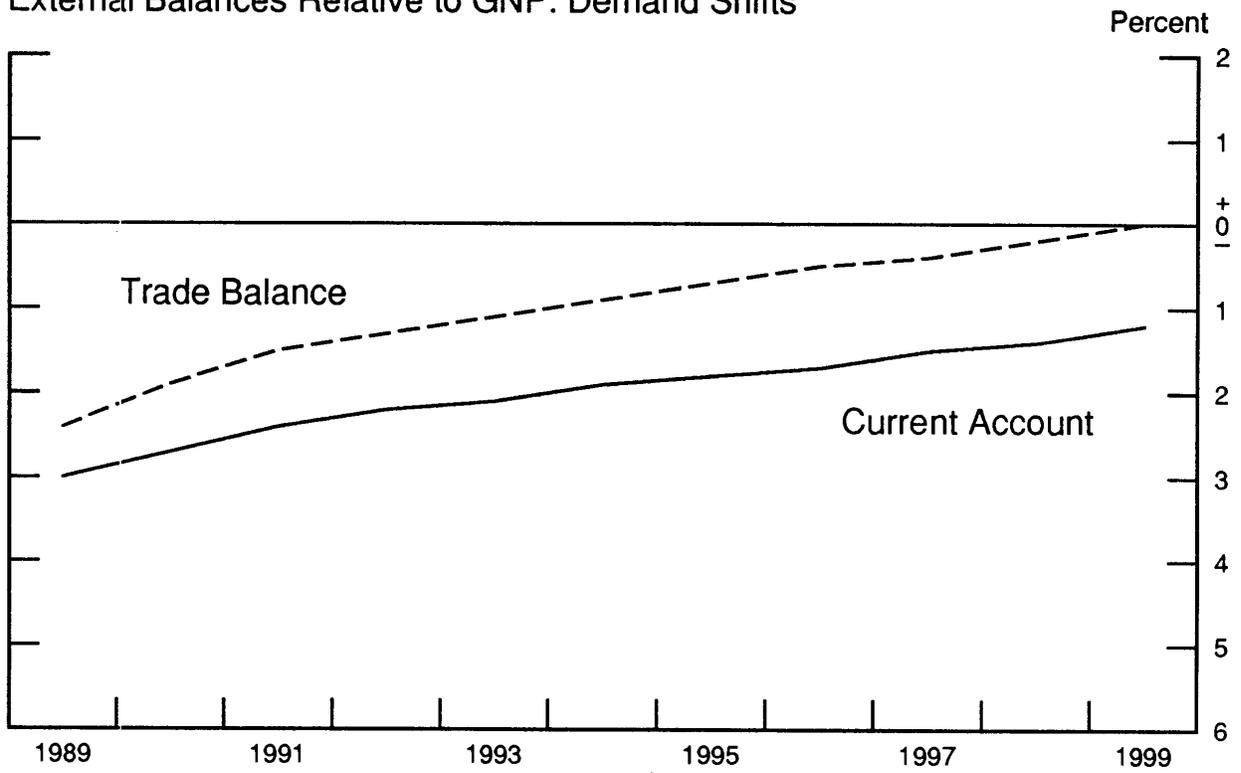
Net External Debt Relative to GNP: Demand Shifts
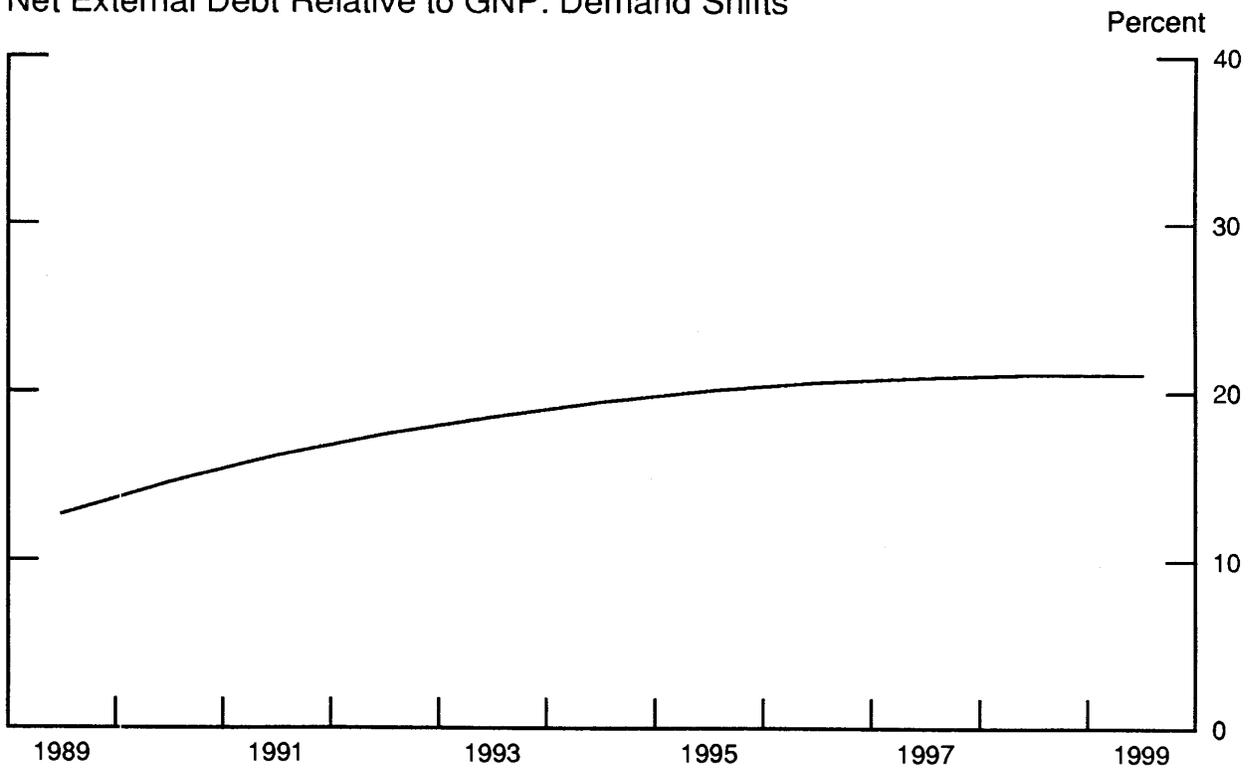
the "no-change" scenario represented by the simulation exhibited in Figure 4, that the baseline path of the U.S. external accounts does not seem to be sustainable. The accumulation of external debt at a rate such that the debt-GNP ratio continues to climb cannot go on forever. At some point, it seems clear that something has to change so that the debt accumulation will at least slow down, if not stop altogether.[6]

