Economic Review

Federal Reserve Bank of San Francisco

Summer 1989 Number 3

Reagan Fiscal Policy and the Dollar

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Research assistance by Eric McCluskey, Jerry Metaxas, and Panos Bazos is gratefully acknowledged. Editorial committee members were Frederick Furlong, Jack Beebe, and Hang-Sheng Cheng.

Whether fiscal policy, monetary policy, or other factors contributed more to the large swings in the value of the dollar and the U.S. trade balance in the 1980s is the subject of ongoing debate. Using a simulation from the macroeconomic model developed at the Federal Reserve Bank of San Francisco, I find that the fiscal expansion under the Reagan Administration was the most important reason for the dollar's appreciation from 1980 to 1985, but that monetary conditions at home and abroad were primarily responsible for the dollar's subsequent depreciation through 1987.

During the 1980s, the real exchange value of the dollar gyrated markedly. From 1980 through early 1985, it appreciated 55 percent. Then through 1987, it depreciated just as sharply, before enjoying a mild rebound in 1988. Coupled with these swings in the value of the dollar, the U.S. budget balance worsened very significantly, U.S. interest rates rose and fell dramatically, and the U.S. external balance moved sharply into deficit. The reasons for the dollar's rise and fall have been the subject of considerable debate. This debate focuses on whether the Reagan fiscal expansion or the changes in monetary policy—or still other factors—during the 1980s are more to blame for the movements in the dollar and interest rates and the resulting decline in the U.S. trade balance.

Econometric modeling is necessary to sort out the relative contributions of fiscal and monetary policies. This article reports the results of such an exercise using a macroeconometric model developed at the Federal Reserve Bank of San Francisco.[1] This model is used to simulate the economy's path as if there had been no change in fiscal policy after 1980. The differences between the actual and simulated values of the dollar, interest rates, and the trade balance measure the effects of the Reagan fiscal policy on these variables.

The article is organized as follows. Section I briefly describes the debate concerning the causes of the movements in the dollar. In Section II, the various dimensions of the Reagan fiscal policy are quantified and the meaning of an unchanged fiscal policy is discussed. Then in Section III, the simulation results from the FRBSF model are presented. Finally, Section IV provides a summary and some conclusions.

I. The Debate

The Reagan years have provided almost a laboratory experiment on the effects of fiscal expansion in an open economy. The Reagan Administration's fiscal program comprised planned reductions in both taxes and spending to stimulate saving, investment, and work effort in an economy suffering from low growth and high inflation. The most prominent feature of this program was the Economic Recovery and Tax Act of 1981, which cut tax rates for both businesses and households. Personal tax cuts were designed to stimulate personal saving by reducing marginal tax rates. The tax changes for business were aimed at directing an increasing share of the anticipated expansion in personal and business saving into investment in plant and equipment. However, since 1980, the private saving rate has either fallen or at best remained unchanged, depending on the measure of saving used.

Total federal receipts as a proportion of GNP dropped through 1984 and then rose to the same level as in 1980, but only because of rising Social Security taxes. Most importantly, a buildup in defense spending and continued growth in spending on entitlement programs, such as Social Security and Medicare, combined to overwhelm cuts that were made in other nondefense spending. As a result, the deficit in the federal government's budget rose from approximate balance in 1980 to four percent of high-employment GNP in 1986, before declining to 2.4 percent by 1988.[2] Moreover, growing interest payments have added to this deficit, so that it now absorbs nearly half of net private saving in the U.S. economy.[3]

If the U.S. economy had been closed to international flows of capital, the growth in federal borrowing would have tended to "crowd out" domestic private capital formation. Because the U.S. economy is highly open, however, there was a quite different tendency. U.S. interest rates rose, large capital inflows were attracted from abroad to finance the federal deficit, the real value of the dollar rose, and the U.S. trade balance moved significantly into deficit.

