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ECONOMIC OUTLOOK USA is designed to aid private and public decision makers in achieving a better understanding of the economic and social environment in which they will be operating. The analysis of this publication incorporates direct measurements of the expectations, attitudes and plans of both consumers and business firms with the economic and financial variables traditionally used in forecast models. The philosophy of this publication is that a blend of anticipatory and traditional measures provides richer insights into prospective developments, insights which will produce more consistently reliable forecasts of both economic and social change.

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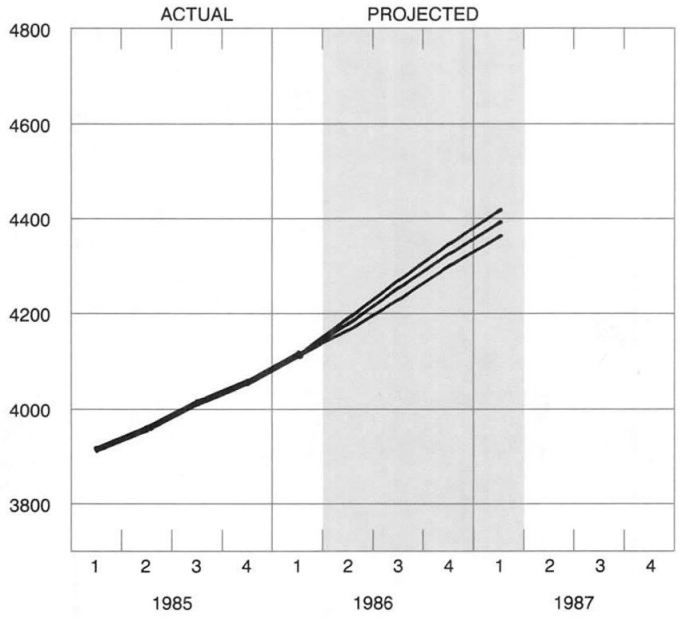
GROSS NATIONAL PRODUCT

IN CURRENT DOLLARS
Billions of Dollars



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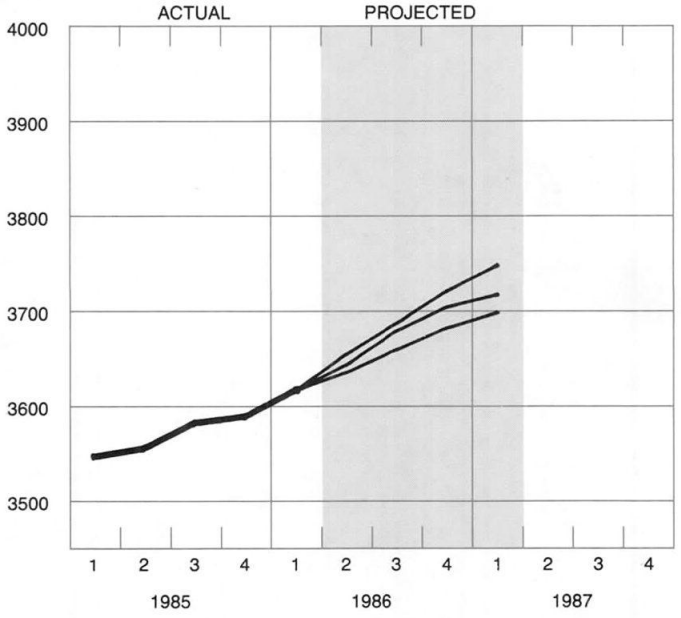
GROSS NATIONAL PRODUCT

IN CONSTANT 1982 DOLLARS
Billions of Dollars



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The Policy Mix: Lessons from the Recent Past*

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"Experience is the name everyone gives to their mistakes."

—Oscar Wilde

The United States in the 1980s has been put through a great macroeconomic experiment as the policy mix has shifted dramatically toward easier fiscal policy and tighter money. These events invite a reexamination of prevailing views on the consequences of alternative policy mixes. Given what economists in 1980 believed about the policy mix issue, what seems to have been correct and what seems to be in need of revision?

