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No. 24 December 1983

U.S. Deficits, the dollar and Europe

Olivier Blanchard and Rudiger Dornbusch
Massachusetts Institute of Technology

Internal Paper

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The present report has been prepared by a group of independent economists for the Centre for European Policy Studies under a programme of research which is receiving financial support from the Commission of the European Communities. The objective of this programme is to stimulate analysis and debate of economic policy issues at the level of the European Communities.

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ABSTRACT

At the center of world macroeconomics stand the US budget deficit, the US long-term real rate of interest and the international value of the dollar. This paper discusses the issues involved in the role of deficits in the recovery, the relation between deficits and interest rates, the costs and benefits to the US and the rest of the world of a dollar that is strong, and the desirability and feasibility of enhancing, assuring or accelerating the recovery in Europe by active policy moves.

The paper reviews alternative explanations for long-term real interest rates in the United States which are almost certainly high. It concludes that the most plausible, and quantitatively most important, explanation lies in an anticipated stream of future US budget deficits. The effects of anticipated deficits on aggregate demand are discussed, first in a closed economy model. It is argued that the current demand effects of a fiscal expansion which is expected to increase through time may well be perverse. Concretely, the expected stance of fiscal policy in the US could choke off the recovery.

The reasons for the sustained appreciation of the US dollar are then considered. It is concluded that differences in fiscal stance (including expected fiscal stance) between the US and Europe have raised the equilibrium real exchange rate of the dollar. As long as these differences remain, the dollar appreciation is unlikely to be reversed. This effect makes the impact of the US fiscal stance even more perverse for the US. In Europe, the output effects of the rise in real interest rates combined with a dollar appreciation are ambiguous but there is a reduction in real income in Europe through terms-of trade changes.

Turning to European policy options, the paper argues that a sufficient margin of Keynesian unemployment exists for demand expansion to increase output. Inflation is still not under control in some European economies, but at least in Germany and the United Kingdom

the present level of inflation is not such as to rule out expansionary policies. Moreover, there would be no reason to expect demand expansion to lead to a substantial acceleration of inflation at current unemployment rates.

There is little room for a pronounced monetary expansion (over and above the rebasing of monetary targets to validate any monetary "blip" which may already have taken place) in Europe at this stage. There is, however, room for fiscal expansion in certain countries. An explicitly temporary and modulated fiscal expansion in Europe is thus recommended. There is also a strong motive for seeking the advantages of collective action through coordinated expansion.

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I INTRODUCTION

At the center of world macroeconomics stand the US budget deficit, the US longterm real rate of interest and the international value of the dollar. There is more than the ordinary amount of disagreement about the role of deficits in the recovery, the relation between deficits and interest rates, and about costs and benefits to the U.S. and the rest of the world of a dollar that is strong. Finally, there remains sharp disagreement on the feasibility and desirability of enhancing, assuring or accelerating the recovery in Europe by active policy moves. Some of this controversy is captured in a quote from a recent assessment by de Grauwe and Fratianni:[1]

> "A switch in the US policy mix - a more expansive monetary policy and a less expansive fiscal policy - could actually be less beneficial to Europe than the existing mix. In all cases Europe does not need the United States to expand its own aggregate demand if she is prepared to accept the consequences of this action. The inability of EC countries to agree on a coordinated strategy is a European failure which cannot be hidden by making the United States the scapegoat of European economic problems."

This paper reviews and assesses some of these controversies; it proceeds in four steps:

The first is an assessment of the current situation. We conclude that the perception of a US fiscal policy shaping the characteristics of the current recovery is indeed an accurate one.

This leads us to focus on the characteristics of such a fiscal policy-led recovery. We discuss whether, as is often argued, the large deficits may stall or even choke off the recovery well before the world economy returns to full employment.

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[1] See Paul de Grauwe and Michele Fratianni "U.S. Economic Policies: Are They A Burden on the Rest of the World?" Unpublished manuscript, Katholieke Universiteit Te Leuven, June 1983.

We then turn to the appreciation of the dollar. Is it really due to US fiscal policy? Is it a temporary phenomenon, likely to disappear as US trade deficits grow larger?

Finally,we turn to the policy options open to Europe. Should Europe match the US deficits or should it react by increasing instead its fiscal discipline? Is there any room for monetary policy to supplement fiscal policy? We argue that a temporary and modulated fiscal expansion in Europe still appears both desirable and feasible.

II THE OUTLOOK

The recovery

The October forecast by DRI, shown in Table 1, shows strong U.S. growth for 1983 and 1984, leading to a world recovery. The forecast shows a slow, disappointing but at least positive growth performance for Europe.

Table 1 DRI Forecasts for Real Growth: October 1983

	1983	1984	1985
World	1.9	3.6	3.0
U.S.	3.3	5.3	3.2
Japan	3.4	3.8	4.0
Europe*	0.5	1.9	2.4

*France, Germany, Italy and United Kingdom

Source: The Data Resources Review of the US Economy, October 1983, Table 7.1

In contrast to the previous short-lived US recovery of 1980, inflation is also sharply down, again more so in the U.S. than in Europe.

At the same time, nominal interest rates are high both in the U.S. and in Europe. Table 2 shows a US term structure of interest rates that remains positively sloped, with a significant premium of long-term securities compared to T-bills. At least at the short end of the term structure, these high nominal rates correspond to high real rates. If we

Table 2 The US Term Structure of Interest (October 7, 1983)

3-Month T-bills	6-Month T-bills	1-Year T-bills	5-Year T-Securities	Longterm T-Securities
8.64	8.92	8.97	11.18	11.40

Source: Federal Reserve Bank of St. Louis

compute rough estimates of the short real rate as the 3-month nominal rate minus inflation over the last 12 months, short real rates stand approximately at 5 % in the U.S., 5.5 % in the U.K., and about 3 % for both France and Germany.[2] These high real short-term rates reflect tight money.

Finally, the real appreciation of the dollar shows no signs of abating and the loss in competitiveness of the U.S. relative to Europe is significant. Table 3 shows export price indices for manufacturing:

Table 3 Export price Indices for Machinery and Transport Equipment (Index of $ export prices, 1975 = 100)

	Machinery			Electrical Machinery			Transport Equipment		
	G	J	US	G	J	US	G	J	US
1979	156	133	134	146	115	121	158	141	140
1982	137	130	178	124	107	152	140	129	188
1982:4	134	128	178	121	104	153	137	122	194

Note: G-Germany, J-Japan, US-United States, machinery excludes electrical machinery.

Source: UN Monthly Bulletin of Statistics, various issues.

[2] Inflation rate: Rate of change of the CPI over the last 12 months
Source: "European Economy", Supplement A, No. 8, August-September 1983.

The stance of policy.