Whether the fiscal expansion is solely, or even primarily, responsible for the rise in interest rates and the value of the dollar, as well as the decline in the trade balance, has been the subject of lengthy debate, however. At about the same time that the U.S. budget deficit was increasing, the Federal Reserve was attempting to reduce inflation through tighter monetary policy. Some argue that it was the tightening of monetary policy that pushed up interest rates and primarily was responsible for the dollar's rise in the early to mid-1980s. A similar debate arises regarding the causes of the dollar's decline after 1984. Some argue that the U.S. budget deficit as a percent of high employment GNP began to turn down after 1986, tending to put downward pressure on U.S. interest rates and the dollar in this period. But at the same time, others suggest that the declines in interest rates and the dollar were primarily the result of the easing in monetary policy that took place during this period as the Federal Reserve's disinflationary goals were achieved.

II. Dimensions of Reagan Fiscal Policy

To shed some light on this debate, the FRBSF macroeconometric model is used to simulate the economy's path as if there had been no change in fiscal policy after 1980, and the results are compared to the actual path of the economy. To perform such an exercise, it is useful to evaluate the components of the Reagan fiscal expansion to determine what it did and did not change in the economy.

For our purposes, fiscal policy is defined in terms of its macroeconomic effects, as opposed to specific legislative changes. Thus, fiscal policy may be altered even when there are no legislated changes. One such example is the increase in both marginal and average tax rates that is generated by inflation when taxes are not indexed to changes in the price level. Conversely, legislative changes may be required just to keep the effects of fiscal policy from changing when, for example, taxes have to be cut in order to keep revenues from rising as a fraction of GNP.

From a macroeconomic point of view, there are two dimensions to the measurement of an unchanged federal fiscal policy. First, there should be no change in federal marginal tax rates that would alter economic incentives. For example, in the FRBSF model the average marginal tax rate for households significantly affects their after-tax mortgage rate and, therefore, influences expenditures on housing. Similarly, business taxes influence the cost of capital for nonresidential investment and rental housing. An unchanged fiscal policy is defined as one that does not alter the marginal tax rates that affect these expenditures, and therefore does not cause the IS curve to shift.

Second, an unchanged fiscal policy requires federal outlays and receipts not to change as a fraction of GNP at high employment. Unchanged receipts would prevent disposable income, and hence consumption, from changing on account of fiscal policy. With unchanged government

receipts and outlays, as well as unchanged marginal tax rates, there should be no shift in the IS curve and, thus, no change in aggregate demand due to changes in fiscal policy.[4]

Marginal Tax Rates

As shown in Table 1, the Economic Recovery and Tax Act of 1981 and the Tax Reform Act of 1986 reduced the average marginal federal tax rate on individual income from 30 percent in 1980 to 23 percent by 1988. In the counterfactual simulation that removes the effects of Reagan fiscal policy, the average federal marginal tax rate for households is held constant at 30 percent from 1980 through 1988, instead of being allowed to fall. As a result, after-tax interest rates for households are reduced relative to their historic values. This has the effect of *raising* expenditures on consumer durables such as owner-occupied housing relative to the actual expenditures during this period.

The Tax Act of 1981 also reduced effective tax rates on business investment by shortening depreciable "tax lives" and increasing the investment tax credit for purchases of equipment. The Tax Equity and Fiscal Responsibility Act of 1982 took back part, but by no means all, of these tax cuts for business as part of a package to reduce the size of the federal budget deficit. Then in 1986, the Tax Reform

Table 1

Marginal Tax Rates During Reagan Fiscal Expansion

	Average Marginal Tax Rate for the Individual Federal Income Tax	Effective Federal Tax Rate on Equity Financed Investment[1]		
		Equipment	Structures	Rental Housing
1960	.23	.29	.60	.35
1970	.24	.31	.69	.38
1980	.30	.13	.62	.44
1981	.31	.08	.54	.41
1982	.29	.06	.44	.40
1983	.28	.03	.40	.36
1984	.27	.02	.40	.39
1985	.27	.01	.39	.39
1986	.27	.07	.32	.31
1987	.25	.14	.29	.29
1988	.23	.14	.29	.29

[1]The effective tax rate is (1-uz-k)/(1-u), as discussed in the box.
Sources: Board of Governors of the Federal Reserve System and Data Resources