The views of mainstream economists in 1980 can be summarized in four brief statements, recognizing that a "consensus" view does not mean unanimity.

1. Both monetary and fiscal policy affect both aggregate demand and the allocation of GNP among consumption, investment, and government.
2. The implications of any particular policy mix for real output and inflation depend only on the aggregate demand that is generated, not on the composition of that demand.
3. While monetary and fiscal policy are independent tools, one can dominate the other.
4. Given the perceived need to raise investment, a shift in the policy mix toward easier money and tighter government budgets is desirable.

In view of what has happened since, I hasten to add one more item to the mainstream story though, in fairness, it was not emphasized by American macroeconomists: the Mundell-Fleming analysis of the effects of fiscal and monetary policy on an open economy. With floating exchange rates and perfect international capital mobility,[1] fiscal stimulus is fully crowded out by currency appreciation that reduces net exports. Monetary policy, by contrast, is extremely powerful since national saving and investment responses to interest rate changes are very strong because of capital mobility. These results become less stark once we allow for imperfect capital markets or recognize that the U.S. is a "big country" that can move world income and interest rates. But, qualitatively, the Mundell-Fleming analysis leads us to expect stronger real effects (and a depreciating currency) from monetary expansion and weaker real effects (and an appreciating currency) from fiscal expansion, compared to what we would get in a closed economy.

There were, of course, dissenters from the mainstream view. Some argued that either monetary or fiscal policy did not have the strong macro effects claimed for it. More importantly, not everyone agreed that tighter fiscal policy and easier money was the correct recipe. Mundell (1971), dissenting from the view that only overall aggregate demand matters for prices and output, advocated a policy mix of tight money to control inflation and tax cuts to spur real growth. Such a policy mix, Mundell pointed out, would cause the dollar to appreciate if exchange rates were floating. Feldstein (1980) later argued for the Mundellian policy mix on different grounds. By combining strong tax incentives for business investment with tight money, he argued, we could steer investment away from housing and into corporate capital formation while speeding up the disinflation process via an appreciating dollar.

The Reagan Experiment

The Feldstein-Mundell views on policy proved influential in the activist administration that took office in January 1981. This is not the place to offer a detailed description of Reaganomics, but three features bear directly on the policy mix. First, while the new administration promised to reduce both taxes and spending, it was clear from the start that the tax cuts were far larger than any conceivable cuts in government spending. Second, the tax cuts were structured to increase incentives for personal saving and for corporate investment. Third, the new administration vigorously supported the tight monetary policy that the Federal Reserve was already pursuing, including the Fed's putative conversion to monetarism.

In addition to ushering in a new policy, the Reagan administration discarded the received macroeconomic wisdom in favor of a new theory, whose analytical foundations were not well articulated. We can see this by contrasting the predictions of the new and old theories.

Mainstream economists basically saw Reaganomics as a strong fiscal stimulus bumping up against monetary stringency; the stronger arm would win. Hence the new policy could be expansionary (and inflationary) or contractionary (and deflationary) on balance. Though it was not really possible to predict which arm would prevail, many economists thought it would be fiscal policy. So there was much talk of Reaganomics being inflationary—talk which soon looked silly as inflation tumbled.

However, virtually all mainstream economists predicted that the mix of tight money and loose fiscal policy would drive up real interest rates. (Whether *nominal* interest rates would rise or fall depended on how quickly inflationary expectations would recede.) Apart from a strong stimulus to investment, not much was expected from the "supply-side" aspects of the tax cuts. Finally, those of us who thought much about the exchange rate (and it must be admitted that not enough of us did) anticipated an appreciating dollar for reasons Mundell had explained a decade earlier.

The administration's predictions were quite different, and seemed to be generated by the following simple model: if it is better for a variable to go up, it will go up; if it is better for a variable to go down, it will go down. Thus GNP growth,

*An earlier version of this paper was presented at the Conference on the Economic Outlook at The University of Michigan, November 22, 1985. I am indebted to Lori Grunin for research assistance.