The most likely candidates for events that would slow the debt accumulation process are exchange rate changes -- in particular, a real depreciation of the dollar's value in terms of foreign exchange -- and shifts in the worldwide pattern of demand -- specifically, slower growth in U.S. economic activity relative to that abroad. The alternative scenarios depicted in Figures 5-7 attempt to convey a flavor of the types of changes that might be involved and their possible consequences for the external accounts. In reality, of course, any external adjustment would be likely to involve elements of both exchange rate correction and shifts in economic activity and aggregate demand.

It is instructive to impose altered assumptions and trace out their consequences, as was done in Figures 5-7. However, in any substantive projection of the external situation it is necessary to ask how the altered assumptions are put into effect. For example, a drop in the dollar brought about by an exogenous shift in investors' preferences -- which is implicit in the exchange rate scenarios discussed earlier in this paper -- would have different implications for the trade balance than

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6. There is, however, no way of knowing at what point the debt buildup must slow. The baseline simulation presented in this paper ends in 1999, by which time the U.S. debt-GNP ratio is nearly 40 percent, comparable to recent Canadian levels. A priori, one cannot rule out a market tolerance of a U.S. debt-GNP ratio at this level or even higher.

would a dollar depreciation brought about by an easing of U.S. monetary policy. Moreover, an increase in the U.S. saving rate -- which could be a part of the demand shifts scenario of Figure 7 -- might appear to be an attractive option, but the mechanism by which it might come about is somewhat obscure. It is interesting to note that one U.S. policy adjustment scenario could include elements of both exchange rate depreciation and enhanced domestic saving: a U.S. fiscal contraction.

One conclusion that can be drawn from the illustrative scenarios outlined in this paper is that U.S. external adjustment is likely to be a long process. How long this process might be depends on one's definition of "adjustment." Taking the achievement of a stable debt-GNP ratio as the indicator of external adjustment, only in the case of a sharp real depreciation of the exchange rate is there a fairly rapid adjustment. Other definitions of adjustment -- for example, a positive current account balance or a positive net asset position -- would require even longer processes and/or more dramatic changes in exchange rates and aggregate demand.

Under some plausible external adjustment scenarios, in which the debt-GNP ratio eventually does level off, the U.S. current account might well continue to register sizable deficits for a long time. For example, in the case of the gradual depreciation scenario (Figure 6), with no further movement in the dollar after the year 1999, the debt-GNP ratio might stabilize at between 20-25 percent, and, although the trade balance might be near zero, the current account deficit might remain around 1 or 1-1/2 percent of nominal GNP for a considerable length of time. This extended scenario would have annual current account deficits in excess of $100 billion "as far as the eye can see" and yet would be consistent with

external adjustment, a stable debt-GNP ratio well short of recent Canadian levels, and a balanced trade account.[7]