Effective Cost of Capital Investment

The combined effect of taxes, real interest rates, and other factors on the cost of capital investment are summarized in a measure known as the "rental," or "user" cost of capital. This is simply the required payment per period for the use of a capital good, analogous to the wage rate for labor. The formula for the rental cost of business fixed capital, as derived by Hall and Jorgenson (1967), is:

$$c = q\frac{(1-k-uz)}{(1-u)}[b(1-u)i + (1-b)e - \dot{p} + d]$$

where: c = rental cost;
q = price of capital good;
k = investment tax credit;
u = corporate tax rate;
z = present value of one dollar's worth of depreciation allowance;
b = proportion of debt finance;
i = nominal bond rate;
$1-b$ = proportion of equity finance;
e = required nominal return to equity;
$\dot{p}$ = expected long-term inflation rate;
d = exponential rate at which the capital good depreciates.

As is evident from this formula, the rental cost of business fixed capital is equal to some fraction of the price of the capital good. This fraction is determined by the real cost of debt and equity capital and, central to our inquiry, a multiplicative factor that depends upon the corporate tax rate, the present value of depreciation and the investment tax credit. (The investment tax credit was positive for equipment until 1986 and always has been zero for commercial and industrial structures and rental housing.) This multiplicative factor equals one plus the effective tax rate on the cost of equity-financed investment. The Reagan program initially reduced the cost of business investment by increasing the present value of depreciation (z) and the investment tax credit (k), thereby reducing this multiplicative factor.

Act reduced the corporate income tax rate from 46 percent to 34 percent, but at the same time eliminated the investment tax credit for equipment and lengthened the tax lives for residential and nonresidential structures. The net result of these changes was that by 1988, the effective tax rate on investment in equipment was about the same as in 1980, but effective tax rates on rental housing and nonresidential structures were lower. (See Table 1 and the accompanying Box.) In the counterfactual simulation, these effective tax rates are held at their 1980 values, on balance *reducing* the incentive for business investment, and thus its contribution to aggregate demand, compared with the actual path of business investment.

Government Spending and Disposable Income

Observed movements in federal outlays and receipts are partly due to changes in spending that are automatically triggered by changes in the level of economic activity. The federal budget measured on a high employment basis removes these cyclical variations in outlays and receipts caused by the economy's deviations from its path of high employment. In contrast, changes in high-employment outlays and receipts that deviate from a constant proportion of high-employment GNP constitute a real change in the direction of fiscal policy.[5] As shown in Table 2, the federal high-employment budget deficit rose from 0.3 percent of high-employment GNP in 1980 to 4.0 percent in 1986, and then dropped back to 2.4 percent of GNP by 1988.

Looking at the components of that deficit, the most permanent contributor was an increasing ratio of federal transfer payments to GNP. In contrast, purchases of goods and services as a proportion of high-employment GNP rose a little more than one percentage point through 1985, but returned almost to their 1980 level by 1988. On the revenue side, there was little net change in the ratio of total federal tax receipts to GNP between 1980 and 1988. Although the ratio of total income tax receipts to GNP declined by two percentage points, a rise in Social Security taxes offset this decline. In the FRBSF model, the impact of policy-induced changes in total federal receipts and transfer payments on household disposable income, and hence consumption, is captured by the ratio of cyclically-adjusted federal taxes less transfer payments to high-employment GNP.[6] As shown in Table 2, this ratio declined from 9.7 percent in 1980 to around 7.0 percent in 1985, with no discernible trend since then.

Also, part of the Reagan fiscal package was a reduction in the amount of grants-in-aid to state and local governments as shown in Table 2. These governments were able to absorb the grant reductions and maintain approximately the same level of services by raising taxes toward the end of the 1981–82 recession (see Weicher [1987]). The change in the federal high-employment budget captures the overall impact, with the reduction in grants-in-aid acting as a proxy for the fiscal restraint achieved through higher state and local taxes. But the ratio of cyclically-adjusted federal taxes less transfer payments to high-employment GNP overstates the *total* reduction in net taxes and transfers due to the Reagan program. Consequently, in the simulation, the reduction in the level of federal taxes less transfer payments is adjusted for the increase in state and local taxes.