Monetary policy. Although it is clear that there has been a shift in U.S. monetary policy since 1979-1980, money numbers do not give a clear picture. Table 4 shows M2 money growth, nominal income growth and velocity growth in the U.S. for 1979-1983:

Table 4 Growth of US Money, Nominal Income and Velocity

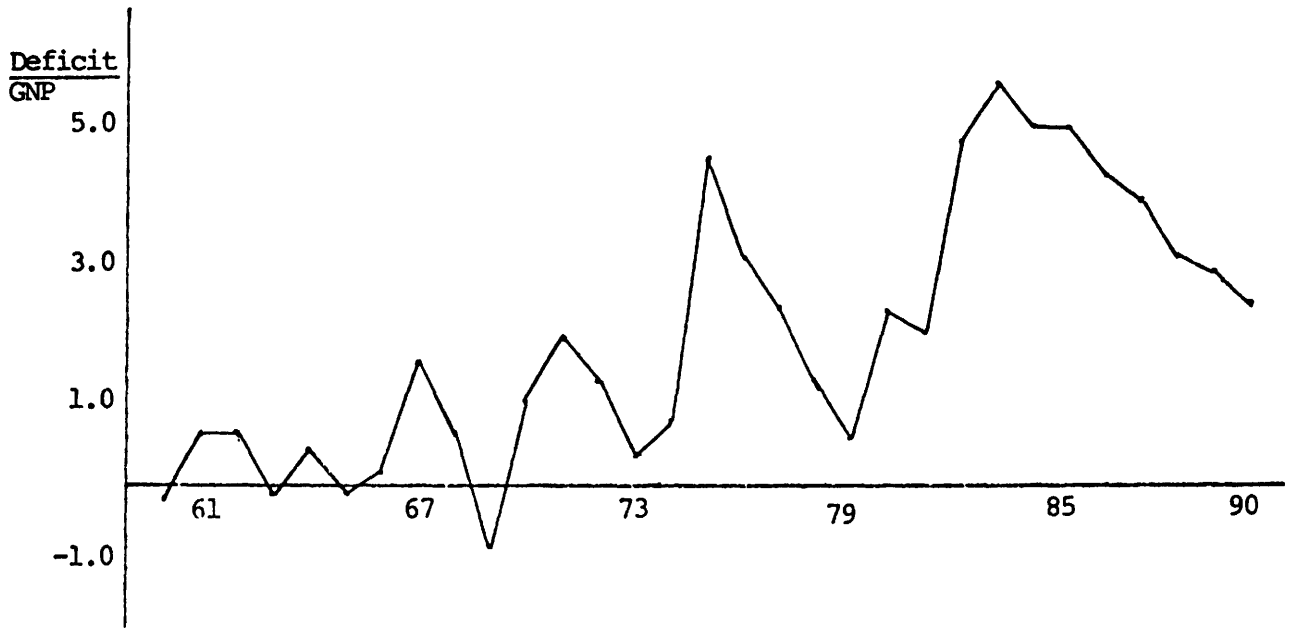
	Money	Nominal Income	Velocity
1979-80	6.9	8.4	1.5
1980-81	10.5	12.9	2.4
1981-82	9.1	5.4	-3.7
1982-83	13.2	6.2	-6.7

Note : Growth rates are second quarter to second quarter.

These non-interest-related shifts in velocity, together with a monetary targeting philosophy, create uncertainty about the course of future monetary policy. If inflation were to accelerate again, the high growth rate of money might be blamed for it, forcing the monetary authorities into insufficient accommodation of money-demand disturbances. If, on the other hand, shifts in velocity were not permanent and were to undo themselves, would the monetary authorities decrease money-growth sufficiently rapidly? Thus, although the consensus forecast is one of tight money, both in the U.S. and Europe, it is not one held with total certainty.

Fiscal policy. The stance of fiscal policy is sharply different in the U.S. and Europe. Whereas in Europe current deficits are large but mostly cyclical (with important differences across countries), US deficits which were small are increasing rapidly. Figure 1 gives the history and forecasts of actual US deficits from 1960 to 1990. Deficits, based on current legislation, are expected to continue to the end of the 80s even as the economy moves toward full employment.

Figure 1 The U.S. Budget Deficit
(% of GNP)



Under the concurrent resolution of June 1983 some control of spending and revenues would limit the path of deficits. But even under these assumptions, deficits remain large throughout the 1980s as shown in Table 5. From 1983 to 1985, for example, the full employment deficit is still expected to grow by nearly $40 billion.

Table 5 US Budget Deficit (Actual deficit as % of GNP)

1982	1983	1984	1986-90	1990
4.8	5.5	4.9	3.6	2.5

Source : Economic Report of the President and Data Resources Review of the U.S. Economy.

Although no such forecasts are available for European countries, deficits of that magnitude appear unlikely for the EEC as a whole, and for the UK and Germany in particular.

Interpreting the high interest rates.

Central to an analysis of the recovery is an assessment of the relation of interest rates to policy. The task is difficult, both because we do not observe expected inflation and real rates separately, and because long rates depend not on current policy but on expected future policy.

We may think of nominal long rates as the sum of real rates, determined by the equality of full employment investment and savings, and of expected inflation. Thus, the first possibility is that high nominal rates simply reflect high expected inflation. As we have seen, all indications are, however, that monetary policy is likely to be tight. Furthermore, long rates have been going up as inflation was going down, and innovations in long rates seem mostly unrelated to innovations in inflation. There is little evidence in favour of the long-term inflation hypothesis. It is likely that in fact long real rates are high.

The first potential explanation for high real rates has been suggested by supply side economists. It is that they reflect an outward shift of investment relative to savings. This outward shift in investment would be due partly to better investment opportunities and partly due to a more favourable tax treatment of investment and profit. However, savings may also respond to policies. Private savings may increase as deficits appear, if people realize that these deficits imply higher taxes later. Savings may even shift outwards because of a high elasticity with respect to after-tax returns which are enhanced by personal income-tax cuts.[3] In this supply side view, high real rates mostly reflect high expected marginal products in the future. We find some appeal to the idea that there is an outward shift in expected investment demand at full employment, but we doubt the quantitative importance of these effects.

The second line of explanation relies on recent changes in the stochastic structure of the economy. A first hypothesis, advanced among others by Nordhaus and based on earlier work by Modigliani and Shiller[4] argues that the post-79 operating procedures of the Fed imply more variability in short rates; this in turn increases the level of long rates. This variance effect is however difficult to find statistically in recent data. This first hypothesis leads to a higher required rate of return on most assets.

A second hypothesis leads instead to a higher required rate of return on bonds, but not necessarily on other assets. It looks at required returns from a portfolio point of view: Long-term bonds are just one asset held by investors and they compete in portfolios with other assets, equities in particular. The return on long-term bonds relative to other assets depends on the correlation of bond returns with the market. A change in that

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[3] For a collection of supply-side economics, see B. Barlett and T. Roth The Supply Side Solution, Chatham House, 1983.

[4] W. Nordhaus, "Interest Rate Volatility", Cowles Commission Discussion Paper, Yale University, 1982. F. Modigliani and R. Shiller "Inflation, Rational Expectations and the Term Structure of Interest Rates", Economica, February 1973.
Their estimates suggest that an increase of the standard deviation of short rates by 100 basis points would increase the long rate by 15-20 points.

relationship will change the risk premium. Recent evidence indicates that the correlation with the market in the case of long-term bond returns has indeed increased. Because they now afford less of a hedge than they did previously,the required rate of return has risen.[5] The appeal of this hypothesis is that it may help explain the very different behaviour of bond and stock markets in the last year, with bond prices going down and stock prices going up. The increase in stock prices was roughly 30 % in many countries, including some for which the recovery has not yet started, such as France.