[1]The Mundell-Fleming analysis also covered fixed exchange rates and immobile capital. But the floating/mobile case seems most relevant to the 1980s.

the saving rate, and the share of investment in GNP were all predicated to rise while inflation, unemployment, interest rates, and the budget deficit were all slated to fall. The administration, to my knowledge, did not make much of the exchange-rate implications of its new policy mix in 1981. Subsequently, however, it welcomed the muscular dollar, which it interpreted as evidence that America was once again "standing tall."

Early Returns: 1981 and 1982

It was not widely perceived in 1981 and into 1982 that the early stages of Reaganomics mixed excruciatingly tight money with a promise of fiscal stimulus to come. Actual fiscal policy remained rather tight until mid-1982, the legacy of the Carter administration.

Table 1, which provides an estimate of the high-employment budget (a picture of the budget under assumptions of "full" employment) on a national income accounts basis, after correction for inflation accounting, makes this point clearly.[2] The years 1982 and 1983 are broken into half years to show the large mid-year changes in fiscal stimulus. As late as the first half of 1982, the high-employment budget was essentially balanced on an inflation-corrected basis; only in the second half of 1982 did the fiscal arm of Reaganomics come into play.

Meanwhile, monetary policy was becoming increasingly tight—at least in part by accident. As Table 2 shows, the behavior of M1 velocity was extremely erratic in 1981 and 1982. More significant than its volatility, however, is the fact that velocity declined in eight of the ten quarters from 1981:2 through 1983:3. During the critical five quarters from 1981:3 to 1982:4, velocity declined at a 5% annual rate—an unprecedented (until recently!) performance. Since the Fed was feigning attachment to monetarism at the time, falling velocity made monetary policy much tighter than intended.

With money stunningly tight and fiscal policy not doing much, the results were predictable: the economy stumbled in 1981 and fell in the winter of 1981-82. Though the Reagan administration had promised a boom and the Fed had sought to deliver a mild recession, the economy suffered a near-depression.

The conventional wisdom of 1980 held that tight money raises real interest rates and exchange rates. What happened to interest rates? Short-term interest rates peaked late in 1980, gyrated substantially without much trend until September 1981, and then fell sharply for a few months as the economy collapsed. In the first half of 1982, short rates rose and then fell with little net change despite a lifeless economy.

In evaluating these movements, it is important to note that actual, and presumably also expected, inflation was falling throughout this period. Hence the 12.5% three-month Treasury bill rate of June 1982 almost certainly represented a higher real interest rate than the 15% bill rate of January 1981. For real interest rates to rise as economic activity falls is extraordinary, and monetary policy must be held responsible. Seeing that nominal interest rates were falling, the public concluded that mainstream economists (who had predicted rising real rates) had gotten it all wrong. The president did all he could—which was quite a lot—to deepen the confusion between real and nominal rates.

Long-term interest rates climbed more or less steadily throughout 1981 and were fairly constant during the first half of 1982. Here we can be less vague about the behavior of real rates, since economist Richard Hoey has compiled a time series of direct observations on expected 10-year inflation from a poll of financial decision makers.[3] According to these

[2]As usual, levels of such numbers are more controversial than changes, because the former depend heavily on the choice of a "high employment" benchmark. My benchmark unemployment rate is an average of the rather low 5.1% rate used by Eisner (1986) and the rather high rates (over 7%) now being used by the Federal Reserve Bank of St. Louis. Within-year patterns are based exclusively on the St. Louis Fed's quarterly series because Eisner's data are annual. Since the inflation adjustments come from Eisner, they are assumed to be the same in the first and second halves of each calendar year.

TABLE 1. The High-Employment Inflation-Corrected Budget, 1979-1985

Year or Half-year	Surplus(+) or Deficit(−) Billions of Current Dollars	Percent of GNP
1979	+$24.0	+1.0
1980	− 20.5	−0.8
1981	+ 19.4	+0.7
1982: 1st half	+ 0.7	+.02
2nd half	− 59.1	−1.9
1983: 1st half	− 44.5	−1.4
2nd half	− 74.4	−2.2
1984	− 99.3	−2.7
1985: 1st half	−109.9	−2.9

Source: Author's computations based on inflation adjustment in Eisner (1986), as described in footnote 2.