In the counterfactual simulation of no change in fiscal policy, the ratios of the high employment values of the federal budget deficit, federal purchases of goods and services, and federal taxes net of transfer payments to high-employment GNP are all maintained at their 1980 levels, after taking into account the effects of reduced grants-in-aid and higher state and local taxes. This has the effect of *reducing* the contribution to aggregate demand of both government purchases of goods and services and personal consumption expenditures from what they were historically, but the impact of these factors is slightly offset by the effect of the Reagan Administration's policy with respect to grants-in-aid to state and local governments.

Table 2

Federal Spending and Revenues During Reagan Fiscal Expansion

(Percent of High Employment GNP)

	Cyclically Adjusted Federal Budget Balance[1]	Federal Purchases of Goods and Services	Cyclically Adjusted Federal Taxes Net of Transfer Payments[1]	Grants-in-Aid to State and Local Governments
1960	1.7	10.5	11.7	1.2
1970	0.4	9.7	10.7	2.4
1980	−0.3	7.6	9.7	3.2
1981	0.0	7.9	10.1	2.9
1982	−1.4	8.6	8.6	2.5
1983	−2.2	8.3	7.6	2.4
1984	−2.8	8.2	7.2	2.5
1985	−3.8	8.8	6.9	2.5
1986	−4.0	8.6	6.5	2.6
1987	−2.8	8.4	7.1	2.4
1988	−2.4	7.8	7.0	2.4

[1] Counts erosion in real value of federal debt due to inflation as a federal receipt. See Footnote 2.

III. Simulated Effects of Reagan Fiscal Policy

A key feature of the FRBSF macroeconometric model that is used for the simulation presented below is that it treats the real value of the dollar expected in the long run as an endogenous variable determined by expectations of future fiscal policy. As a result, current fiscal policy influences the dollar through two channels. The first channel is the current level of interest rates, or more specifically, the differential between real interest rates at home and abroad. Assuming, as quite a few macroeconometric models do, that 1) capital is perfectly mobile internationally in the sense that there are no significant transaction costs, capital controls, or other impediments to the flow of capital between countries, 2) domestic and foreign financial assets are perfect substitutes, and 3) trade flows are slow to adjust, then exchange rates are determined in the short run by equilibrium in the market for financial assets, rather than by equilibrium between current international flows of goods and capital. This implies that a rise in long-term interest rates at home relative to those abroad, which is produced by an expansionary fiscal policy at home, will cause the value of the home currency to appreciate until the difference between its current level and its expected long-run level (that is, its expected depreciation) is equal to the interest rate differential.

In addition to this short-run asset equilibrium view embedded in the FRBSF model, the model also incorporates a rational expectations view of the determination of the expected long-run level of the exchange rate. This second channel arises because changes in current fiscal policy alter expectations of future fiscal policy which, in turn, alter the expected long-run real exchange rate. As analyzed in detail in Throop (1989b), if market participants view U.S. and foreign assets as close substitutes, then an expectation of future U.S. budget deficits is likely to increase the expected real value of the dollar. But if they believe that U.S. and foreign securities are relatively imperfect substitutes, then a depreciation in the expected real value of the dollar is more likely. Thus, the magnitude of the effect operating through this additional channel depends on 1) the degree to which changes in current fiscal policy alter expectations of future fiscal policy, and 2) the size and direction of the effect of future fiscal policy on the expected real value of the dollar.

In the exchange rate equation in the FRBSF model, the budget deficit influences the exchange rate through both channels, but simulations indicate that the second channel is more important than the first one. (See Throop [1989b].) With regard to the first channel, a sustained one-percentage point change in the real short-term interest rate differential is estimated to produce a 10 percent change in the real trade-weighted value of the dollar in the same direction. The magnitude of this effect is consistent with an average horizon for investors in the foreign exchange market of ten years.

