The Deficit and the Fiscal and Monetary Policy Mix

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Policy Balance

Risks are involved in the setting of instruments for economic policy. These risks are that policies will not work out as contemplated because of misjudgment of the underlying economic situation, misperceptions of economic agents' behavior, external shocks to the economy, or ever-present random error. Spreading the risk is a good principle of broad applicability. Policymakers would be well advised not to gamble on an all-or-nothing venture with a single policy instrument, but in choosing many instruments for setting policy so as to minimize the risk of failure, it is important to have a balanced policy. There are at least two reasons for seeking policy balance. In the first place, there is a problem of distribution of burden sharing. All too often, American policy has become lopsided, particularly in credit squeezes, and the housing sector has correspondingly undergone a vicious cycle of recession-recovery phases. Why should this one sector bear the burden of adjustment so heavily?

Secondly, we may have policy failure because loopholes for evasion of the effects of policy are likely to be discovered, or things happen in the economy to thwart the policy, outside the frame of reference of the single instrument. Overreliance on monetary policy alone has prompted a creative private financial system to seek new avenues of activity. The use of Euro-currency markets, off-shore banking affiliates, money market funds, bank commercial paper and many other devices have interfered with the expected working of monetary policy, and basic ratios, such as the velocity ratio, on which some policy analysts depend, have become variable in such a way as to counteract intended policy lines. A person depending on steady velocity patterns for pursuit of single-minded monetary policy would have had a rude shock in this past recession because M1 velocity growth became negative, for the first time in 20 years, and by a wide margin.

Policy imbalance may arise even if more than one instrument is used, but if the imbalance puts different measures at cross-purposes, policy objectives may not be reached. Sometimes the consequences get out of hand, as they did during 1981 and 1982, when fiscal and monetary policies were seriously imbalanced.

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With these thoughts in mind, I shall make the objective of this paper an attempt to find a balanced policy mix of fiscal and monetary instruments that improves macroeconomic performance, while observing, at the same time, the budget deficit. We hope we can find a policy mix that will lead to better macro performance with a declining budget deficit.

The Scope of Macroeconomic Fiscal Policy

One could look for fiscal innovation to see if new ways of taxing or spending work better than present instruments. I shall not explore such issues as value-added taxation, an expenditure tax, or a flat tax. I shall confine this analysis to such established instruments as the personal income tax, investment tax credits, indirect taxes (excise, sales, property), nonmilitary spending, military spending and transfer payments to individuals.

Within this macroeconomic framework, the policy options are fairly clear. The federal government can spend on goods and services or on transfers and expect the conventional multiplier stimuli to follow from these choices. An expansion of federal expenditures will contribute to economic expansion (GNP) by an amount in excess of the public injection of funds, and a restriction of federal expenditures will contribute to economic retardation in a similar way. Expenditure on new goods and services by the government contributes directly to GNP, and the induced expenditures add to the total. Increased transfer payments have no direct effect, only indirect effects; so the overall multiplier result is somewhat smaller.

This is conventional wisdom, and it has worked in the past. The result shows up in all "mainstream" models of the economy and would be denied only in such idiosyncratic models as the St. Louis Model, of well-known monetarist persuasion.

Most mainstream models yield the same qualitative result, but they may differ in estimating the quantitative impacts. Another feature of the qualitative pattern of dynamic fiscal multipliers is that they rise and fall, along a business cycle path. In the first place, they induce inventory build-up (draw-down) after a stimulus (restraint), and stock-adjustment behavior leads to an early reversal. Secondly, the expansion of the economy following a net spending injection generates rises in interest rates and the price level, unless offset by some other policies, and these tend to slow the expansion of investment, housing, and purchases of consumer durables. In some models, an expansionary path is quickly brought back to a zero-effect. In others, the peak effect, after an injection, is reached in about two or three years and then brought down gradually, but not necessarily to zero.

The side-effects and relationships with other policy centers in the economy are important and must be considered. An economic expansion generated by a fiscal injection of funds will lead to higher interest rates, in the usual pattern, only if the monetary authorities fail, or refuse, to accommodate the expansion. This is the point of policy balance. If monetary rules and decisions are unaffected, we will get the expected result, outlined above. If monetary authorities strongly accommodate an expansion by trying to supply enough reserves to keep interest rates from

rising, the tendency of the multiplier process to reverse itself will be moderated and possibly even avoided. Naturally, if monetary policy works at cross-purposes with the fiscal expansion, it can be entirely counteracted.

The other side effects of a spending increase come from the financing of the federal deficit, the potentially inflationary effects of an expansion, and the international repercussions of balance of trade/payments changes. Higher spending levels without corresponding revenue changes will, in the first instance, bring about an increase in the federal deficit. Eventually, there will be feedback effects to trim the deficit as a result of having an enlarged tax base and an induced reduction of transfer payments, but it depends on tax/transfer rates and regulations whether the reduction in the deficit will be as large as the initial increment.

Let us assume that the deficit will increase. Will that rise necessarily cause interest rates to go up because of crowding out between public and private needs for capital financing? Also, will the rise in the deficit necessarily lead to a monetary expansion that will generate inflation?

The capital market consists of activity in many sectors on both the *sources* and the *uses* side of the account. The sources side includes personal saving, business saving, and foreign saving. If the public sector is in deficit, it is dissaving and could attract funds away from private investment uses, unless some other saving source is also increased. It is entirely possible that business and foreign savings could supply funds on a large enough scale to offset the drain caused by the public deficit. In a business expansion, corporate savings tends to rise quickly by large amounts. Our tax system now favors the rapid build-up of capital consumption allowances. These sources loom very large at the present time, and for the next few years. A great deal of foreign funding may seek domestic business opportunities; a strong stock market can be attractive for equity financing, especially given the large reductions that have taken place in capital gains taxation. Finally, the monetary authorities can supply reserves to the banking system to allow financial institutions to supply loan capital to enterprise for investment. Many combinations are possible in a complete sources-and-uses analysis. There is no reason to focus attention primarily on the "crowding out" line of analysis; it can definitely be avoided.

If investors develop adverse expectations and feel that "crowding out" will occur, they may cause bond markets to retract, as in 1981, and the mere existence of deficit prospects can drive up interest rates and cut off investment planning. But this outcome will generally go together with expectations of inflation. An increase in monetary accommodation could lead to inflationary expectations, but it need not. Inflation depends on many things:

(i) raw material prices (especially imported)
(ii) unit wage costs
(iii) exchange rates

Ample supplies of raw materials, relative to demand, wage restraint, productivity gains, and a strong currency can all restrain inflation. These

conditions vary a great deal. At present, they are probably favorable, on balance, for the inflation outlook, and if people can see good reports month-by-month on price statistics, they are likely to restrain their inflationary expectations. Conditions in labor markets have much to do with wage gains, and high levels of unemployment for some time to come will do much to hold wage gains to moderate rates.

By and large, this analysis has been for the domestic economy. It is important to consider some external side effects. We are a fully *open* economy. The most immediate external effect of a fiscal expansion is a tendency for imports to increase. For a large part, this displaces domestic activity and holds down GNP expansion. The leakage in the conventional multiplier evaluation of mainstream econometric models is well known, but there are other effects, too. If the fiscal measures being undertaken are unilateral, the net foreign position will tend to deteriorate, and this, by itself, should bring down the exchange value of the dollar, discourage imports, encourage exports, and restore some domestic activity. Dollar depreciation could produce some inflation and this would be counter-expansionary. But if interest rates rise enough, either through natural supply-demand pressure in credit markets or through perverse expectations in bond and stock markets, the dollar could strengthen, as happened in 1981–83. A strong dollar holds down inflation, but it also contributes to a negative net export position and restrains the multiplier effect of a fiscal expansion. This analysis obviously has many cross currents, and the actual outcome will depend on the situation at the time the fiscal policy is introduced—the *initial* conditions. Depending on the expectations and fears in world markets initially, the effect could go either way—either reinforce or retard a fiscal stimulus. At present, the strength of the dollar reflects such things as political instability, flight to quality investments, and fears of protectionism (leading to direct investment in the United States). Generally speaking, domestic effects of fiscal expansion should prevail over the multitude of possible external side effects, but certainly any fiscal analysis must make a simultaneous full-dress appraisal of international effects.