VI.   Policy Implications

The discussion in this section of the paper is predicated on the existence of a stable, sustainable debt-GNP ratio that a nation's creditors are content to finance perpetually. This ratio -- d* in equation (7) -- is a function of many factors that can change over time, and, therefore, any particular level of d* can be overtaken by events, thereby initiating a new episode of external adjustment. The sustainable level of the U.S. debt-GNP ratio is particularly vulnerable to shocks in the underlying portfolio demand for U.S. assets by international investors. An unfavorable shock could precipitate a sharp decline in the dollar as the means of bringing about the desired lowering of d* and of altering the pace of adjustment towards the new d* level. However, it is important to note that the same can be said for a net creditor nation -- such developments have little to do with the dynamics of debt accumulation other than to underline the fact that the "sustainable" debt ratio that is viewed as an end-point in the present analysis is likely in practice to be a moving target rather than a fixed point. Moreover, it is necessary to keep in mind that the shocks to investor demand can be of either sign;

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7. The simulation stops at the year 1999, but one would expect, based on knowledge of the model and the other experiments reported in this paper, that for quite some time after the year 2000 (assuming a constant real exchange rate), the trade balance would be close to zero, and the current account deficit would be about 1-1/4 percent of GNP.

that is, d* can go up as well as down.[8]

For present purposes it is useful to treat the sustainable U.S. debt-GNP ratio as a fixed point. Under this interpretation, and in the context of the model of the external debt accumulation process used in this paper, it follows that at some point the United States has to close its trade deficit. (Recall from the discussion in Section III of this paper that the debt-GNP ratio continues to increase as long as the trade balance is negative, assuming that the nominal interest rate and the rate of growth of nominal income are approximately equal.) It is important to emphasize that, in the simplified model of the external accounts used in this paper, the nominal trade balance -- not the nominal current account balance -- is the key indicator of external adjustment. Over time these two external balances can be increasingly divergent in nominal terms, and, as the level of international indebtedness grows, the path of the nominal current account balance can become increasingly misleading as an indicator of external adjustment. For example, in the gradual depreciation scenario depicted in Figure 6, the nominal trade and current account balances exhibit the diverging pattern shown in Figure 8. By 1999, external adjustment -- defined as a (roughly) stable debt-GNP ratio -- is complete, yet the current account is registering large nominal deficits, which might grow by 6 percent per year in subsequent years.[9]

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8. It should also be pointed out that changes in the determinants of d* do not necessarily have to be entirely manifested in an altered d*. Changes in other determinants can offset the original stimulus; in principle, it is possible that the net effect on d* could be negligible. This possibility is of policy interest since some of the underlying determinants of d* are amenable to policy influence.

9. In this extended scenario, the current account deficit is also large in real terms (1-1/4 percent of GNP), but will not be growing as a percent of GNP as long as the trade balance equals zero.

Figure 8

Nominal External Balances : Gradual Depreciation

Billions of dollars
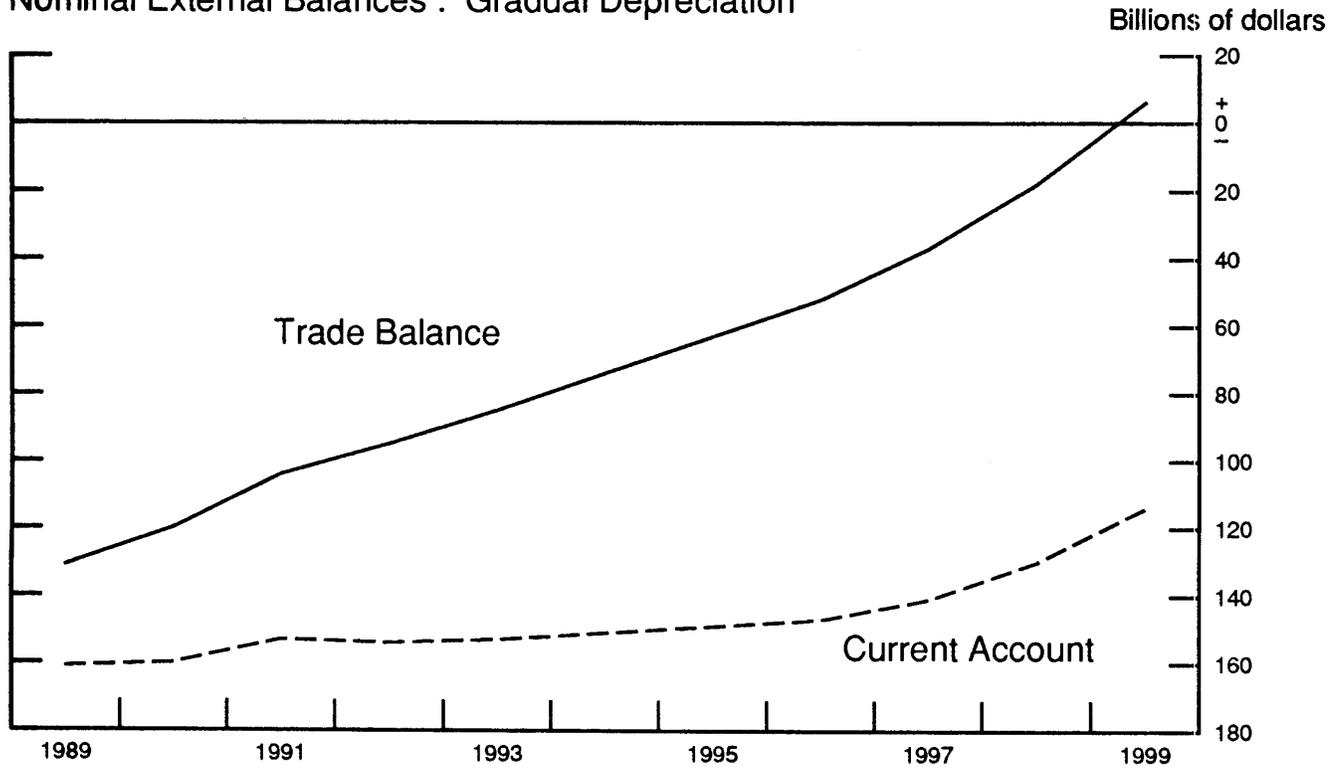
Figure 8 serves to make another point worth emphasizing: the net interest burden -- equal in the present model to the current account deficit -- associated with the constant sustainable debt-GNP ratio could be considerable and long-lasting. In the gradual depreciation scenario of Figures 6 and 8, the United States pays (with borrowed funds) some 1-1/4 percent of GNP "forever" to foreigners in net interest payments for the use of their savings. Even higher sustainable current account deficits and net interest burdens are possible, as was discussed with reference to Figure 3 earlier in this paper.