A third hypothesis is closely related and also implies different movements in the rates of return on government bonds and other assets; it relies on the effects of anticipated large deficits. These deficits increase the relative supply of government debt. To induce the public to absorb this increased supply into their portfolios the yield on debt must rise relative to the yields on other assets. This increase in yields is larger the more risk averse the public, and thus could in principle be large. These risk premium hypotheses offer interesting explanations for the dramatic increase in long-term rates. We do not know how important they are quantitatively.

The last two explanations are the standard ones, tight money and loose fiscal policy. The view that tight money is responsible for the high rates is certainly plausible for short-term interest rates. But it does not by itself appear satisfactory in view of the evidence on long-term rates. Since the term structure is positively sloped one would have to believe in a persistent and, indeed, growing imbalance between money demand and supply. That would mean a continuing conflict between the Fed's attempt to reduce nominal money growth in an effort to bring inflation ultimately to zero, and the economy's inability to disinflate at a commensurate pace. To show a positively sloped term structure of interest up to ten years would require that the real money stock keep being low relative to output or, in other words, that the disinflation process is slower and more painful than even James Tobin in his study has made it appear.[6]

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[5] See Z. Bodie, A. Karl and R. McDonald "Why Real Rates Are So High", NBER working paper, 1141, June 1983.

[6] James Tobin "Stabilization Policy", Brookings Papers on Economic Activity, 1980:1.

A more plausible hypothesis is that sustained deceleration of money will lead to a hump-shaped term structure. Initial disinflation will raise interest rates because of tight money effects, and very sharply so. But ultimately, perhaps after as much as three, four or five years, credibility effects come to be harvested that allow significantly more rapid disinflation. At that point there comes at least a relative easing of money and thus a decline in interest rates relative to the initial levels. The absence of a hump-shaped term structure thus suggests that tight money by itself is not the right explanation for high long-term interest rates.

The last explanation relies on fiscal policy. Public discussions in the U.S., at least the public discussions between the Secretary of the Treasury and the Chairman of the Council of Economic Advisors, have singled out budget deficits as the key factor in explaining interest rates. As long as the economy is not at full employment, the combination of deficits and tight money increases real rates. At full employment deficits reduce total savings and require an increase in the equilibrium real rate. Current long rates simply reflect this anticipated sequence of future high short real rates until the end of the 1980s. (Current forecasts are actually of US deficits of 2 % of GNP or more until the end of the century.)[7] This explanation appears to be by far the most plausible and the most important quantitatively.

III CAN THE RECOVERY STALL?

We ignore for the moment the differences in fiscal policy between Europe and the U.S. and look at the effects of "world" fiscal policy on the world recovery. We also ignore aggregate supply issues, that is, whether there is enough Keynesian unemployment for aggregate demand increases to translate into output increases.[8] The focus is therefore on the effects of fiscal deficits on aggregate demand. It has been claimed that future deficits can affect the speed and perhaps even the extent of

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[7] Data Resources Review of the US Economy, October 1983.

[8] For a discussion of this, see Basevi, G., O. Blanchard, W. Buiter, R. Dornbusch and R. Layard. "Macroeconomic Prospects and Policies for the European Community", CEPS, Papers No. 1, Bruxelles, April 1983.

the recovery - we shall call this the CEA theory. At the same time, this claim has been strongly rejected by the US Treasury. Here is a quote from the key Treasury study:[9]

> "Another version of the argument, in terms of real interest rates, is rather convoluted. It goes as follows. The 1983 deficit does not depress the 1983 economy. The expected 1988 deficit is so large, given the expected private demand for loanable funds, that it results in an expected interest rate in 1988 that is too high for a return to full employment in 1983. Arbitrage between present (1983) and future (1988) interest rates then keeps 1983 long-term interest rates higher than is consistent with economic recovery in 1983."

To clarify the issues, consider a model of deficits and economic activity.[10] Assume that aggregate demand depends on an index of fiscal expansion g, and the long-term real rate R. Increases in government spending, increases in deficits or increases in debt all increase g.

(1) $y = eg - fR$

The condition of money market equilibrium gives a relation between the log of real money (m-p), the short term nominal rate i and output y:

(2) $i = hy - k(m-p)$

The relation between R and i is given by a term structure equation:

(3) $R - \dot{R}/R = i - \dot{p}$

The term structure equation states that the total returns on long-term and short-term bonds are equalized. Thus the interest plus the capital gains on long-term bonds, $R+\dot{R}/R$, must equal the interest on short-term bonds.

Integrated forward this relation gives the long-term real rate as a function of the sequence of expected future short-term real rates. The model is closed by an equation with gives inflation as a function of the

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[9] US Treasury, Office of the Assistant Secretary for Economic Policy, "Government Deficit Spending and Its Effects on Prices of Financial Assets", Washington, DC, May 1983.

[10] For more details, and a focus on the stock market, see Blanchard, "Output, the Stock Market and Interest Rates", AER 1981, 132-143.

deviation of output from its full employment value, normalized to equal zero:

(4) $\dot{p} = \alpha y$

where it is assumed for simplicity that nominal money growth is zero. Collecting equations (1) through (4) yields:

(5) $\dot{R}/R = R(1+f(h-\alpha)) - (h-\alpha)eg + k(m-p)$,

where we shall assume $h-\alpha > 0$.

The evolution of real money balances is given by:

(6) $(\dot{m-p}) = -\alpha(eg - fR)$

Figure 2 shows the dynamics of the system composed of (5) and (6), for a given value of g. KK is the stable trajectory.[11]

Suppose now, in Figure 3, that the economy is initially at point E, in recession. Now a current, permanent increase in government spending is enacted. It is readily verified that the new long-run equilibrium is at A' on K'K'. The economy will immediately jump to a higher real long-term rate at E'. The economy remains initially in recession, but converges over time to the new steady state at A' where real interest rates are higher and, with a flat term structure and zero inflation, the rise in the interest rate has led to a decline in equilibrium real balances. Note that in the adjustment process the real rate of interest overshoots. This is the case if the fiscal expansion is sufficiently small so that the initial level of real balances is too small to sustain the new steady state equilibrium. The overshooting of the real rate ensures continuing, though smaller recession, that yields deflation and hence, the required increase in real balances. It is clear from Figure 3 that the extent of deflation, as measured by the decline in real balances from the initial recession point to the steady state, is smaller. In this sense fiscal expansion unambiguously reduces the required deflation or the required depth and/or duration of recession. It is also clear that a sufficiently large fiscal expansion, the adjustment of long-term real rates notwithstanding, can move the economy immediately from recession to the new steady state, or even go beyond and create a boom.

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[11] For the mechanics of perfect foresight dynamics see the excellent presentation in D. Begg, The Rational Expectations Revolution in Economics, Philip Alan, Oxford, 1982 and Johns Hopkins University Press, 1983, and S. Sheffrin Rational Expectations, Cambridge University Press, 1983.