Fiscal policy has been examined up to this point, mainly as an expenditure increment, either an increase in outlays on goods and services by public authorities or an increase in transfer payments, either in civilian or military sectors.

An increase in transfers is, by and large, the opposite of a tax cut. There is more sympathy at the present time for fiscal policy associated with tax change than with expenditure changes. Tax cuts are favored over expenditure increases because of concern over the size of the government establishment. On a restrictive plane, there would be more sympathy for expenditure cuts than for tax increases. But we should look here at some particular aspects of tax cuts.

Tax cut multipliers like those associated with transfer payment increases, tend to be smaller than multipliers associated with expenditures on goods and services but they are preferred, as indicated above, by many economists who fear for public sector activities. Recent preoccupation with

tax rate cuts has been aimed at reducing the progressivity of the personal tax system. This is taken to an extreme by advocates of a flat tax, but appears in milder form in the rate cuts, across the board by the Kemp-Roth type of cuts advocated by the present Administration under the guise of supply side economics.

The progressivity of the tax system provides built-in stabilization because revenues rise fast on the upswing (dampening the tendency for further upward movement) and fall fast on the downswing (helping to put more purchasing power in people's hands).

We lose the automatic stabilizing power by concentrating on cuts in tax rates but we are supposed to gain by improving incentives. The long-awaited incentive gains of greater work effort and higher rates of saving supposed to be forthcoming after the three phases of the Kemp-Roth system have never materialized. The personal savings rate is as low as ever. In fact, it reached the very low value of 3.9 percent just as the third phase was put into place. Eventually the savings rate should recover somewhat, but not because of the incentives of supply side economics; it will be because of a more settled economic environment in which people can plan ahead with a greater feeling of personal stability. Also, cyclical recovery in productivity will occur, but not because of tax incentives. It is simply a matter of having increased output in the recovery, with a tendency for employers to lag in rehiring workers. The denominator of the productivity ratio is under restraint as the numerator recovers along a natural business cycle path.

Tax cuts, particularly in recession, are not bad; they provide the usual kind of stimulus for economic recovery, predictable according to received Keynesian multiplier doctrine. That is what happened in the autumn of 1982 and all during 1983.

But the more the rate structure of the tax system is weakened, the harder it is to generate revenues during the upswing; therefore budget deficits are more persistent. That is our present predicament. So many revenue sources were lost in the tax cuts of 1981, 1982, and 1983, that budget balance remains a distant goal. It used to be the case in connection with econometric model simulation that it was easy to find policy mixes that stimulated economic activity, that simultaneously achieved full employment together with budget balance. In fact, the latter came quickly, even ahead of restoration of full employment. Now it is extremely difficult to find plausible policies that will restore full employment and budget balance before the end of the decade.

"Bracket creep" associated with price rises and also with genuine advancement is a tax collector. As inflation set in during the late 1970s, the federal budget was brought fairly close to balance, but the present statutory provision to index the tax system will weaken the revenue generating powers of the system under the influence of price rises. This is going to prolong the presence of large federal deficits.

Taxing and tax cutting can take place in so many ways that effects of changes in this area are difficult to enumerate. Investment tax incentives have strategic importance for a volatile but dynamic component of GNP.

This component has a special impact on productivity; so extraordinary arguments can be made for increasing investment tax credits or liberalizing depreciation guidelines for tax purposes. Changes in indirect taxes affect the price level directly and also affect some closely related demand functions. Price rises through indirect tax increases restrain spending, or cuts in indirect taxes bring down prices and stimulate spending. In this paper, I am not searching for an ideal tax system, simply some macroeconomic effects that can serve a strong recovery pattern.

Ordinary theory of economic policy would suggest the pursuit of monetary measures in their own right, expanding the volume of reserves in order to make credit more plentiful at prevailing or lower interest rates and contracting the volume of reserves in order to make credit less plentiful at prevailing or higher interest rates.

I shall not take up the issue of the type of monetary *target*; I shall focus on the *instruments*, and use either excess reserves or interest rate movements as indicators of the degree of tightness.

Interest and credit-sensitive lines of activity will be affected, expanding in an easier credit market and contracting in a tighter credit market. That means expansion or contraction of activity in housing (lead sector), private capital formation or consumer durables. These are often bellwether sectors and mean a great deal for the course of economic activity. It should be pointed out that significant lags are involved in reaction to interest rates or credit availability. The lags are longest for fixed investment activity.

Expansion through monetary policy reduces the deficit more than through "equivalent" fiscal policy, measuring equivalence by the feasibility and acceptability of action. At the present time, fiscal changes of $30–$50 billion are quite acceptable on an annual basis. Similarly, monetary changes that increase unborrowed reserves by $5 to $10 billion in one year are also acceptable. The fiscal stimulus initially increases the deficit, and if economic activity generates enough revenues or cuts down enough on transfer payments, the deficit may eventually fall from the values in a baseline path. With a purely monetary expansion, the deficit will be reduced soon after the pace of economic activity quickens. If interest rates fall, public interest costs will fall and reduce the overall deficit.

If monetary expansion induces fears of inflation and nominal interest rates follow price movements, we could have a result in which actual inflation with higher interest rates leads to larger deficits, both because of interest costs to government and the slowing of economic activity. Prudent monetary expansion, however, need not generate such excessive fears of inflation, especially if there are not contrary movements in fiscal policy and if monetary expansion is gradual and prudent.

Monetary policy cannot, however, be carried out in geographical isolation, especially in a floating rate world. Lower interest rates, ceteris paribus, make dollar holding less attractive. Capital should flow to seek higher rates elsewhere, leading to exchange depreciation. Exports will be stimulated and imports discouraged. This makes for better real growth at home, but exchange depreciation also generates domestic inflation through

higher import costs. The inflation effect will generally retard production growth.

The international effects are difficult to generalize because they depend on the economic situation in several countries simultaneously. Monetary expansion with lower interest rates may work out as outlined above; capital may flow out and bring about exchange depreciation. But the situation of the past few years in which many countries were simultaneously depressed worked differently. Interest rates were kept high in the United States because of an unfortunate combination of fiscal and monetary policies during 1981–83. Our partners wanted to bring down their own interest rates to stimulate investment but could not as long as U.S. rates were significantly higher because their moving to lower rates would have generated a severe capital flight to America. Once our rates did fall, however, our partners followed suit immediately. There was no induced capital flight. The capital flows that did take place occurred for quite separate reasons. An American interest rate reduction amounted, in effect, to a coordinated reduction, and the gains of policy coordination are being realized because of secondary trade reverberations among countries. The dollar is not being depreciated as interest rates have fallen. It may come later, but more from the pressure of an adverse current account balance.

Some Wharton Annual Model Simulations

Many things are taking place simultaneously; many instruments can be changed. In this section, I shall attempt to find a policy combination that addresses the issues of improving overall economic performance and at the same time helps to reduce the federal budget deficit below what it otherwise would have been.

Foremost in my own mind is the priority of achieving a better rate of unemployment. There are many routes to full employment, and I am seeking one that leaves inflation and budget deficits at acceptable levels. It is not a single-minded search for better labor market conditions, and it is not a single track policy selection.

In other times, I would unhesitatingly have established an unemployment target of 4 percent or less. The demographic changes, the life style changes, and the drift towards acceptance of much higher rates, in the neighborhood of 10 percent, have meant, in a practical sense, that the old targets are not feasible in the short run. I therefore adopt the arbitrary modest target of reaching 6 percent unemployment by 1986. This target fits better with what I interpret to be the interests of this meeting; personally I aim for stronger targets.

What will the deficit be at this unemployment rate (6 percent) by 1986? To answer this question, full simulation of a large model is required, and the answer will not be unique. This might seem strange to those who are attracted by the concept of full employment budget deficits (or surpluses). I object to this concept however. Full employment means pressure, to some extent anyway, on the price level and unless the price level is specified, the

so-called full employment deficit cannot be calculated, for both sides of the budget are very sensitive to the price level, and also to nominal interest rates.