With regard to the second channel of influence, the exchange rate equation in the FRBSF model indicates that market participants view U.S. and foreign assets as close substitutes and changes in structural budget deficits as being relatively permanent. Thus, a one-percentage point reduction in the current U.S. structural budget surplus as a percent of high-employment GNP produces a six percent *appreciation* in the expected real trade-weighted value of the dollar, while a similar reduction in the weighted average of foreign budget surpluses *depreciates* the dollar by eight percent.[7] These expectational effects are relatively large. In the FRBSF model, it takes about a nine percent appreciation in the real value of the dollar to produce an effect on the trade balance that fully offsets the effect on aggregate demand from a one-percentage point reduction in the U.S. budget surplus. The estimated six percent appreciation generated by the expectational effects of a budget surplus is fully two-thirds of this.

In modeling the exchange rate and the trade balance, one needs to take into account the reaction of foreign central banks to changes in U.S. interest rates. Floating exchange rates have diminished the short-run monetary linkages among national real interest rates. Nonetheless, foreign central banks continue to pursue macroeconomic stabilization and so continue to respond to changes in U.S. interest rates, though to a lesser degree than before. For example, foreign central banks tend to allow their countries' interest rates to rise in response to a rise in U.S. rates to prevent capital outflows and a depreciation of their currencies that would result in an increase in aggregate demand and higher output and inflation. However, matching the rise in U.S. interest rates exactly would have a deflationary impact on foreign economies. As a result, foreign central banks have tended to match some, but not all, of the changes in U.S. real interest rates so as to stabilize aggregate demand. The reaction function in the FRBSF model indicates that foreign central banks tend to match about 55 percent of the change in U.S. real short-term interest rates on average.

A final important factor in the simulated effects of Reagan fiscal policy is the impact of the real exchange rate on the real stock of money through its influence on the price level in the FRBSF model. In the FRBSF model, a 10 percent appreciation in the real trade-weighted value of the

dollar reduces prices by 0.8 percent over a period of about two years through competitive effects on domestic prices of exports and import substitutes. Because of this, a fiscal expansion in the FRBSF model causes the real value of the dollar to appreciate, prices to drop, and the real stock of money to expand—relieving some of the pressure on interest rates and allowing real GNP to expand more than it otherwise would.

The simulated effects of the Reagan Administration's fiscal policy are shown in Table 3. Column A gives the actual values of the dollar, net exports, real GNP, and other variables of interest during the period of the Reagan Administration's fiscal expansion. The results from a simulation that assumes no fiscal expansion and uses the actual path for M2 after 1980, are given in column B. The effect of the Reagan fiscal policy on any variable is then equal to column A less column B.

Effects on the Dollar

This simulation sheds light on the relative contributions of U.S. fiscal policy and other factors to the sharp 55 percent appreciation in the real trade-weighted value of the dollar between 1980 and 1985. As shown in the Table and Chart 1, the real trade-weighted value of the dollar would have appreciated 30 percent from 1980 to 1985, even if fiscal policy had not been expansionary.

The Reagan fiscal program caused the dollar to appreciate an additional 25 percent, by far the largest single contributor to the dollar's rise. Chart 2 shows the relative

Table 3

Simulated Effect of Reagan Fiscal Policy

(Historical Path of Nominal M2 Assumed Unchanged)

	Net Exports (Billions of 1982 Dollars)			Real Trade-Weighted Dollar (1973 = 100)			U.S. Less Foreign Real Bond Rate (Percent)		
	A	B	C	A	B	C	A	B	C
1980	57.1	57.1	0.0	74.9	74.9	0.0	3.07	3.07	0.00
1981	49.3	48.1	1.2	88.2	89.2	−1.0	3.41	3.42	−0.01
1982	26.4	26.8	−0.4	97.7	94.6	3.1	4.21	4.21	0.0
1983	−19.9	−3.0	−16.9	103.5	93.7	9.8	4.28	4.21	0.07
1984	−84.1	−41.0	−43.1	113.3	98.1	15.2	4.23	4.11	0.12
1985	−104.3	−31.7	−72.6	116.2	95.7	20.5	3.80	3.64	0.16
1986	−137.5	−42.1	−95.4	91.7	73.4	18.4	2.48	2.32	0.16
1987	−128.8	−28.1	−100.7	80.4	67.9	12.5	1.20	1.20	0.00
1988	−99.0	−13.5	−85.3	78.1	70.6	7.5	0.65	0.91	−0.26