The permanent, current fiscal expansion studied in Figure 3 serves as a benchmark for an alternative exercise, a future, permanent expansion shown in Figure 4. By now it is clear that the steady state effects will be the same: ultimately the economy will converge to point A'. But the short-run is governed by the fact that the fiscal expansion is only taking place some time hence. The anticipation of future expansion and crowding out immediately raises long-term rates somewhat as shown by the jump from E to E', but less than in the case of Figure 2. This increase in real rates in the short run actually deepens the recession. Once the fiscal expansion does take effect however, the economy recovers along K'K'. The reversal of directions signifies that the increase in aggregate demand due to fiscal expansion, when it does take place, creates boom conditions, leading to inflation and further increases in interest rates until full crowding out has been achieved. The upshot of this example is the following: anticipated, future fiscal expansion must, initially, deepen the recession because it pushes up real interest rates without an offsetting direct stimulus to current aggregate demand.

The story is not much different if we consider the case of an increasing fiscal expansion. In Figure 5 we show the effects of a fiscal expansion that comes in two stages, one current, one future. The immediate impact is to move from E to E', where output may be higher or lower than at E depending on the relative timing and dosage. Now follows a period of expansion as real balances grow and long rates momentarily decline. But before the ultimate expansion there is another period of contraction as real interest rates rise again toward point F.

The conclusion of our analysis is that a fiscal expansion that is phased in over time may lead to a downturn following the initial stimulus and expansion. One of the determining factors is the gap between the two stages, or put in another way, the rate of increase of fiscal expansion.