Note: These estimates were made in the fall of 1985, prior to the benchmark revision of the national income accounts.

TABLE 2. Money, Velocity, and Income, 1981-1985 (seasonally adjusted annual growth rates)

Quarter	M1	M1 Velocity	Nominal GNP	Real GNP
1981:1	3.2	15.8	19.6	8.0
2	9.1	−3.4	5.3	−1.3
3	3.1	8.0	11.3	1.8
4	5.2	−3.2	1.9	−5.5
1982:1	9.1	−8.6	−0.2	−6.2
2	2.9	3.1	6.2	1.1
3	6.1	−3.4	2.5	−3.0
4	17.3	−11.2	4.2	0.6
1983:1	11.9	−4.2	7.2	4.3
2	12.7	−0.3	12.3	8.9
3	10.6	−1.6	8.9	4.0
4	6.5	5.1	11.8	8.1
1984:1	6.4	10.0	17.0	11.4
2	6.7	2.3	9.1	5.1
3	4.6	1.3	6.0	2.1
4	3.3	1.0	4.3	0.5
1985:1	10.9	−3.6	6.9	3.9
2	10.6	−5.5	4.5	1.1
3	16.0	−8.8	5.8	2.8
4	9.1	−2.9	5.9	2.6

[3]The data can be found in the Drexel Burnham Lambert, Inc. "Decision-Makers Poll," September 17, 1985.

data (see Chart 1), the real 10-year government bond rate rose from a low of 1.6% in June/July 1980 to 4.3% by January 1981. As the Reagan program was wending its way through Congress, the real 10-year rate rose to a high of 8.3% by September 1981. After that, it declined to a bit over 7% in the first half of 1982.

Like interest rates, the exchange rate began rising before President Reagan was elected—around July 1980 or so. According to the Fed's multilateral weighted index, the dollar was already up 8% from its trough by the time Reagan took office; and it gained another 23% while the Reagan tax cuts were being proposed, debated, and enacted (see the second chart on p. 22). This is exactly as the Mundell-Fleming analysis predicts; but the sharpness of the dollar appreciation (and, subsequently, its persistence) surprised most observers. Net exports started to deteriorate promptly, dropping from $38 billion (in 1982 dollars) in 1980 to $26 billion in 1982. But capital inflows were not yet a salient feature of U.S. economic performance.

The reasons why capital inflows were not yet needed are apparent in Table 3, which shows (as a percentage of GNP) the components of the major sources and uses of funds in the economy. Net government saving is defined as the consolidated surplus of all levels of government, net household saving is the excess of personal saving over investment in housing, net business saving is the excess of gross business saving over gross business investment, and net capital inflows are the (negative of) net foreign investment in the national accounts.[4]

The table tells the following story. In 1981, the government borrowing requirement of 1% of GNP was easily supplied by households because investment in housing was so weak. The business and foreign sectors were essentially balanced. In 1982, the Reagan tax cuts and the worsening recession pushed government borrowing up to 3.5% of GNP.

[4]These data do not actually sum to zero owing to the statistical discrepancy and rounding error.

TABLE 3. Balance of Savings and Investment (as a percent of GNP)

Year	Net Gov't. Saving	Household Saving (less investment)	Business Saving (less investment)	Net Capital Inflows
1980	−1.3	0.5	1.0	−0.5
1981	−1.0	1.2	−0.1	−0.3
1982	−3.5	1.5	1.9	0.0
1983	−3.8	−0.6	3.5	1.0
1984	−2.9	−0.2	0.7	2.4
1985	−3.5	−1.4	1.9	2.8

But this large increase in government borrowing was met by domestic lending. Households provided an amount equal to about 1.5% of GNP, despite a slight decline in the personal saving rate, because housing was even weaker in 1982 than in 1981. Business saving provided the remaining 1.9% of GNP as tax cuts raised depreciation allowances while the recession killed business investment.