A fiscal expansion to reach full employment, so defined, implies one deficit; a monetary expansion implies another, and a balanced mixture yet another. External performance has a major impact on the budget balance; therefore, the domestic policies being pursued have external implications which feed back on the budget.

While the pure concept of a full employment deficit (or surplus) is not meaningful, the budget position associated with any particular policy mix is an estimable number. There are many budget balances, each associated with different policy options, and each option is to be examined by a model simulation. This is the conceptual framework being adopted here. It is, in my opinion, much more general and powerful than the narrow concept of a full employment balance.

First, let us examine a baseline case and a pure fiscal policy alternative. The base case is one of moderate growth, averaging 3.2 percent over the decade 1982–92. Inflation winds down from 6 percent in 1982 to 5 and then 4 percent towards the end of the decade. It is temporarily low at 3.2 percent in 1983. Unemployment reaches 10 percent in 1982 but declines over the decade of moderate growth to about 6.5 percent. There are two cyclical interruptions in 1986 and 1990, when unemployment rises briefly again. Interest rates decline to about 8 percent at long term and 6 percent at short term.

The federal deficit reaches approximately $200 billion in 1983 (NIA concept, calendar year) and gradually recedes under the assumed pressures of some spending cuts and dropping of indexing after 1985. But the deficit does not vanish; it is still as high as $74 billion in the baseline forecast in 1992.

A steady growth rate, expenditure restraint, dropping of indexing, a pick-up in inflation in 1984–88, and lower interest rates all contribute to a lowering of the deficit, but the rate schedule is now such that balance cannot be attained in the foreseeable future.

This is a less than satisfactory state of economic affairs, and some policy experiments will be simulated to see if they can improve upon the unemployment figures without appreciably worsening inflation or increasing the deficit, except temporarily.

The baseline simulation starts out in the early years as a careful forecast, derived from the Wharton Quarterly Model, where latest figures on public policy and other input values are assessed as carefully as possible. The Wharton Annual Model is lined up to the cyclical characteristics of the Wharton Quarterly Model solution. Then, the longer term baseline path is one of smooth evolution. Most exogenous variables follow trends, but policy instruments are set at levels that would enable the model to produce long-run properties—saving rate and wage shares at steady long-run values, equality between the real growth rate and real interest rate, and no major imbalances, such as external deficit or surplus, steady growth of money

supply, and price stability. The techniques of optimal control can be used here, to fix exogenous input variables at levels that bring the system to a balanced growth rate. The baseline is, therefore, a reference solution that conforms to certain preassigned properties.

These various properties hold simultaneously but not forever. For one thing, there are cycles. These arise endogenously and occur, as growth recessions, later in the decade, (1986,1990).

The target of this analysis is to reach 6 percent unemployment by 1986. The fiscal measures are increases in defense and nondefense spending and cuts in tax revenues through imposition of indexing of the withholding system at the beginning of 1985. Recall that indexing was not used in the baseline case. The public expenditure increase builds up from about $2.7 billion (1972 prices) in 1983 to about $17 billion in 1986, and then there is no further increment above the baseline.

Table 1
Government Expenditure
(1972 $ billion)

	Baseline	Scenario		Baseline	Scenario
1982	116.2	116.2	1988	142.8	160.0
1983	121.0	123.8	1989	147.7	164.9
1984	124.6	132.0	1990	152.6	169.8
1985	128.4	140.8	1991	157.5	174.7
1986	133.0	150.2	1992	162.2	179.4
1987	137.8	155.0			

The scenario unemployment rate reaches 5.87 percent for the year average 1986 but the federal deficit instead of declining rises very significantly. It goes back over $200 billion by 1989 in this scenario. By 1986 the estimated deficit figures are almost $190 billion. The fiscal stimulus leads to slightly higher prices and interest rates.

The deficit does not go away under the influence of this expansionary policy intervention. Accordingly, a monetary policy intervention is proposed. Growth in M2 is increased by 2.98 percentage points over the baseline path in 1983 and the level is held to a 4.0 to 6.0 percentage point spread until 1992. Real GNP outperforms the base case by a spread (in level) of more than 2 percentage points each year. The scenario outperforms the base case in these episodes. The federal government deficit is reduced by about $45 billion, but it still remains at a formidable level, $98 billion in 1986 and $83 billion in 1987.

Table 2
Money Supply
($ billion)

	Scenario	Baseline		Scenario	Baseline
1982	1878	1878	1988	3278	3112
1983	2130	2069	1989	3515	3336
1984	2362	2270	1990	3738	3538
1985	2596	2470	1991	4030	3756
1986	2787	2637	1992	4342	4072
1987	3027	2868			

So monetary policy contributes more to deficit reduction than does pure fiscal policy. An even better way to get to full employment (estimated as 6.0 percent unemployed in 1986) is to have outside demand growing. We accordingly raised export targets and treated them as being realized. In this case, the budget deficit does wither away by 1992, but it is as large as $90 billion in 1986. It is little better than monetary policy in reducing the deficit, while hitting the employment target. In the case of export stimulation, the decade growth rate is raised to 3.5 percent, and inflation is held under 4.0 percent by the end of the decade. Productivity growth is stronger than in other cases.

Table 3
Exports of Goods and Services
($ bill. 1972)

	Baseline	Scenario		Baseline	Scenario
1982	147.2	147.2	1988	191.9	225.6
1983	136.2	144.3	1989	200.9	234.3
1984	149.1	165.4	1990	208.1	241.4
1985	166.7	191.3	1991	218.1	251.3
1986	174.4	208.1	1992	228.5	261.8
1987	183.1	216.9			

The export stimulus was carried out in the usual way, as for a closed economy, and there is no assumption about dollar exchange rate variation, in spite of the fact that the current account rapidly goes into a strong surplus position. In the case of the monetary scenario, however, with a lower American interest rate, dollar depreciation was introduced so that the time path of the effective exchange rate was depreciated about 5 percent below the baseline path.

Table 4
Some Principal Indicators—Baseline vs. Scenario

	GNP ($ bill. 1972)				Inflation (percent)			
	Base	Fiscal Policy	Monetary Policy	Export Expansion	Base	Fiscal Policy	Monetary Policy	Export Expansion
1982	1475	1475	1475	1475	6.0	6.0	6.0	6.0
1983	1521	1526	1532	1533	3.2	3.2	3.5	3.1
1984	1602	1617	1628	1629	4.8	4.7	4.9	4.6
1985	1671	1700	1711	1714	5.6	5.6	5.9	5.6
1986	1699	1744	1740	1758	5.4	5.4	5.7	5.6
1987	1767	1818	1799	1826	4.9	5.1	5.3	5.3
1988	1823	1880	1846	1879	5.0	5.2	5.3	5.4
1989	1866	1926	1886	1917	4.1	4.3	4.4	4.4
1990	1897	1961	1921	1946	4.1	4.2	4.3	4.1
1991	1965	2037	1997	2017	4.0	4.1	4.3	3.9
1992	2023	2105	2057	2080	4.0	4.1	4.4	3.9

	Unemployment (percent)				Federal Budget* ($billions)			
1982	9.7	9.7	9.7	9.7	− 151	− 151	− 151	− 151
1983	10.0	9.8	9.8	9.8	− 198	− 202	− 192	− 189
1984	8.8	8.2	8.1	8.2	− 176	− 186	− 154	− 156
1985	7.6	6.4	6.3	6.5	− 148	− 175	− 109	− 112
1986	7.7	5.9	6.1	6.0	− 146	− 190	− 98	− 90
1987	7.1	4.8	5.4	5.1	− 129	− 185	− 83	− 66
1988	6.6	4.0	5.3	4.5	− 100	− 170	− 56	− 30
1989	6.9	4.0	5.8	4.8	− 114	− 202	− 70	− 42
1990	7.3	4.2	6.3	5.4	− 124	− 231	− 72	− 50
1991	6.8	3.5	5.8	4.9	− 96	− 222	− 34	− 16
1992	6.5	2.8	5.4	4.5	− 74	− 217	− 3	+ 17

*NIA concept, calendar year

The model simulations show the deficit problem in figures. The present initial conditions, the present legal/institutional framework (taxes and transfer systems) leave us in a predicament. At 6 percent unemployment, now called a full employment position, there are many differences in fiscal balance, depending on the path of the economy. The concept of a high employment budget deficit or surplus is quite elusive. The deficit could be anywhere from $90 to $190 billion. The worst path to higher employment generates a deficit of $190 billion against just $90 billion in the most favorable case. It is all a matter of how we, in the economy, get to a position of fairly full employment.