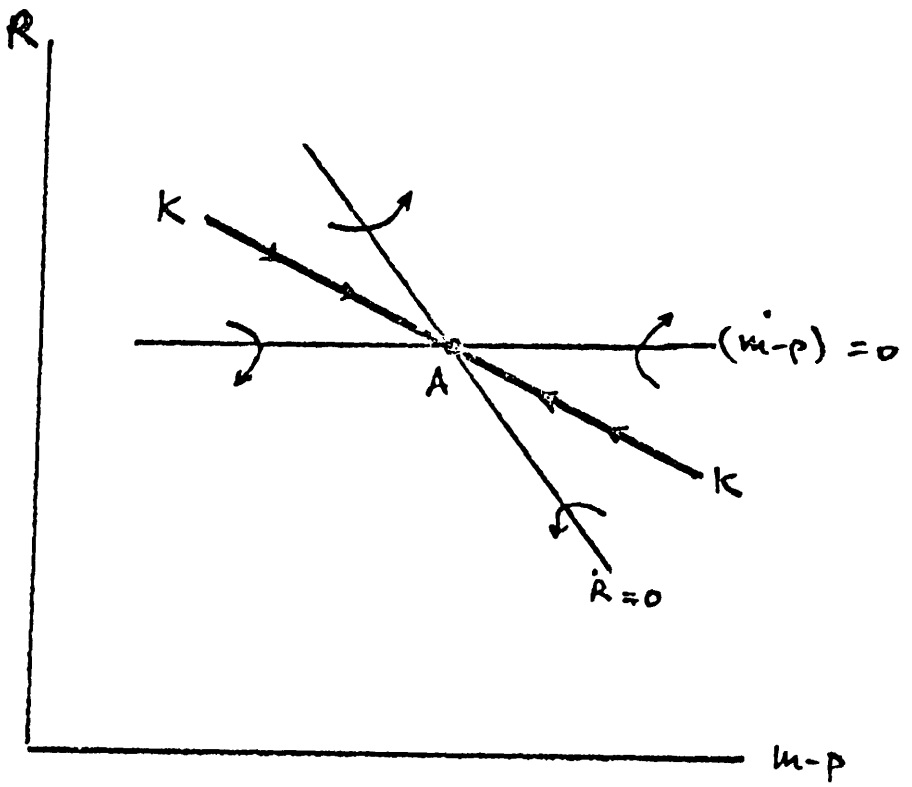

Figure 2 Adjustment to Steady State Equilibrium

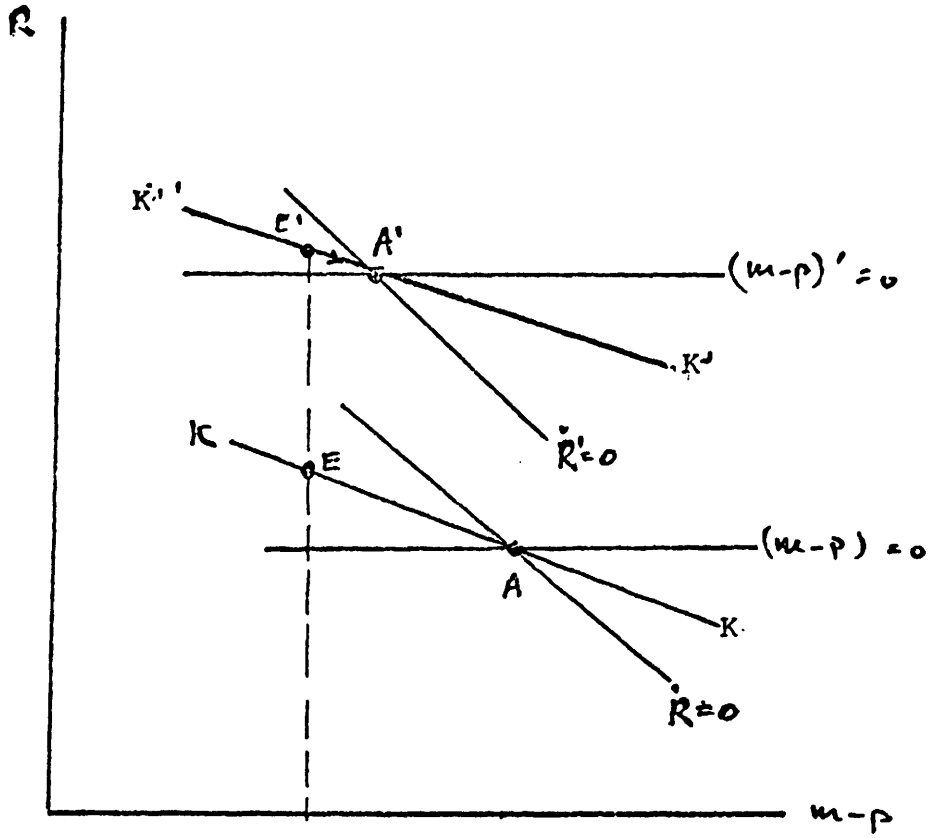

Figure 3 A Permanent Spending Increase

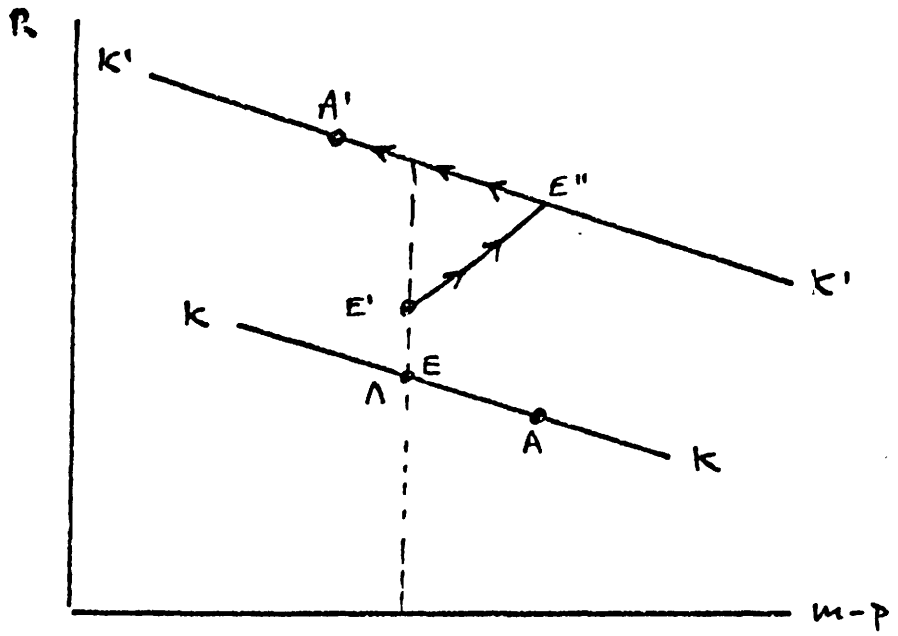

Figure 4 A Future Spending Increase

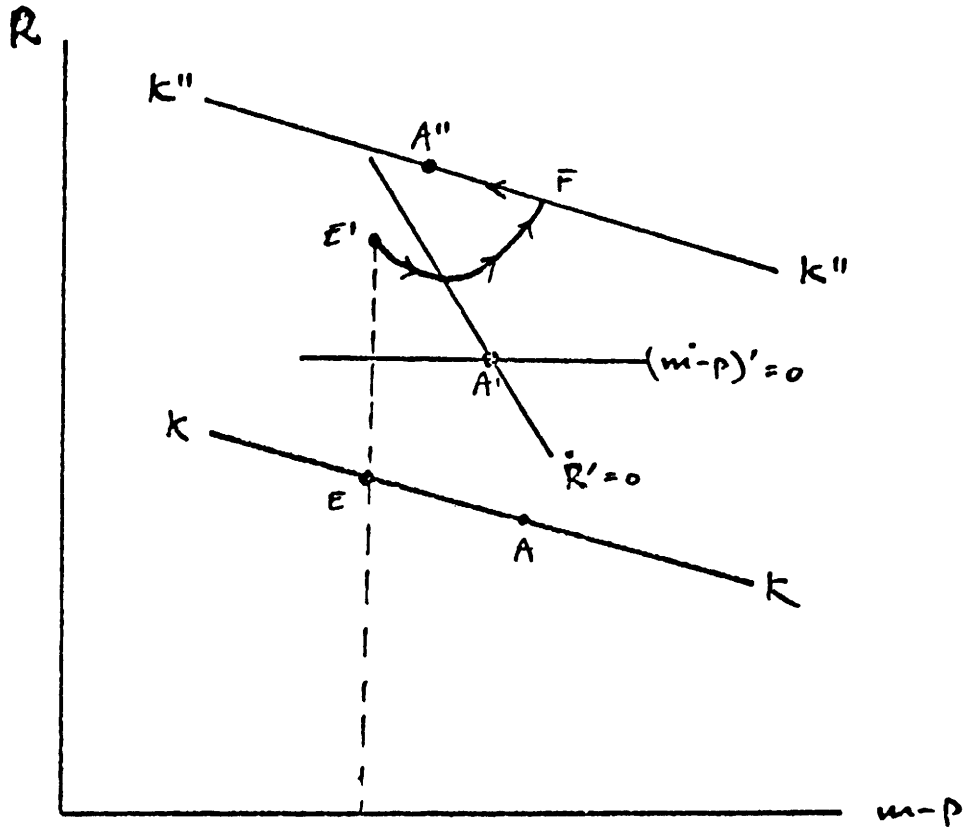

Figure 5 A Two-Stage Spending Increase

The relevance of these considerations to the current recovery is the following: real government spending is expected to rise and to be financed for an extended period by debt issue rather than taxes. Therefore real aggregate demand increases unless there is a complete offset through reduced private spending. Such an offset could arise, in part at least, if the anticipation of future taxes needed to service the higher debt reduces wealth and hence spending. But as long as the public does not expect to pay the tax bill fully, every extra dollar of debt raises wealth because the corresponding present value of taxes falls short of the value of the debt issue. Thus not only is there no offset but in fact private aggregate demand will rise along with government spending for some time until the tax bill moves sufficiently close.[12] Thus overall, a reasonable case can be made that the conditions needed for perverse effects through anticipatory increases in long-term rates are indeed present.

There are at least two qualifications to the argument presented above. The first is that future deficits are partly due to reductions in taxes. To the extent that these tax reductions are perceived today, they might raise aggregate demand today. If these future deficits are expected to take place in an economy which is by then at full employment, this is the only effect. If, however, these future deficits are expected to have an effect on output later, perceptions of higher output and income later may raise both consumption and investment today. In such a case, although long real interest rates still increase, their effect on aggregate demand may be more than offset by these anticipations of better times ahead.

Before we leave this section, we note that we have concentrated only on the potential role of fiscal policy in choking off, transitorily, the recovery. It is clear that tight monetary policy could have the same effect. This could happen if, as inflation increases, Volcker finds it difficult to accommodate velocity shifts and chooses to reduce money growth, with a European sympathetic move aggravating the consequences.

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[12] The relation of deficits, spending and debt to aggregate demand is studied in Blanchard, "Debt, Deficits and Finite Horizons", mimeo, October 1983.

IV FISCAL POLICY AND THE APPRECIATION OF THE DOLLAR

There are basically three explanations for the dollar appreciation:

- The international competitive strength of the U.S. as a producer of financial assets (safe haven) and services has sharply increased. Attention to manufacturing to identify overvaluation, in this view, overlooks a significant change in other areas of the economy.[13]

- The rise in interest rates has made the U.S. a preferred place for international portfolio investment, leading to capital inflows and appreciation.

- The US long-term fiscal expansion implies an increase in current and future demand for US goods and hence, a real appreciation. Forward-looking asset and exchange markets lead to increases in current long rates and exchange rates.

The first argument may well be right and account for some of the appreciation. Shifts in comparative advantage are among the recognized determinants of exchange rate movements. The problem, though, is that the U.S. does not show the signs of sharply enhanced comparative advantage. We now turn to a more detailed evaluation of the other lines of argument.

High interest rates as cause of the dollar appreciation.

To see whether the argument is acceptable, consider the standard model of exchange rate determination in which securities are perfect substitutes but goods are not. Assume further that prices adjust slowly. From interest parity,

$i = i^* + \dot{e}$ we have

(6) $i - \dot{p} = i^* - \dot{p}^* + (\dot{e} + \dot{p}^* - \dot{p})$ or $r = r^* + \dot{q}$ where q is the real exchange rate and r the real rate of interest. Equation (6) states that the high real-interest country must be experiencing real depreciation.

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[13] This view is most clearly presented in the "World Financial Markets" issues of July, August and November 1983.

Suppose next that the equilibrium dynamics involve a rate of real depreciation that is proportional to the discrepancy between the current and long-run equilibrium real exchange rate $\bar{q}$.