Lessons from the Recession

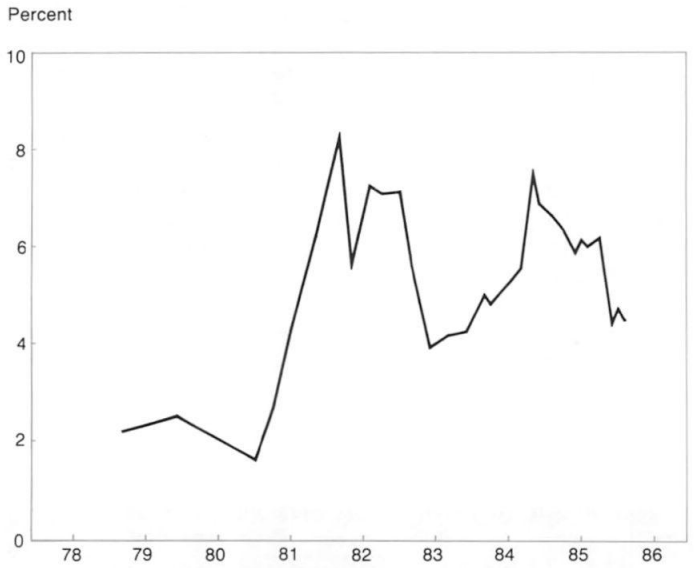
What did the experience of 1981 and 1982 teach us about the policy mix? First, we learned that monetary policy can have potent effects that work through the exchange rate, as Mundell had suggested. By mid-1982, no one was talking about monetary policy being the weak sister of stabilization policy. With the magnificent wisdom of hindsight, the fears in 1981 that expansionary fiscal policy would overwhelm the Fed look downright quaint.

Second, we began to learn that the traditional allocative breakdown of GNP into consumption, investment, and government purchases was inadequate. The little tail of net exports could wag the entire dog, even in a country as large as the United States. As Table 4 shows, between 1980 and 1982 consumption crowded out net exports much more than it crowded out business fixed investment. (And, of course, there was more to come.)

Finally, events threw a new question into the policy mix hopper: what happens if expansionary fiscal policy is announced now, to take effect at a future date? A tentative answer soon became part of the oral tradition of mainstream macroeconomics: expected future deficits, by raising long-term interest rates, might actually reduce aggregate demand at first. The idea that the "expectational" fiscal multiplier could be negative was subsequently formalized by Turnovsky and Miller (1984), Blanchard (1983), and others. As Turnovsky and Miller made clear, the logic of the argument requires that future fiscal stimulus expand future GNP; if not, higher future short rates will not be anticipated and current long rates will not rise.

To be contractionary when it is announced, a future fiscal stimulus must twist the term structure of interest rates—raising long rates even though short rates might fall. Did this happen in the United States when the Reagan policy was announced? Chart 2 shows that it did. The term struture had a pronounced negative slope in January 1981. But during 1981 short rates fell while long rates rose, leading to an upward-sloping term structure by December 1981 (see panel a). Panel b shows that the switch from a mostly downward-sloping to a mostly upward-sloping term structure occurred immediately after the Reagan tax cuts were passed by Congress. Since all

CHART 1. Real Ten-Year Government Bond Rate



Source: Drexel Burnham Lambert Incorporated.

TABLE 4. Composition of Real Final Sales
(percent)

Component	Average 1970-1979	1980	1981	1982	1983	1984	1985
Consumer Expenditures	63.2	63.2	63.2	64.3	65.4	65.4	64.8
Fixed Investment	15.8	16.3	16.2	14.8	14.9	16.4	16.6
Business	10.8	11.8	12.2	11.5	10.5	11.5	11.9
Housing	5.0	4.5	4.0	3.3	4.5	4.8	4.7
Government Purchases	20.3	19.4	19.4	20.1	19.8	19.9	20.4
Net Exports	0.8	1.2	1.1	0.8	−0.2	−1.6	−1.9
Exports	9.1	12.8	12.6	11.3	10.4	10.4	9.3
Imports	8.3	11.6	11.5	10.5	10.5	12.0	11.2

this predates the loosening of monetary policy, there is at least a good chance that fiscal policy was the culprit.