Looking at all three scenarios, it is evident that they are not all the same. The fiscal policy scenario is clearly an outsider. But a balanced mixture is surely better than any of the policies by themselves.

These policy packages are not unique and surely capable of being improved upon, but they do show the elusiveness of the underlying problem. While it used to be easy to find a budget balancing configuration for the economy it is now very difficult to round out the search in time for implementation. But it does appear from the calculations made for this

paper, that one policy component must be a significant easing of monetary policy and related conditions. An expansionary monetary policy and an "accommodating" fiscal policy would seem to be extreme, but should lead to good balance. Fiscal policy can be used both to hold down the deficit and possibly give some added growth to the overall economy. It must then be squarely merged with a strong monetary policy. This could provide the moderate but steady kind of expansion that the financial community would like. These policies should correspondingly try to help to hold down interest rates. That has been our greatest nemesis in trying to get a sustained expansion underway.

The baseline scenario has, in a sense, some fiscal policy implicit in its design since it eliminates tax indexing in 1985. This is the point at which indexing is to begin in a statutory sense. Since fiscal policy is being implicitly used to hold down the deficit it is being "accommodative." When monetary stimulus is imposed on this particular baseline projection, we have, in the context of the present debate, a combination of monetary and fiscal policy that is designed to achieve a high level of employment (unemployment at 6 percent in 1986) and a much reduced deficit.

If this monetary/fiscal mix could be supplemented by international coordination of policies towards fiscal and monetary stimulus, where applicable, and of policies towards trade liberalization, the outcome would look even better. This would be the ideal mix, not only across policies but also across countries.

Given the modest goals—6 percent unemployment by 1986—we might consider additional policies to bring down the so-called natural rate of unemployment, i.e., achieve an even stronger macroeconomic performance. In this respect, I am impressed with the arguments of my colleague, Albert Ando, who argues that structural policies must supplement conventional macroeconomic policies if the natural rate of unemployment is to be lowered.[1] He may favor structural policies aimed at restoring competition where it is impeded. For my own tastes, I prefer use of what is now called industrial policy.[2]

[1]Albert Ando, "Coordination of Monetary and Fiscal Policies," paper presented at the Bank of Japan's Centenary Conference on *Monetary Policy in Our Times*, Tokyo, June 22–24, 1983.

[2]See my papers on "Identifying the Sources of Structural Change," paper presented at the Federal Reserve Bank of Kansas City's Conference, Jackson Hole, Wyo., August 1983; and "In Search of an Optimistic Scenario for the 1980s," paper presented to the Wharton-Reliance Symposium, University of Pennsylvania, Philadelphia, May 1–3, 1983.

Postscript

In response to Saul Hymans' comments on some aspects of the baseline projection and even more so for the stimulative scenarios, I want to explain why the economy achieves operations at very low rates of unemployment without heating up inflationary pressures.

The American economy in the past enjoyed high employment (low unemployment) without inflation for protracted periods of time. Will we never realize such combinations again?

It should be pointed out that demographic trends favor our returning to economic operations at low levels of unemployment with relative price stability.

The rate of growth of the labor force, which expanded at more than 2 percent annually while the baby boom generation was being introduced as workers, made it difficult to achieve low levels of unemployment for many years. This cohort has been absorbed and has received on-the-job training by now. In the Wharton Annual Model projection, labor force growth slows down to about 1 percent, a very significant shift. This also reflects the end, by assumption, of the large influx of women into the paid labor force. It will be much easier to reach low levels of unemployment again without undue pressure on prices. Another factor supporting this result is the revival of productivity growth. The decline in productivity was only temporary. The greatest energy conversion problems are behind us now. We know more about coping with the environment, and many of the new technologies promote productivity growth. The combination of slow growth of the labor force, recovery of productivity growth, low unemployment, and low inflation all fit together. It was not the pattern of the 1970s, but it can be the pattern of the 1980s. That is the conclusion of the Wharton Annual Model analysis, and I feel comfortable with this result.

Appendix

Tables AI–AIV give more detail than the abbreviated tables in the main text. They correspond to the same baseline simulation and associated scenarios that are listed in Table 4.

Table A I
The Wharton Long-Term Model April 1983 Forecast
Selected Indicators

			1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
1	GNP$	I GROSS NATIONAL PRODUCT (CUR $)	3058	3251	3589	3953	4237	4623	5008	5337	5648	6087	6519
2	.GNP$	I % CHANGE	4.1	6.3	10.4	10.1	7.2	9.1	8.3	6.6	5.8	7.8	7.1
3													
4	GNP	I GROSS NATIONAL PRODUCT (72 $)	1475.7	1520.6	1602.0	1670.6	1699.1	1766.6	1822.9	1865.6	1896.6	1965.3	2023.3
5	.GNP	I % CHANGE	− 1.8	3.0	5.4	4.3	1.7	4.0	3.2	2.3	1.7	3.6	3.0
6													
7	PDGNP	I GROSS NAT. PROD. DEFL. (1972 = 100.0)	207.2	213.8	224.0	236.6	249.3	261.7	274.7	286.1	297.8	309.7	322.2
8	.PDGNP	I % CHANGE	6.0	3.2	4.8	5.6	5.4	4.9	5.0	4.1	4.1	4.0	4.0
9													
10	NPT	I POPULATION (MILLIONS)	232.90	235.57	238.21	240.74	243.22	245.62	247.94	250.19	252.33	254.44	256.50
11	NPT	I % CHANGE	1.3	1.1	1.1	1.1	1.0	1.0	.9	.9	.9	.8	.8
12													
13	NLC	I LABOR FORCE (MILLIONS)	110.25	113.06	115.23	117.01	118.18	119.97	121.54	123.27	124.61	126.13	127.47
14	NLC	I % CHANGE	1.5	2.6	1.9	1.6	1.0	1.5	1.3	1.4	1.1	1.2	1.1
15													
16	NRLC*	PARTICIPATION RATE	63.8	64.6	65.0	65.3	65.2	65.5	65.7	66.0	66.1	66.3	66.4
17	NRLC*	% CHANGE	− .1	1.2	.7	.4	− .1	.5	.3	.5	.2	.3	.1
18													
19	NEHT	I EMPLOYMENT (MILLIONS)	99.53	101.76	105.06	108.08	109.04	111.48	113.46	114.81	115.47	117.51	119.19
20	NEHT	I % CHANGE	− .9	2.2	3.2	2.9	.9	2.2	1.8	1.2	.6	1.8	1.4
21													
22	WRC$	I WAGE RATE PER WEEK, ALL INDUSTRIES	359.0	374.8	398.7	429.7	461.8	492.9	525.5	553.6	582.9	615.4	648.6
23	WRC$	I % CHANGE	6.0	4.4	6.4	7.8	7.5	6.8	6.6	5.3	5.3	5.6	5.4
24													
25	GNPPP	I PRODUCTIVITY — ALL INDUSTRIES	14.827	14.943	15.248	15.457	15.583	15.847	16.066	16.249	16.425	16.725	16.975
26	GNPPP	I % CHANGE	− .9	.8	2.0	1.4	.8	1.7	1.4	1.1	1.1	1.8	1.5

Table A I
The Wharton Long-Term Model April 1983 Forecast (cont'd.)
Selected Indicators