(7) $\dot{q} = a(\bar{q}-q)$

Combining (6) and (7) by eliminating q yields a relation between real interest differentials and the real exchange rate:

(8) $q = \bar{q} - (r-r^*)/a$

Thus, equation (8) shows that q is below $\bar{q}$ when the real interest differential is positive and above $\bar{q}$ if the differential is negative. Thus a rise in a country's real interest rate, due say to tight monetary policy, leads to real appreciation. However it implies a real exchange rate which is low and depreciating, not low and constant. To explain a sustained real appreciation of the dollar such as we have experienced over the past three years, we must appeal either to a succession of surprises or to factors which affect both the equilibrium exchange rate and real interest rates. We now consider fiscal policy as one such potential factor.

Fiscal policy, interest rates, and the dollar appreciation.

As we have seen, the course of fiscal policy is very different in the U.S. and in Europe. Fiscal expansion is increasing in the U.S., decreasing in Europe. To see the effects of such a divergence, consider the following two-country model:

The schedules rr and r^*r^* in Figure 6 are the full employment goods market equilibrium schedules for the U.S. and Europe respectively. Aggregate demand for the output of each country depends on the real rate of interest, the real exchange rate and fiscal policy in both countries. A dollar depreciation implies an increase in the US real rate for equilibrium to be maintained in the US goods market, and a decrease in European rates to clear the European goods market. The rr locus is upward sloping, the r^*r^* locus is downward sloping. If assets are perfect substitutes, equilibrium, in Figure 6, is given by the intersection (Point A) of the two schedules.

A US fiscal expansion increases aggregate demand in both countries, with a relative increase in demand for US goods. Thus, an increase in interest rates is needed to reduce total demand, an appreciation of the dollar is needed to satisfy the shift in relative demands. In Figure 6, rr shifts to r'r', r^*r^* to $r^{*'}r^{*'}$ and the equilibrium is A'. Fiscal expansion in the U.S. leads to an appreciation of the dollar, an increase in real rates and a U.S. trade deficit, as part of the US budget deficit is financed by European savings.

We can also characterize the effects of an anticipated rather than a current fiscal expansion on the equilibrium. This is done in Figure 7. We keep the same specification of goods market equilibrium schedules, but replace the equality of interest rates condition by the real interest parity condition of (6):

(10) $r = r^* + \dot{q}$

Let the initial equilibrium again be A. The anticipation of a future US fiscal expansion leads to an initial appreciation of q from q_0 to q' and a slow further appreciation over time to the new equilibrium real exchange rate q". The US short real rate decreases along rr, the European rate increases along r^*r^*. When US fiscal expansion actually takes place, both rates increase to their new long-run value. Extending the analysis to include a role for long-term rates and to allow for sticky prices makes it unwieldy. But the general implications of our analysis still go through. It will be true that future changes in fiscal policy lead to an immediate jump in long-term real interest rates in both countries and thus to unemployment. But, at the same time, there is some real appreciation of the expanding country's currency. Thus, before the fiscal expansion has even taken place the effects spill abroad through changes in long-term real interest rates and through nominal and real appreciation. The net impact of these spill-over effects -- gain in competitiveness versus crowding out through higher real interest rates -- will in general be ambiguous. The flexible exchange rate thus plays an important insulating role, even if the insulation is not complete.

Figure 6. The effects of US fiscal expansion

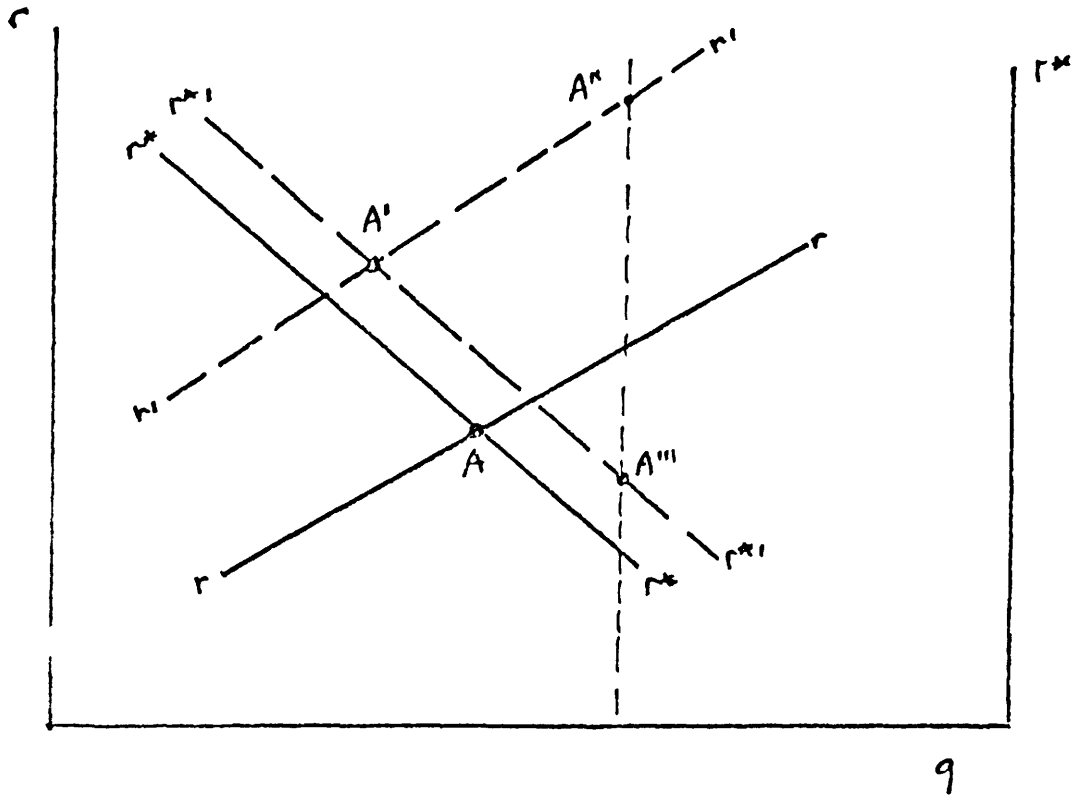
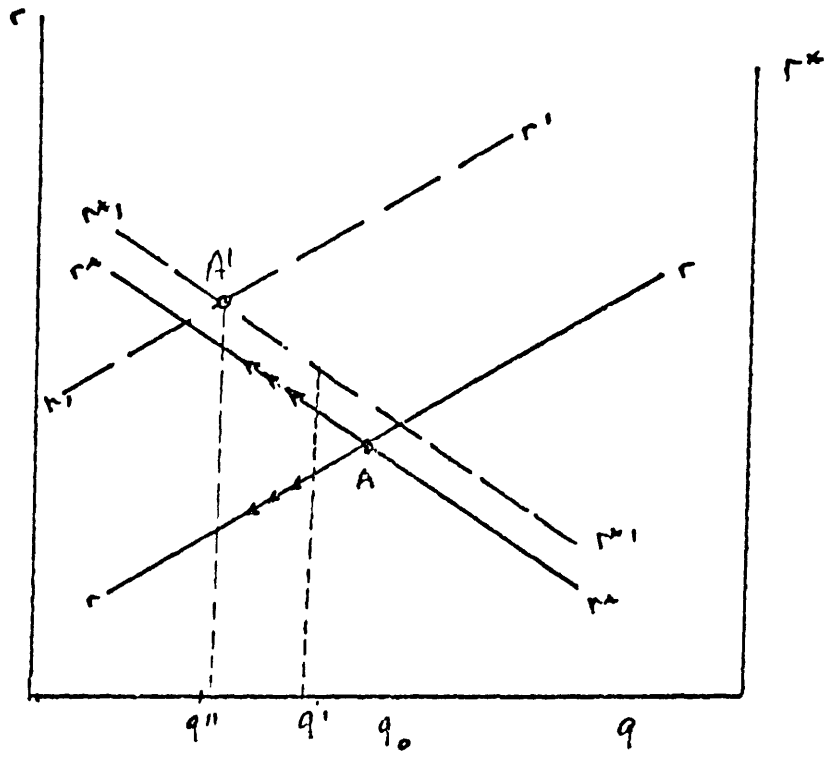