After the Fall: the Recovery through Mid-1984

Fiscal policy turned sharply expansionary when the second stage of the Reagan tax cuts became effective in mid-1982. As Table 1 shows, the high-employment inflation-corrected budget went from balance in the first half of 1982 to a deficit of almost $60 billion in the second half, and then to a deficit of almost $100 billion by 1984. While the precise numbers are subject to debate, the fiscal stimulus was extreme by any standard.

However, the nation managed to avoid the grand collision of fiscal stimulus with monetary restraint because the Fed turned expansionary at just about the same time. The annual growth rate of M1, which was only 2.9% in 1982:2, rose to 6.1% in 1982:3 and then to a stunning 17.3% in 1982:4 as the Fed began to realize what its super-tight policies had wrought (see Table 2). For the full year 1982:3-1983:3, the M1 growth rate was 13.1%—enough to make monetarists shriek[5] and to push interest rates down sharply. The three-month Treasury bill rate fell from 12.5% to 7.7% between June and October 1982, and then bottomed out. Long-term rates fell nearly as much; the 10-year government bond rate dropped from 14.3% to 10.9% over the same four months. Little of this decline in nominal interest rates can be attributed to expected inflation. According to Hoey's survey data (see Chart 1), the real 10-year bond rate declined from 7.15% in July 1982 to 3.94% by December 1982. Thus was depression averted.

Conventional macro theory says that a mix of expansionary monetary policy and expansionary fiscal policy should raise real GNP strongly and have uncertain effects on real interest rates. That is more or less what happened in the early part of the recovery. From the first quarter of 1983 through the second quarter of 1984, the economy boomed at a 7.9% annual rate, which had supply siders crowing in the *Wall Street Journal*. Both long-term and short-term interest rates fell to troughs in early 1983 and then began to rise—a rise which continued until mid-1984.

The behavior of the exchange rate was a bit more puzzling. According to the Mundell-Fleming analysis, the expansionary fiscal policy should have made the dollar appreciate—and it did. But the upward march of the mighty dollar was barely interrupted by the sharp decline in interest rates between 1982:3 and 1983:1.

In early and mid-1983, many mainstream economists voiced concern that rising real interest rates would damage investment as the economy strengthened—unless the Fed proved more accommodating than anyone expected. We had never experienced a vigorous recovery with such high real interest rates before, and many economists wondered out loud whether we could. The Fed did not surprise us in this regard, and real interest rates rose throughout 1983 and into 1984 (see again Chart 1). But investment was not crowded out. Instead, as Table 4 shows, the share of fixed investment in real final sales rose between 1982 and 1984 even though the share of consumption also rose. Room was made by the sharp drop in net exports from 0.8% of real final sales in 1982 to -1.8% in 1984. The surprise was that the tax cuts crowded out exports, not investment.