				1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
27														
28	XMFPP		PRODUCTIVITY — ALL MANUFACTURING	17.843	18.580	19.267	19.945	20.261	20.794	21.372	22.010	22.405	23.072	23.723
29	.XMFPP		%CHANGE	.2	4.1	3.7	3.5	1.6	2.6	2.8	3.0	1.8	3.0	2.8
30														
31	GNPPC	I	REAL PER CAPITA GNP (THOU 72 $)	6.336	6.455	6.725	6.939	6.986	7.192	7.352	7.457	7.516	7.724	7.888
32	GNPPC	I	%CHANGE	−3.1	1.9	4.2	3.2	.7	3.0	2.2	1.4	.8	2.8	2.1
33														
34	YPD/NPT		REAL PER CAP DISP INC (THOU 72 $)	4.534	4.670	4.780	4.866	4.917	5.015	5.074	5.146	5.193	5.283	5.355
35	YPD/NPT		%CHANGE	−.1	3.0	2.4	1.8	1.1	2.0	1.2	1.4	.9	1.7	1.4
36														
37	CPUBT$	I	CORPORATE PROFITS BEFORE TAXES	173.2	194.4	273.2	334.5	312.0	347.1	384.5	378.1	371.0	421.0	462.8
38	CPUBT$	I	%CHANGE	−25.4	12.3	40.5	22.4	−6.7	11.3	10.8	−1.7	−1.9	13.5	9.9
39														
40	FRMCS	B	MOODY'S CORP. BOND RATE, AVG (%)	14.94	11.96	10.16	9.74	9.75	9.89	9.87	9.46	8.85	8.35	7.98
41	FRMLCDS	B	LRG TIME DEP (NEGOT CD's), AVG (%)	12.27	8.07	7.90	8.45	8.54	8.50	8.08	7.04	6.49	6.54	6.21
42	FM2$	B	MONEY SUPPLY, M2 BASIS (CURRENT $)	1878.4	2068.5	2269.6	2469.5	2637.3	2867.6	3111.7	3336.5	3537.5	3796.1	4072.0
43	.FM2$	B	%CHANGE	7.9	10.1	9.7	8.8	6.8	8.7	8.5	7.2	6.0	7.3	7.3
44														
45	NRUT	I	UNEMPLOYMENT RATE (%)	9.73	10.00	8.83	7.63	7.74	7.08	6.65	6.87	7.33	6.84	6.49
46	YPDSAVR	B	SAVINGS RATE (%)	6.65	7.17	7.02	6.70	6.35	6.24	5.95	5.99	5.93	5.56	5.46
47														
48	GVSURPF$	I	SURPLUS OR DEFICIT, FEDERAL (CUR $)	−150.8	−198.1	−176.2	−148.4	−146.0	−129.4	−100.3	−114.5	−123.9	−96.5	−74.3
49	GVSURPS$	I	SURPLUS OR DEF, STATE & LOC (CUR $)	31.4	49.7	53.1	57.3	56.1	60.1	61.7	60.9	54.5	58.2	54.9
50														
51	WBC$/YN$		COMPEN. TO EMLOYEES TO NAT. INCOME	76.2	75.7	74.2	74.0	74.8	74.9	75.2	75.4	75.7	75.5	75.5
52	CPABT$/YN$		PROFITS TO NATIONAL INCOME	6.5	7.6	10.0	11.2	10.3	10.5	10.5	9.9	9.2	9.5	9.6

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Table A II
The Wharton Long-Term Model Structural vs. Cyclical Deficit—Fiscal
Selected Indicators

				1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
1	GNP$	I	GROSS NATIONAL PRODUCT (CUR $)	3058	3262	3620	4018	4345	4760	5180	5537	5874	6352	6828
2	.GNP$	I	% CHANGE	4.1	6.7	10.9	11.0	8.1	9.5	8.8	6.9	6.1	8.1	7.5
3														
4	GNP	I	GROSS NATIONAL PRODUCT (72 $)	1475.7	1526.0	1616.7	1700.0	1743.5	1817.9	1880.3	1926.2	1960.8	2037.4	2104.6
5	.GNP	I	% CHANGE	−1.8	3.4	5.9	5.2	2.6	4.3	3.4	2.4	1.8	3.9	3.3
6														
7	PDGNP	I	GROSS NAT. PROD. DEFL. (1972 = 100.0)	207.2	213.8	223.9	236.4	249.2	261.8	275.5	287.5	299.6	311.8	324.4
8	.PDGNP	I	% CHANGE	6.0	3.2	4.7	5.6	5.4	5.1	5.2	4.3	4.2	4.1	4.1
9														
10	NPT	I	POPULATION (MILLIONS)	232.90	235.57	238.21	240.74	243.22	245.62	247.94	250.19	252.33	254.44	256.50
11	NPT	I	% CHANGE	1.3	1.1	1.1	1.1	1.0	1.0	.9	.9	.9	.8	.8
12														
13	NLC	I	LABOR FORCE (MILLIONS)	110.25	113.06	115.23	117.05	118.25	120.10	121.72	123.49	124.87	126.42	127.77
14	NLC	I	% CHANGE	1.5	2.5	1.9	1.6	1.0	1.6	1.3	1.5	1.1	1.2	1.1
15														
16	NRLC*		PARTICIPATION RATE	63.8	64.6	65.0	65.3	65.2	65.6	65.8	66.1	66.2	66.4	66.6
17	NRLC*	I	% CHANGE	−.1	1.2	.7	.4	−.1	.5	.3	.5	.2	.3	.2
18														
19	NEHT	I	EMPLOYMENT (MILLIONS)	99.53	102.00	105.79	109.52	111.31	114.33	116.83	118.58	119.59	122.03	124.21
20	NEHT	I	% CHANGE	−.9	2.5	3.7	3.5	1.6	2.7	2.2	1.5	.8	2.0	1.8
21														
22	WRC$	I	WAGE RATE PER WEEK, ALL INDUSTRIES	359.0	375.1	399.4	431.2	464.5	496.7	530.5	559.2	588.3	620.5	653.5
23	WRC$	I	% CHANGE	6.0	4.5	6.5	7.9	7.7	6.9	6.8	5.4	5.2	5.5	5.3
24														
25	GNPPP	I	PRODUCTIVITY — ALL INDUSTRIES	14.827	14.961	15.282	15.523	15.664	15.901	16.095	16.244	16.396	16.696	16.945
26	GNPPP	I	% CHANGE	−.9	.9	2.1	1.6	.9	1.5	1.2	.9	.9	1.8	1.5

Table A II
The Wharton Long-Term Model Structural vs. Cyclical Deficit—Fiscal (cont'd.)
Selected Indicators

				1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
27														
28	XMFPP		PRODUCTIVITY — ALL MANUFACTURING	17.843	18.632	19.369	20.115	20.446	20.886	21.404	21.978	22.359	23.065	23.746
29	.XMFPP		%CHANGE	.2	4.4	4.0	3.8	1.6	2.2	2.5	2.7	1.7	3.2	3.0
30														
31	GNPPC	I	REAL PER CAPITA GNP (THOU 72 $)	6.336	6.478	6.787	7.061	7.169	7.401	7.584	7.699	7.771	8.007	8.205
32	GNPPC	I	%CHANGE	− 3.1	2.2	4.8	4.0	1.5	3.2	2.5	1.5	.9	3.0	2.5
33														
34	YPD/NPT		REAL PER CAP DISP INC (THOU 72 $)	4.534	4.682	4.815	4.952	5.056	5.191	5.285	5.385	5.457	5.579	5.685
35	YPD/NPT		%CHANGE	− .1	3.3	2.8	2.8	2.1	2.7	1.8	1.9	1.3	2.2	1.9
36														
37	CPUBT$	I	CORPORATE PROFITS BEFORE TAXES	173.2	197.3	279.5	348.3	332.9	368.1	409.1	403.3	397.8	455.0	503.8
38	CPUBT$	I	%CHANGE	− 25.4	13.9	41.7	24.6	− 4.4	10.6	11.1	− 1.4	− 1.3	14.4	10.7
39														
40	FRMCS	B	MOODY'S CORP. BOND RATE, AVG (%)	14.94	11.98	10.20	9.81	9.86	10.03	10.06	9.70	9.11	8.59	8.19
41	FRMLCDS	B	LRG TIME DEP (NEGOT CD's), AVG (%)	12.28	8.14	7.98	8.56	8.73	8.66	8.37	7.33	6.73	6.74	6.36
42	FM2$	B	MONEY SUPPLY, M2 BASIS (CURRENT $)	1878.4	2073.9	2286.3	2505.5	2698.3	2948.9	3213.5	3457.9	3676.2	3957.6	4260.9
43	.FM2$	B	%CHANGE	7.9	10.4	10.2	9.6	7.7	9.3	9.0	7.6	6.3	7.7	7.7
44														
45	NRUT	I	UNEMPLOYMENT RATE (%)	9.73	9.78	8.20	6.43	5.87	4.81	4.02	3.98	4.23	3.47	2.79
46	YPDSAVR	B	SAVINGS RATE (%)	6.65	7.24	7.22	7.25	7.19	7.19	6.98	7.11	7.16	6.83	6.77
47														
48	GVSURPF$	I	SURPLUS OR DEFICIT, FEDERAL (CUR $)	− 150.8	− 201.5	− 186.5	− 175.0	− 189.8	− 185.1	− 170.2	− 202.4	− 231.4	− 221.8	− 217.3
49	GVSURPS$	I	SURPLUS OR DEF, STATE & LOC (CUR $)	31.4	50.3	54.8	61.8	63.6	69.9	74.0	75.1	71.3	79.5	81.7
50														
51	WBC$/YN$		COMPEN. TO EMLOYEES TO NAT. INCOME	76.2	75.6	74.1	73.8	74.7	75.0	75.3	75.6	75.9	75.6	75.5
52	CPABT$/YN$		PROFITS TO NATIONAL INCOME	6.5	7.7	10.1	11.4	10.6	10.6	10.5	9.9	9.2	9.6	9.8