	U.S. Real Bond Rate (Percent)			Real GNP (Billions of 1982 Dollars)			GNP Price Index (1982 = 100)		
	A	B	C	A	B	C	A	B	C
1980	4.49	4.49	0.0	3187.2	3187.2	0.0	86.1	86.1	0.0
1981	6.42	6.46	−0.04	3248.8	3250.3	−1.5	94.2	94.1	0.1
1982	6.69	6.64	0.05	3166.0	3159.4	6.6	100.0	99.9	0.1
1983	5.75	5.54	0.21	3279.2	3262.8	16.4	104.1	104.4	−0.3
1984	7.68	7.60	0.08	3501.4	3468.6	32.8	108.2	109.1	−0.9
1985	7.41	7.25	0.16	3618.8	3544.8	74.0	111.9	113.3	−1.4
1986	5.79	5.55	0.24	3721.5	3646.5	75.0	115.0	116.9	−1.9
1987	6.06	6.09	−0.03	3846.9	3797.0	50.0	119.1	121.3	−2.2
1988	6.27	6.69	−0.42	3995.0	3957.5	37.5	124.1	125.7	−1.6

A - Reagan Fiscal Policy
B - Unchanged Fiscal Policy
C - Difference Due to Reagan Fiscal policy

contributions of the underlying determinants of the real trade-weighted value of the dollar with and without the Reagan fiscal stimulus. Of particular interest is that the real interest rate differential would have been little different from its historical path even if the Reagan fiscal expansion had not occurred. Given the historical path of M2, the Reagan fiscal package is estimated temporarily to have increased the U.S. real bond rate only 21 basis points, and the differential between the U.S. and foreign real bond rate only 16 basis points. Taking out these movements in interest rates associated with the Reagan fiscal package, the dollar's appreciation would have been only 1.7 percent less than it actually was.[8] And even if the simulation had not assumed the historical path for M2 and instead had assumed a path for monetary policy that kept real GNP on its historical path, the Reagan fiscal package would be estimated to have increased the real bond rate differential only marginally. Thus, the lion's share of the 25 percent appreciation in the dollar caused by the Reagan fiscal program was the result of the expectational effects of the budget deficit, not the rise in the interest rate differential.

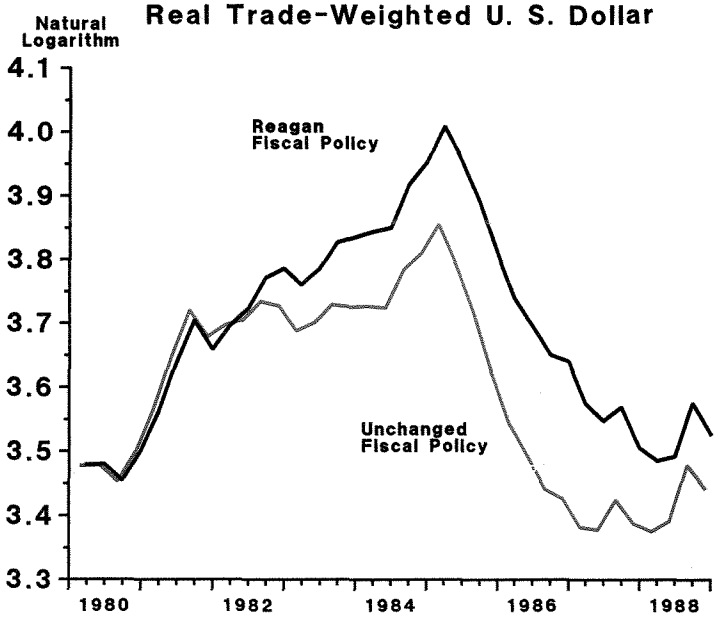
Of the 30 percent appreciation in the real value of the dollar that would have occurred in the absence of any change in fiscal policy, about equal contributions can be assigned to a tightening in domestic monetary conditions, fiscal tightening in the U.S.' major trading partners, and unexplained speculative factors that appear to have been present in 1985. Primarily as a result of the Federal Reserve's attempt to reduce inflation, the U.S. real bond rate rose between 1980 and 1984. And although foreign countries also were pursuing policies that raised interest rates (to counter the inflationary effects of a strong dollar on their economies), foreign real rates did not rise by as much as those in the U.S. These monetary factors—rather than fiscal factors—accounted for most of the rise in the real interest rate differential.