Figure 7. The effects of an anticipated US fiscal expansion.



Comparing these results which take into account the differential current and anticipated fiscal expansion in the U.S. and Europe with those of the previous section, the following conclusions arise:

The effects of fiscal policy will be even more perverse for the U.S., because of the combined effect of an increase in long-term rates and an appreciation of the real exchange rate. A recent estimate places the US job losses due to the deterioration of US international competiveness by mid-1983 at 1 million, with a loss of real GNP of 1 %.[14] On the other hand, the effects are less perverse for Europe which benefits from dollar appreciation. The terms of trade changes,however,still imply a reduction in real income for Europe.

The effects of dollar appreciation are also a reduction in US inflation and an increase in inflation in Europe. For the U.S., this "disinflation" effect is estimated to amount to 1.5 % per year over the 1980-1983 period.

Finally, the effects are not limited to the U.S. and Europe. LDCs are largely dollar debtors and exporters of primary commodities the real prices of which decline when the dollar appreciates.[15] Since these effects bring LDCs closer to balance of payments crises they tend to reduce the exports of all industrial countries and to deteriorate the quality of loans.

Will the dollar appreciation remain?

Figures 6 or 7 suggest that as long as fiscal expansion remains high in the U.S. and lower in Europe, the appreciation of the dollar will remain. Such an answer must however be qualified. As we have seen, appreciation is somewhat paradoxically associated with trade deficits. These trade deficits, however, imply both a transfer of wealth from the U.S. to other countries, including Europe,and an increase in the foreign holdings of dollar assets.[16]

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[14] See H. Wallich, Testimony to the Sub-committee on Domestic Monetary Policy, US House of Representatives, October 5, 1983.

[15] See R. Dornbusch "Interdependence Under Flexible Exchange Rates", IMF Staff Papers, March 1983.

[16] See C. Wyplosz "Open Economy Dynamics of Fiscal Policy", for a recent study which takes these effects into consideration. (Unpublished manuscript, INSEAD, July 1983).

The wealth transfer by itself leads to depreciation, by decreasing the relative demand for US goods. In Figure 6, it tends to shift back the rr locus and to shift further the r^*r^* locus. The effect is ambiguous on interest rates, unambiguous on q. This effect is at best however a small and/or a slow one.

The increase in foreign holdings of dollar assets may be quantitatively more important. We have assumed so far that securities are perfect substitutes internationally. If, however, they were imperfect substitutes, interest rate differentials, adjusted for expected exchange rate depreciation, would depend on relative supplies of securities. Returning to Figure 6, the equilibrium for a larger relative stock of US securities might be at points A" for the USA, A"' for Europe, rather than, as the case would have been if securities were perfect substitutes, at A'.

Empirical studies of risk premia have established two facts. First, that in the international interest linkage there definitely appears to be a risk premium. International interest differentials do not differ from depreciation rates randomly. But it is also the case that attempts to explain the risk premium in terms of current accounts or wealth changes have not been very successful. This is perhaps not surprising when we bear in mind that in empirical work attention has focussed on public debt and cumulative current accounts to the exclusion of the value of claims to real assets, and in particular the stock market. Of course, movements in the value of the stock market swamp the impact of budget deficits on wealth and even more so the impact of current accounts. Thus, while in principle these relative asset supply effects, and the distribution effects associated with international wealth changes, might be important, in practice no systematic links to exchange rates have been established.[17]

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[17] See Dornbusch, R. "Equilibrium and Disequilibrium Exchange Rate". Zeitschrift für Wirtschaft und Sozialwissenschaften, 1982, J. Frankel, "The Mystery of the multiplying Marks", Review of Economics and Statistics, 1982; A. Giovannini, "Essays on Flexible Exchange Rates".Unpublished Ph.D. dissertation, MIT, 1983; K. Rogoff, "Time Series Studies of the Relationship between Exchange Rates and Intervention: A review of the Techniques and Literature". Board of Governors of the Federal Reserve, Staff Studies No. 132, September 1983.

Even if these wealth effects exist and lead to a slow depreciation over time, they certainly do not imply an imminent collapse of the dollar. The coming large trade deficits are predictable and predicted. Their effects have already been taken into account in the current value of the exchange rate. Their realization should come as no surprise and thus have little impact on the course of exchange rates.

V EUROPE'S POLICY OPTIONS

Europe has two broad dimensions of choice: whether to act in coordination with the U.S. and Japan or to act in isolation, and whether to expand or sit tight. As desirable as coordination may be, we see little hope for it to actually take place: the main source of problems, US fiscal policy,seems out of control and probably is touchy in an election year. Thus the immediate question is what Europe can do by itself. There are two different questions. The first is whether there is a need for expansionary policy, over and beyond what an export-led recovery can provide. The second is, if expansionary policy is indeed desirable, whether there is much room for fiscal policy in Europe.

Is a faster recovery desirable?

Table 6 looks at inflation and unemployment rates in Europe. In this comparison Germany and the UK appear clearly as hard currency countries. Inflation has fallen to very low levels, but the costs of stabilization show immensely high unemployment rates.

For these countries only the most extraordinary circumstances would recommend opposition to some expansion. But that line of argument assuredly does not hold for all EC countries. The averages show that unemployment is high, but inflation remains a very serious problem, far from being under control.

Table 6 Inflation and Unemployment Rates in Europe

	Unemployment Rate		Inflation Rate	
	1982	1983:II	1982	1983*
U.K.	11.2	12.2	8.6	4.2
Germany	6.8	8.5	5.3	2.5
EC	9.6	10.7	11.0	8.4

*Last 12 months as of July 1983

Source : European Economy, Supplement A, No. 8, August-September 1983.

Thus, only under the most extraordinary circumstances would Germany or the U.K. not be justified in seeking expansion through demand policies. Two such extraordinary circumstances come readily to mind: first, that policies do not work or, second, that they have very costly side effects that on balance make them undesirable.