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Table A III
The Wharton Long-Term Model Faster Monetary Growth and Earlier Exchange Rate Depreciation
Selected Indicators

			1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
1	GNP$	I GROSS NATIONAL PRODUCT (CUR $)	3058	3287	3665	4079	4387	4775	5161	5503	5845	6334	6814
2	.GNP$	I % CHANGE	4.1	7.5	11.5	11.3	7.6	8.8	8.1	6.6	6.2	8.4	7.6
3													
4	GNP	I GROSS NATIONAL PRODUCT (72 $)	1475.7	1532.1	1628.1	1711.0	1740.5	1798.6	1845.6	1885.8	1921.0	1996.2	2056.7
5	.GNP	I % CHANGE	−1.8	3.8	6.3	5.1	1.7	3.3	2.6	2.2	1.9	3.9	3.0
6													
7	PDGNP	I GROSS NAT. PROD. DEFL. (1972 = 100.0)	207.2	214.5	225.1	238.4	252.1	265.5	279.6	291.8	304.3	317.3	331.3
8	.PDGNP	I % CHANGE	6.0	3.5	4.9	5.9	5.7	5.3	5.3	4.4	4.3	4.3	4.4
9													
10	NPT	I POPULATION (MILLIONS)	232.90	235.57	238.21	240.74	243.22	245.62	247.94	250.19	252.33	254.44	256.50
11	NPT	I % CHANGE	1.3	1.1	1.1	1.1	1.0	1.0	.9	.9	.9	.8	.8
12													
13	NLC	I LABOR FORCE (MILLIONS)	110.25	113.07	115.20	117.04	118.25	120.09	121.69	123.42	124.72	126.19	127.51
14	NLC	I · % CHANGE	1.5	2.6	1.9	1.6	1.0	1.6	1.3	1.4	1.0	1.2	1.0
15													
16	NRLC*	PARTICIPATION RATE	63.8	64.6	65.0	65.3	65.2	65.6	65.8	66.1	66.2	66.3	66.4
17	NRLC*	% CHANGE	−.1	1.2	.6	.4	−.1	.5	.3	.5	.1	.3	.1
18													
19	NEHT	I EMPLOYMENT (MILLIONS)	99.53	102.02	105.87	109.64	111.09	113.55	115.26	116.32	116.87	118.94	120.68
20	NEHT	I % CHANGE	−.9	2.5	3.8	3.6	1.3	2.2	1.5	.9	.5	1.8	1.5
21													
22	WRC$	I WAGE RATE PER WEEK, ALL INDUSTRIES	359.0	377.4	402.7	436.0	470.4	503.2	536.5	564.6	594.7	629.7	667.1
23	WRC$	I % CHANGE	6.0	5.1	6.7	8.3	7.9	7.0	6.6	5.2	5.3	5.9	5.9
24													
25	GNPPP	I PRODUCTIVITY — ALL INDUSTRIES	14.827	15.017	15.378	15.606	15.667	15.839	16.012	16.212	16.437	16.782	17.042
26	GNPPP	I % CHANGE	−.9	1.3	2.4	1.5	.4	1.1	1.1	1.2	1.4	2.1	1.5

Table A III
The Wharton Long-Term Model Faster Monetary Growth and Earlier Exchange Rate Depreciation (cont'd.)
Selected Indicators

			1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
27													
28	XMFPP		PRODUCTIVITY — ALL MANUFACTURING	17.843	18.737	19.506	20.140	20.294	20.663	21.187	21.887	22.402	23.158	23.823
29	.XMFPP		%CHANGE	.2	5.0	4.1	3.2	.8	1.8	2.5	3.3	2.4	3.4	2.9
30														
31	GNPPC	I	REAL PER CAPITA GNP (THOU 72 $)	6.336	6.504	6.835	7.107	7.156	7.323	7.444	7.538	7.613	7.845	8.018
32	GNPPC	I	%CHANGE	−3.1	2.6	5.1	4.0	.7	2.3	1.7	1.3	1.0	3.1	2.2
33														
34	YPD/NPT		REAL PER CAP DISP INC (THOU 72 $)	4.534	4.667	4.802	4.910	4.962	5.041	5.076	5.131	5.174	5.270	5.346
35	YPD/NPT		%CHANGE	−.1	2.9	2.9	2.2	1.1	1.6	.7	1.1	.8	1.8	1.4
36														
37	CPUBT$	I	CORPORATE PROFITS BEFORE TAXES	173.2	205.7	293.7	360.8	330.8	353.8	388.0	386.5	388.8	448.1	491.5
38	CPUBT$	I	%CHANGE	−25.4	18.8	42.8	22.9	−8.3	6.9	9.7	−.4	.6	15.3	9.7
39														
40	FRMCS	B	MOODY'S CORP. BOND RATE, AVG (%)	14.94	11.62	9.36	8.59	8.41	8.53	8.48	8.04	7.43	6.93	6.59
41	FRMLCDS	B	LRG TIME DEP (NEGOT CD's), AVG (%)	12.27	6.75	6.53	7.15	7.19	7.06	6.67	5.62	5.06	5.15	4.88
42	FM2$	B	MONEY SUPPLY, M2 BASIS (CURRENT $)	1878.4	2130.2	2362.3	2596.3	2787.1	3027.4	3277.8	3515.3	3738.2	4030.4	4342.4
43	.FM2$	B	%CHANGE	7.9	13.4	10.9	9.9	7.3	8.6	8.3	7.2	6.3	7.8	7.7
44														
45	NRUT	I	UNEMPLOYMENT RATE (%)	9.73	9.77	8.10	6.32	6.06	5.45	5.29	5.75	6.29	5.75	5.35
46	YPDSAVR	B	SAVINGS RATE (%)	6.65	7.10	6.95	6.66	6.20	5.95	5.52	5.51	5.45	5.12	5.05
47														
48	GVSURPF$	I	SURPLUS OR DEFICIT, FEDERAL (CUR $)	−150.8	−191.5	−153.7	−108.7	−98.3	−83.1	−56.3	−69.8	−72.3	−33.7	−3.4
49	GVSURPS$	I	SURPLUS OR DEF, STATE & LOC (CUR $)	31.4	49.9	56.4	63.5	62.6	64.6	64.3	63.4	58.9	65.2	62.5
50														
51	WBC$/YN$		COMPEN. TO EMLOYEES TO NAT. INCOME	76.2	75.5	73.9	73.7	74.9	75.5	75.8	75.7	75.7	75.3	75.4
52	CPABT$/YN$		PROFITS TO NATIONAL INCOME	6.5	7.8	10.4	11.5	10.3	10.1	10.1	9.7	9.1	9.5	9.5