After 1985, the effects of the Reagan fiscal program on changes in the value of the dollar were relatively small. In the absence of the Reagan fiscal expansion, the dollar would have declined by about as much as it actually did, but starting from a lower level. In this period, a decline in the real interest rate differential from about four percentage points in 1985 to less than one percentage point in 1988 accounts for close to 80 percent of the dollar's depreciation. The decline in this differential primarily was the result of two developments. During this period, the U.S. real bond rate declined as the Federal Reserve's disinflationary goals were achieved and monetary policy eased. At the same time, foreign real bond rates continued to rise as foreign central banks tightened policy in response to the inflationary effects of the strong dollar on their economies. The strong dollar tended to create inflation abroad both directly through higher prices of tradable goods and indirectly through the boost to aggregate demand from increased exports to the U.S.

Thus, fiscal conditions at home and abroad were relatively more important than any other single factor in raising the real value of the dollar through 1985. But U.S.

Chart 1

Real Trade-Weighted U. S. Dollar



fiscal policy contributed relatively little to the decline in the real value of the dollar from 1985 to 1988.

Effects on the Trade Balance

Working through its effect on the dollar and incomes, the Reagan fiscal program accounted for $85.3 billion, or about 85 percent, of the deficit in real net exports of $99 billion by 1988. In the absence of any change in fiscal policy, real net exports would have dropped approximately $100 billion between 1980 and 1986, due to the economy's rebound from the 1980 and 1982 recessions and the 30 percent appreciation of the dollar. That would have occurred between 1980 and 1985 even if fiscal policy had not been expansionary. However, the subsequent depreciation would have tended to restore net exports. In fact, by 1988, the deficit in net exports would have been only $13.5 billion, or near its average level in the decade of the 1970s if the fiscal expansion had not occurred.

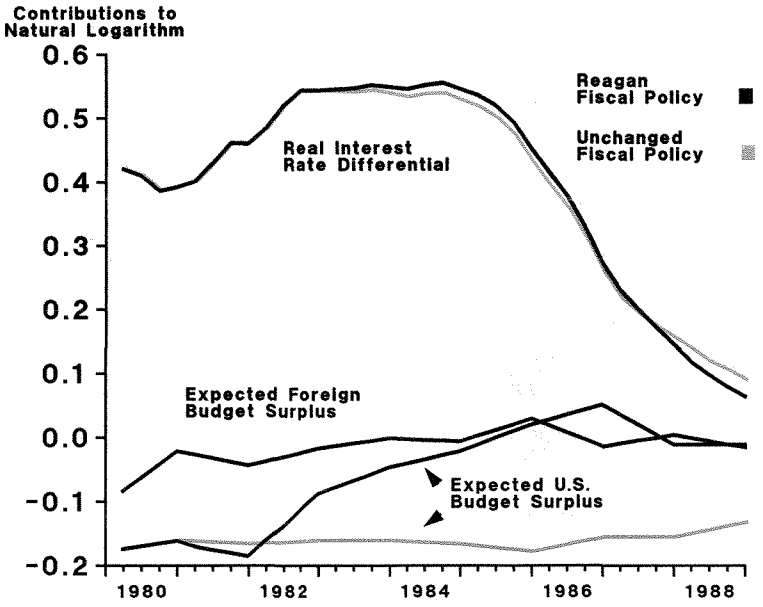
Reagan fiscal policy is estimated to have raised real GNP by $75.0 billion and reduced the civilian unemployment rate nearly one percentage point by 1986. However, because of the gradual crowding out of net exports and, to a lesser extent, interest-sensitive expenditures, as well as the modest tightening in fiscal policy after 1986, by 1988, the overall gain to real GNP totalled only $37.5 billion, and the civilian unemployment rate was only about one-half percentage point less than it would have been without the Reagan program.