Demand policies would fail to work if major sectors of the European economy were already in a situation of classical unemployment. This is a situation where the real wage, rather than the level of demand, is the obstacle to expansion. We have already discussed this possibility elsewhere, and have argued that there is a sufficient margin of Keynesian unemployment for aggregate demand to affect output.[18] Even if economies face a mix of classical and Keynesian unemployment, this argues for the use of supply and demand policies, not against the use of demand policies.

The obvious side effect of a faster recovery is increased inflation. Here, we shall also repeat what we have developed at more length in an earlier report: econometric evidence suggests a relation between the level of unemployment and wage inflation, with at most a small effect of rates of change in unemployment. There is no reason to expect a substantial acceleration of inflation at current unemployment rates.

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[18] Basevi, G., O. Blanchard, W. Buiter, R. Dornbusch and R. Layard, op.cit.

Can fiscal policy be used?

We see little room for a pronounced monetary expansion at this stage. A temporary blip in money, that is a once and for all increase in nominal money, would decrease short real rates, and as a result decrease the size of budget deficits; this would in turn improve the short and medium term fiscal outlook and allow for more room in fiscal policy, besides the direct beneficial effects on aggregate demand. Credibility problems associated with such a policy are,however,major. It is certainly the case that in the U.S. the actual growth of money has been significantly above inflation targets without endangering, so far, the belief in the maintenance of monetary responsibility that was inaugurated in 1979-80. In the same way the easing of money in 1982-83 in Germany, accompanying the US move toward a less punishing stance of monetary policy, has not led to a collapse of confidence in superior inflation performance. But it surely would be wrong to expect that a continuation, on a significant scale, of nominal money growth above target ranges could be seen by the public as anything but a change of the basic stance of monetary policy in the face of depressed activity. Such an interpretation might well shift the growth inflation trade-off, certainly if it led to currency depreciation. We therefore believe it is entirely appropriate to rebase monetary targets, validating the "blip" that has taken place. It would certainly be quite unsound now to move money growth back within the original targets simply because an incipient recovery suggests that the economy can afford monetary tightening. But we also believe that going much further than such a rebasing could have adverse effects on credibility, even recognizing that this is a very elusive concept.

The statement that fiscal deficits in Europe are mostly cyclical must now be justified and qualified. In an earlier report, we showed that the inflation adjusted, cyclically adjusted deficit for the EEC as a whole for 1982 was actually negative; the increase in real interest payments for 1983 suggests a small positive cyclically adjusted deficit.[18] To understand the difference between these numbers and the perception in

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[18] Basevi, G., O. Blanchard, W. Buiter, R. Dornbusch and R. Layard, op.cit.

Europe of extremely large deficits, it is instructive to look at the numbers for Italy, which has a public sector deficit of 17 % of GNP. This is done in Table 7.

Table 7 The deficit in Italy

	1982	1983 (forecast)
Public sector deficit, % of GNP		
1. Unadjusted	16.9	16.9
2. Inflation adjustment	8.6	7.9
3. Cyclical adjustment	2.2	2.9
4. Government investment	3.8	4.1
1 -(2+3+4)	2.3	2.0

Percent of GDP.

Source : Francesco Giavazzi: "A Note on the budget deficit and real interest rates in Italy, October 1983.

Thus for both 1982 and 1983, Italy's full employment deficit is only 2 % rather than the much publicized 17 %. The situation is however not so favourable for other countries: Belgium and Denmark actually have large cyclically-adjusted deficits and little room for fiscal expansion. These figures suggest that although fiscal expansion is feasible for Europe as a whole, it has to be modulated among countries.

Ignoring for the moment issues of timing and distribution among European countries, what are the effects of a European fiscal expansion likely to be? Using the framework developed in the previous section, and by symmetry, we could expect an appreciation of European currencies, a further increase in long rates and, barring perverse timing effects, a faster recovery in Europe.

There is however a differing view of what might happen, known as Dr. Gleske's asymmetry. It is that while US fiscal expansion leads to dollar appreciation, German fiscal expansion leads to mark depreciation.

Mark depreciation is unacceptable because of its inflationary impact and thus fiscal expansion cannot be used. Under what conditions could such an asymmetry arise? Again relying on the analysis of the previous section, this could happen if most of a German fiscal expansion translated into a decrease in the relative world demand for German goods, or if the two depreciation-inducing factors, wealth and portfolio effects, dominated good market effects. The issue can only be settled empirically; there is no good a priori case for the asymmetry. Another line of argument could be that looser fiscal policy might be interpreted as a sign of future monetization, rekindle inflationary expectations and possibly lead to depreciation. Loose US fiscal policy was not interpreted in this light; there is little reason to think that German fiscal policy would be interpreted differently.

This last factor, however, argues for an explicitly temporary fiscal expansion. There are other reasons as well: Section 2 has made clear that the time path of fiscal expansion is very important. A large but decreasing fiscal stimulus will have more effect than a small and increasing one. It will have less effect on long rates. By the same token, it is likely to have less effect on the appreciation of the dollar.

The objection that any expansionary fiscal move, even though planned to be transitory, ultimately must almost inevitably deteriorate the public sector budgets even further is a serious one. This is so because tax cuts or government programs are "sticky" even if they were initially conceived as transitory. Moreover, because they lead to debt finance , they raise future debt burdens relative to income and thus deteriorate the future fiscal outlook. This consideration is valid even if there is no precise benchmark for what sound debt/GNP ratios might be. The consideration is all the more valid the higher the real rate of interest relative to the growth rate of output.

Chasing deficits by fiscal tightening, however, produces depression, not prosperity. Table 8 tells the simple story of where policies are taking the European economy at present:

Table 8 EC Unemployment and Changes in Cyclically-Adjusted Budgets

	1982	1983*	1984**
Unemployment Rate (%)	9.4	10.4	10.9
Change in Cyclically-Adjusted Budget Surplus (% of GNP)	0.7	0.5	0.8

* estimate
** forecast
Source: European Economy, No. 18, November 1983, Tables 4.1 and 5.6

Most certainly, at a minimum, this is not the year to remove deficits. On the contrary, there should be transitory net stimulus of the economy.

Once it is recognized that expansion, not restriction, is called for there remains the issue of whether countries should and can act individually or whether coordination is called for. It is now well recognized that the inflation/growth trade-off facing any single country is highly unfavourable. This is the more so the poorer a country's financial "repuration". Individually, countries therefore perceive trade-offs that limit expansion more severely than is the case for them acting as a group. Since no European country can claim that it does not have a grave unemployment problem there is a strong motive for seeking the advantages of collective action through coordinated expansion.

The remaining argument concerns the precise structure of coordination. We shall repeat here what we suggested in an earlier report:[18]

[18] Basevi, G., O. Blanchard, W. Buiter, R. Dornbusch and R. Layard, op. cit.

"There is a simple principle that might help set a benchmark for minimum expansion. Suppose only one group of countries in the EEC expands, while the others do not take any fiscal initiative. The expanding group would incur budget and current account deterioration, but the non-expanding group would have improved budget and external balances. A natural benchmark for minimum expansion might then be oriented toward a fiscal expansion that ensured,in weak currency countries, a zero change in the budget or a zero change in the current balance. In this manner, the weak countries neither serve as locomotive of expansion, nor are they a drag on the expansion".

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