Table A IV
The Wharton Long-Term Model Structural vs. Cyclical Deficits—Exports
Selected Indicators

			1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
1	GNP$	I GROSS NATIONAL PRODUCT (CUR $)	3058	3275	3640	4045	4383	4792	5200	5539	5853	6305	6757
2	.GNP$	I % CHANGE	4.1	7.1	11.1	11.1	8.4	9.3	8.5	6.5	5.7	7.7	7.2
3													
4	GNP	I GROSS NATIONAL PRODUCT (72 $)	1475.7	1533.1	1628.6	1713.7	1758.3	1825.7	1879.1	1916.9	1945.7	2017.2	2080.0
5	..GNP	I % CHANGE	−1.8	3.9	6.2	5.2	2.6	3.8	2.9	2.0	1.5	3.7	3.1
6													
7	PDGNP	I GROSS NAT. PROD. DEFL. (1972 = 100.0)	207.2	213.6	223.5	236.0	249.3	262.5	276.7	289.0	300.8	312.6	324.8
8	.PDGNP	I % CHANGE	6.0	3.1	4.6	5.6	5.6	5.3	5.4	4.4	4.1	3.9	3.9
9													
10	NPT	I POPULATION (MILLIONS)	232.90	235.57	238.21	240.74	243.22	245.62	247.94	250.19	252.33	254.44	256.50
11	NPT	I % CHANGE	1.3	1.1	1.1	1.1	1.0	1.0	.9	.9	.9	.8	.8
12													
13	NLC	I LABOR FORCE (MILLIONS)	110.25	113.06	115.24	117.06	118.27	120.14	121.77	123.55	124.91	126.43	127.75
14	NLC	I % CHANGE	1.5	2.5	1.9	1.6	1.0	1.6	1.4	1.5	1.1	1.2	1.0
15													
16	NRLC*	PARTICIPATION RATE	63.8	64.6	65.0	65.3	65.2	65.6	65.8	66.1	66.3	66.5	66.5
17	NRLC*	% CHANGE	−.1	1.2	.7	.4	−.1	.5	.3	.5	.2	.3	.1
18													
19	NEHT	I EMPLOYMENT (MILLIONS)	99.53	102.03	105.78	109.46	111.16	114.06	116.24	117.57	118.14	120.18	121.97
20	NEHT	I % CHANGE	−.9	2.5	3.7	3.5	1.6	2.6	1.9	1.1	.5	1.7	1.5
21													
22	WRC$	I WAGE RATE PER WEEK, ALL INDUSTRIES	359.0	375.2	399.2	431.3	465.6	498.7	533.2	561.9	590.0	621.1	653.5
23	WRC$	I % CHANGE	6.0	4.5	6.4	8.0	7.9	7.1	6.9	5.4	5.0	5.3	5.2
24													
25	GNPPP	I PRODUCTIVITY — ALL INDUSTRIES	14.827	15.027	15.395	15.655	15.817	16.006	16.165	16.304	16.469	16.785	17.053
26	GNPPP	I % CHANGE	.9	1.3	2.5	1.7	1.0	1.2	1.0	.9	1.0	1.9	1.6

Table A IV
The Wharton Long-Term Model Structural vs. Cyclical Deficits—Exports (cont'd.)
Selected Indicators

				1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
27														
28	XMFPP		PRODUCTIVITY — ALL MANUFACTURING	17.843	18.712	19.461	20.166	20.465	20.828	21.294	21.859	22.264	22.990	23.689
29	.XMFPP		%CHANGE	.2	4.9	4.0	3.6	1.5	1.8	2.2	2.7	1.9	3.3	3.0
30														
31	GNPPC	I	REAL PER CAPITA GNP (THOU 72 $)	6.336	6.508	6.837	7.118	7.229	7.433	7.579	7.662	7.711	7.928	8.109
32	GNPPC	I	%CHANGE	−3.1	2.7	5.0	4.1	1.6	2.8	2.0	1.1	.6	2.8	2.3
33	'													
34	YPD/NPT		REAL PER CAP DISP INC (THOU 72 $)	4.534	4.689	4.823	4.937	5.017	5.118	5.170	5.229	5.264	5.351	5.424
35	YPD/NPT		%CHANGE	−.1	3.4	2.9	2.4	1.6	2.0	1.0	1.1	.7	1.6	1.4
36														
37	CPUBT$	I	CORPORATE PROFITS BEFORE TAXES	173.2	205.0	293.3	366.1	356.5	386.4	422.4	413.4	405.8	462.1	510.4
38	CPUBT$	I	%CHANGE	−25.4	18.4	43.0	24.8	−2.6	8.4	9.3	−2.1	−1.9	13.9	10.4
39														
40	FRMCS	B	MOODY'S CORP. BOND RATE, AVG (%)	14.94	11.99	10.21	9.81	9.89	10.11	10.19	9.84	9.20	8.59	8.09
41	FRMLCDS	B	LRG TIME DEP (NEGOT CD's), AVG (%)	12.28	8.19	7.94	8.56	8.86	8.81	8.53	7.44	6.67	6.58	6.16
42	FM2$	B	MONEY SUPPLY, M2 BASIS (CURRENT $)	1878.4	2080.2	2298.6	2521.2	2719.2	2968.4	3226.1	3460.8	3667.1	3933.3	4220.5
43	.FM2$	B	%CHANGE	7.9	10.7	10.5	9.7	7.9	9.2	8.7	7.3	6.0	7.3	7.3
44														
45	NRUT	I	UNEMPLOYMENT RATE (%)	9.73	9.76	8.21	6.49	6.01	5.06	4.54	4.84	5.42	4.94	4.52
46	YPDSAVR	B	SAVINGS RATE (%)	6.65	7.29	7.27	7.04	6.79	6.59	6.16	6.12	6.00	5.57	5.43
47														
48	GVSURPF$	I	SURPLUS OR DEFICIT, FEDERAL (CUR $)	−150.8	−188.8	−155.5	−111.9	−89.6	−65.6	−29.9	−42.3	−50.1	−15.6	−17.0
49	GVSURPS$	I	SURPLUS OR DEF, STATE & LOC (CUR $)	31.4	51.9	58.1	65.8	68.1	71.8	72.6	70.6	64.4	70.7	70.8
50														
51	WBC$/YN$		COMPEN. TO EMLOYEES TO NAT. INCOME	76.2	75.3	73.6	73.2	74.0	74.5	75.0	75.2	75.4	75.0	74.9
52	CPABT$/YN$		PROFITS TO NATIONAL INCOME	6.5	8.0	10.5	11.8	11.0	10.9	10.7	10.1	9.5	9.9	10.1

Discussion

Saul H. Hymans*

Introduction

Professor Klein's paper is based on two sets of assumptions. For mathematicians assumptions can hardly be controversial. One mathematician says "given A, B must follow." Subsequent arguments, if any, involve whether or not it has been properly shown that B must follow. Sometimes economists view assumptions in the same way as mathematicians, but not always; and in the policy branches of our subject, often not. If the B which must follow is itself a policy prescription, or if it implies a policy prescription, we soon find ourselves arguing about whether the A that is the "given" is an adequate description of reality.[1] In this spirit, I want to begin by considering the controversial or noncontroversial nature of Klein's two sets of assumptions.

The Noncontroversial Assumption Set

Klein's noncontroversial assumptions occur in the very beginning of the paper and have to do with the factors which condition the success or failure of economic policies—what Klein calls the risks that policies will not work out as contemplated. These risks derive from 1) failure to understand the initial conditions, 2) failure to understand completely (or to have properly measured) the normal central tendencies of the economic behavior that will process both the initial conditions and the chosen policies, 3) shocks external to the normal central tendencies of behavior, and 4) random disturbances. These presumptions seem to me to be entirely noncontroversial. As all decision-theorists know, the implication of conditions of risk is that decision-makers (in this case, economic policy-makers) should avoid an "all-or-nothing venture with a single policy instrument." Klein counsels the use of many instruments so as to minimize the overall risk of failure and, further, opts for a balanced set of policies where balance is defined as having two characteristics. Policies are balanced if they result in a reasonably equitable sharing of burdens and benefits (on a disaggregated basis), and if they avoid component elements which work at cross purposes.