Finally, because the Reagan fiscal package caused the dollar to appreciate dramatically, it also had a dampening effect on the price level. On balance, there was a 1.6 percent reduction in the price level by 1988, as the effects of the dollar's appreciation overwhelmed those from reduced slack in the economy. The dollar's dampening effect on prices also increased the real stock of M2, and thereby helped to keep interest rates lower than they otherwise would have been.

IV. Summary and Conclusions

The Reagan Administration's fiscal policies have provided close to a laboratory experiment on the effects of fiscal expansion in an open economy. Simulation of the FRBSF macroeconometric model shows that significant effects from this expansionary fiscal policy began to be felt on the dollar and the U.S. trade balance after 1982. The Reagan fiscal package accounted for nearly one-half of the 55 percent appreciation in the real trade-weighted value of the dollar between 1980 and 1985, and about 70 percent of the peak value of the deficit in real net exports in 1986, assuming an unchanged path for M2. The dollar would have appreciated about 30 percent between 1980 and 1985 even in the absence of the Reagan Administration's fiscal package, however, because tightening monetary conditions

Chart 2
Contributions of Various Factors to Real Trade-Weighted U.S. Dollar



in the U.S. raised the differential between U.S. and foreign real long-term interest rates. Also, even if the Federal Reserve had reduced interest rates to the extent necessary to stabilize real GNP in the absence of a fiscal expansion, the path of the dollar would not have been much lower.

When capital is highly substitutable internationally, and investors adjust their expectations of the long-run equilibrium value of the dollar relatively quickly, an expansive fiscal policy has relatively little impact on real interest rates. Because of this, the increase in the differential between U.S. and foreign real interest rates between 1980 and 1985 primarily was due to a growing disparity between monetary conditions at home and abroad, rather than to the expansive Reagan fiscal policy. The contribution of this difference in monetary conditions to the strong dollar was temporary, however, and had disappeared by 1988. In contrast, although the U.S. budget deficit on a high-employment basis declined somewhat after 1986, U.S. fiscal policy continued to expand income and boost the real value of the dollar. As a consequence, in 1988, the Reagan fiscal policy still was contributing $85 billion (in 1982 dollars) to the trade deficit.

NOTES

1. The complete FRBSF macroeconometric model is fully described in Throop (1989a).

2. The measure of the deficit used here counts the erosion in the real value of the federal debt due to inflation as a tax revenue.

3. For more detail on these points, see Modigliani (1988).

4. Some might argue that these dual criteria for an unchanged fiscal policy are mutually inconsistent. For example, if marginal tax rates are higher than average rates, as in fact they generally are, normal growth in the economy with fixed marginal rates would tend to raise tax receipts as a proportion of GNP. However, an unchanged fiscal policy that meets both criteria could be maintained by reducing average tax rates without changing marginal rates. In the case of personal income taxes, this could be done by increasing the standard deduction. The extent of progressivity in the tax structure is much less for corporations, but here too, the average tax rate could be reduced without changing the marginal tax rate on the cost of new investment.

5. For this purpose, I use the U.S. Department of Commerce's "mid-expansion" measure of high employment. See de Leeuw, *et al.* (1980), de Leeuw and Holloway (1982), and Holloway, Reeb, and Dunson (1986).

6. Taxes on corporate profits are given a weight of only 0.5 because corporations on average retain approximately half of their earnings. Thus, only half of any given change in taxes on corporate profits will affect disposable income.

7. The budgetary data used in the exchange rate equation on an inflation-adjusted basis are combined federal, state, and local balances compiled by the OECD. Sources of these data are Price and Muller (1984) and recent issues of the *OECD Economic Outlook*.

8. This contrasts with the conventional view of the effects of fiscal policy in which a budget deficit's only channel of influence on the exchange rate is through the real long-term interest rate differential. When expectational effects are taken into account, as in the FRBSF model, the impact of a fiscal expansion on the interest differential is very much reduced. See Throop (1989b).

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