The final point that should be emphasized is that to the extent that the U.S. external adjustment process is a policy question, that question can and probably should be framed in terms of how and when to close the trade deficit rather than the current account deficit.[10] Macroeconomic policy clearly can affect the trade balance, through its influence on exchange rates and aggregate demand. However, it is not entirely clear that external adjustment should be a matter of concern to policymakers -- one might argue that private financial markets can determine the optimal d* and independently manage the pace at which the economy reaches that optimal ratio. Of course, doubts about the gyrations to which the domestic and world economies might be subjected while the markets adjust constitute one possible justification for a role for policymakers in monitoring and managing the external adjustment process. Another justification that seems to be particularly pertinent to the U.S. external situation is the substantial role played by net public sector

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10. Note that, to be precise, the "trade" deficit in this context is implicitly defined to include all current account items other than net investment income flows.

saving in the determination of the external balance. [See Howard (1989) and the studies cited there for a discussion of the relationship between the U.S. fiscal and external deficits.] Viewed from this perspective, external adjustment is one important aspect of a national (public and private sector) intertemporal optimization problem, and, as such, is clearly within the purview of policymakers.

VII. Conclusions

A review of the U.S. external debt position and alternative paths that the U.S. external accounts might follow in the future indicates the need for external adjustment, although the timing of the adjustment is indeterminate. The model of the external debt accumulation process used in this paper is simplified, and the simulations reported are intended to be illustrative examples rather than actual conditional forecasts. However, the model captures the fundamental dynamics of the debt accumulation process, and the simulations indicate the ways in which external adjustment might well take place. Using a definition of external stability that involves an unchanging ratio of net external debt to GNP, it follows that, in terms of the model, external stability entails a balanced trade account, but may well involve a sizable (and sustained) current account deficit. In fact, a conclusion of this paper is that the nominal trade balance -- not the current account -- is the key indicator of external adjustment.[11] (The difference between these two external accounts becomes more and more pronounced as net external debts mount.)

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11. Again, strictly speaking it is the non-investment-income portion of the current account that is the key indicator of external adjustment. In the model used in this paper, this non-investment-income external account is the same as the trade balance, but in reality the two can differ.

Policy discussion of the U.S. external situation and the adjustment process probably should be concerned primarily with the trade account, and its prospects and determinants, rather than the current account. External adjustment requires at some point a closing of the U.S. trade deficit,[12] but is consistent with a large and sustained U.S. current account deficit.

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12. Note once more that the "trade" deficit in this context is actually the non-investment-income portion of the current account.

References

Helkie, William L., and Peter Hooper, "An Empirical Analysis of the External Deficit, 1980-86," in Ralph C. Bryant, Gerald Holtham, and Peter Hooper, eds., External Deficits and the Dollar: The Pit and the Pendulum, 1988.

Howard, David H., "Implications of the U.S. Current Account Deficit," International Finance Discussion Papers, No. 350, May 1989, and Journal of Economic Perspectives, forthcoming.

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