Without being much more specific about the substantive content of these noncontroversial assumptions, we cannot say anything about the specific kinds of policies which ought to be pursued in some mixture in any given circumstance. And that brings me to the controversial assumptions.

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[1] Milton Friedman long ago told us that it doesn't much matter whether A is accurate, as long as B works. But if B doesn't quite work, or doesn't always work, we go quite naturally back to wondering about A.

The Controversial Assumption Set

This set of assumptions embodies Klein's behavioral assumptions which put substantive content into the notion that we possess some under-standing—albeit imperfect—of the normal central tendencies of (macro)economic behavior. Klein is perfectly clear in this regard when he states "the federal government can spend on good and services or on trans-fers and expect the conventional multiplier stimuli to follow from these choices...(further)... An increase in transfers is, by and large, the opposite of a tax cut." This is, of course, a bare bones rendering of the behavioral assumption. As one would expect, Klein goes on to include a rather sophisticated discussion of factors which influence the size of the net multi-plier and the dynamics of the multiplier process. The discussion pays consid-erable attention to the nature of the monetary policy which accompanies the fiscal policy, the expectational factors and effects which derive from the con-text in which the fiscal policy is set, Mundell-Fleming effects and other inter-national repercussions, and so on.

But these are all details, no matter how important, and the thrust of the behavioral assumption is clear. The assumption "... is conventional wisdom, and it has worked that way when applied in the past." Further, says Klein even though "there is no doubt that any fiscal analysis must make a simultaneous full dress appraisal of international effects... Generally speak-ing, domestic effects of fiscal expansion should prevail over the multitude of possible external side effects."

This is pretty controversial stuff nowadays. It wasn't very controversial when I started to study economics in the mid-1950s, and it was close to gospel a decade later just after the Kennedy/Johnson tax cuts. But it soon became a little bit suspect, and nearly became downright nonsense by the mid-1970s under the double-whammy of born-again Monetarism and the first-birth of Rational Expectations macroeconomics. In the past few years, however, we have witnessed a major loss of faith in the Monetarist prescription. The ex-treme volatility of interest rates inherent in attempting slavishly to target the growth of the money stock has simply been too costly to bear. And the Policy Ineffectiveness Theorem associated with the Rational Expectations theorists has turned out to be basically an old theorem about the consequences of perfect and pervasive price flexibility—itself a grossly counterfactual proposition.

In my judgment, therefore, Klein's assumption of behavior is once again gaining adherents. My reading of Willem Buiter's and Richard Kopcke's contributions to this Conference is consistent with that view; Christopher Sim's recent Brookings paper (*Brookings Papers on Economic Activity*, 1:1982, pp. 107-52) was perhaps seminal in this regard; and I have argued that point on theoretical grounds myself elsewhere ("Macro-econometrics Amidst Sense and Nonsense," RSQE Working Paper R-111.83, August 1983 Revised, forthcoming in *Prevision et Analyse Economique*).

Nonetheless, the view˜ of economic behavior embodied in Klein's statements are still highly controversial and the econometric simulation policy

analyses which he has carried out in his paper will meet with skepticism on conceptual grounds in some quarters. I hasten to repeat that I am not in those quarters, and let me argue why we shouldn't be by turning to some of the substance of today's policy dilemma.

The Current Policy Problem

Why are we concerned about the current state of the macroeconomy? We are concerned because we're nowhere near what we consider to be a high employment state, and haven't been for a number of years. We're concerned because the consensus appears to be that it's going to take some time—measured conventionally as two or three years at the soonest—to get reasonably close to a high employment state. We're concerned that interest rates are unusually high, are generally regarded as most likely to remain high for as far as is worth worrying about, and may remain so high as to prevent a return to high employment even as soon as two or three years from now. At worst, we are concerned about another recession by 1985. And we are concerned that big—maybe even rising—federal deficits have something sinister to do with all of this.

Let's take it for granted that the American economy is inflation-prone. Let's take it for granted that the status-quo fiscal policy is about what we're going to have to live with for the next few years anyway, and that the status-quo policy implies what is, by historical standards, a large high employment deficit. Let's also grant that these are not secrets; they're well-known and fully expected.

Why, then, aren't we at or rapidly on the way toward a full employment macroequilibrium characterized by something like 5-6 percent inflation, 8-9 percent interest rates, and $100 billion federal deficits? The macroeconomic theory of the new era implies that we should be. We ought always to be about at full employment unless we're being hit by strong unexpected events of one kind or another, and that doesn't seem to be our current problem. Perhaps we ought to be generating big consulting fees for public finance economists so that they can deal with the undesirable distributive effects of inflation and a growing federal debt, but their overall macroeconomic effects should be trivial. Apparently they're not, and the key, in my view, is that most markets simply aren't flex-price-as-if-auction in nature. Money markets, of course, come pretty close and sometimes dominate the result; but other important markets are characterized by stubbornly administered prices. Real quantities in the economy can differ considerably and persistently from the levels consistent with high employment. And if many of these quantities are too low on that criterion, just ask the relevant economic agents how they'd react if fiscal and/or monetary policies increased their liquidity or purchasing power, or somebody else's who might buy from them.

The Econometric Simulations

To this point, all my comments about Professor Klein's paper have been distinctly positive. I liked just about everything that he said he was going to

do, and why he chose to do it. When he came to do it, however, the results made me a bit uncomfortable.

Consider first the baseline simulation. As I understand the baseline case, it's the Wharton forecast for the first several years, followed by a kind of status-quo policy and exogenous variables extrapolation, except that the tax indexation set to begin in 1985 has been repealed in Philadelphia. Klein doesn't like the results of this baseline simulation because unemployment remains above 6 percent through 1992 and the deficit remains too high. But recall the details of the simulation. The unemployment rate declines from 10 percent in 1983 to 7.7 percent in 1986 to 6.9 percent in 1989 and to 6.5 percent in 1992. Although the deficit is still $114 billion in 1989 and $74 billion in 1992 that hardly seems problematical from any historical perspective: by 1989 the deficit has declined to 2.1 percent of nominal GNP and by 1992 it is only 1.1 percent of nominal GNP—not all that different from the 1960s and early 1970s. Will the deficit problem really become that trivial by the second half of the 1980s—which after all is only a few years from now? Further, consider the rate of inflation in the baseline simulation. By the end of the decade unemployment is below 7 percent while inflation is still decelerating and averages only 4 percent during 1989-92 with unemployment reaching 6.5 percent. If that tradeoff is accurate, then I'll agree with Klein that we ought to insist on much better unemployment performance than comes out in the baseline case. But I'm skeptical.

And my skepticism is heightened when I look at the scenario with a more stimulative fiscal policy; namely tax indexation beginning in 1985 and higher levels of both defense and nondefense spending to reach an unemployment rate target of about 6 percent for 1986. This requires that *real* federal expenditures rise by $17.2 billion or 13 percent above the baseline path by 1986, and then remain $17.2 billion above the base path thereafter. This scenario does leave us with a deficit of a little over $200 billion in the early 1990s, but even then it is on a steadily declining path as a fraction of GNP and reaches 3.2 percent of GNP in 1992. That's a little worse than the early 1970s—but I'd bet that it would correspond to a federal debt-to-GNP ratio that's declining at least by the later years of the 1980s. What I find most incredible, however, is the unemployment/inflation picture in this alternative scenario. By the late 1980s the unemployment rate has declined to 4 percent and a few years later it's below 3 percent. The cost in inflation is virtually zero. We get an additional one-tenth of one percentage point in the inflation rate with unemployment below 3 percent—a drop of more than 3½ percentage points from the base case. I simply don't believe it! And given the sensitivity of the budget balance to the price level I'm not sure what to conclude about the size of the deficit either.

For many good reasons, which have virtually no implications regarding the quality of our econometric models for two- to three-year runs, these models can be lethal weapons when pushed for long periods of time in policy simulations. We'd better be extremely careful in calibrating them for real-time, extended analyses aimed at providing policy advice; I'd hate to add fuel to the skepticism of those who believe that the whole policy analysis exercise is conceptually inappropriate.