Lessons from the Boom

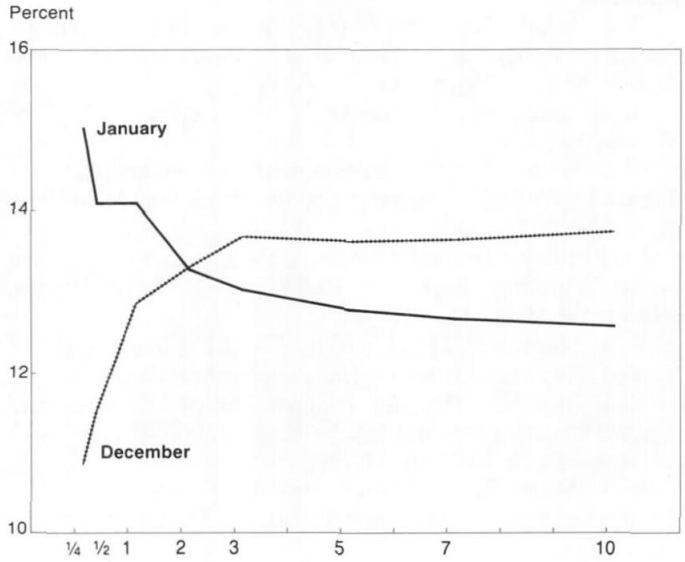
The boom that lasted from early 1983 to mid-1984 taught us three principal lessons about the policy mix. First, it is now abundantly clear that the economy, including its interest-sensitive components, can grow rapidly in the face of very high real interest rates—especially when it is snapping back from a deep recession. Many mainstream economists doubted this in 1983, but their gloom and doom now seems misplaced.

Second, we learned what many nations knew already: that it is possible to live on borrowed funds for a while. Look at Table 3, which shows the balance of saving and investment. As the recovery progressed from 1982 to 1984, the structural deficit rose and the cyclical deficit fell, leading to little net change in the government's borrowing requirement. But the mode of financing changed radically—from almost completely internal financing in 1982 to predominantly external financing in 1984. With housing booming in 1983, the household sector was a net user of funds; but business financed most of the government deficit as investment remained depressed while after-tax profits rose. During the investment boom of 1984, however, the surplus of the business sector fell from 3.5% of GNP to under 1%, so the U.S. had to borrow 2.4% of GNP from abroad—the most in postwar history. Most observers agree that these capital inflows kept U.S. interest rates lower than they otherwise would have been and redirected crowding out from investment to net exports.

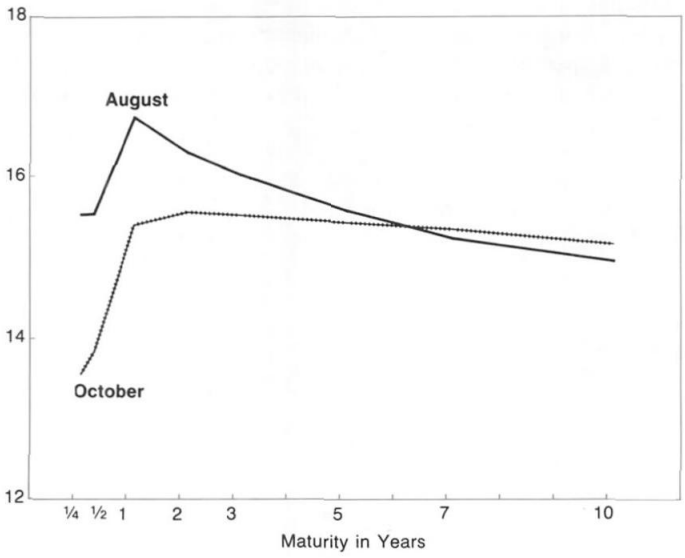
[5]And to forecast a resurgence of inflation within 12-18 months! Mainstream economists, who used Phillips curves rather than money growth rates to forecast inflation, did much better.

CHART 2. Term Structure of Treasury Securities

A. January 1981 and December 1981



B. August 1981 and October 1981



Third, we learned that the policy mix can influence inflation, even given the level of aggregate demand. While there is considerable dispute over the precise magnitude, the dollar appreciation probably reduced the price level by 3-8 percent over a period of four years or so, thereby reducing the average annual inflation rate by at least three-fourths of a percentage point and perhaps by as much as 2 percentage points.[6] Mundell was right: the mix of tight money and loose fiscal policy eased the pain of disinflation by appreciating the dollar. Of course, if the dollar cannot remain this strong forever, the disinflationary gains will have to be given back eventually. So we can debate the merits of Mundell's (and Feldstein's) normative economics. But the validity of their positive economics has been demonstrated.

[6]See, for example, the range of estimates offered by Bryant (1985) or Sachs (1985), where several other studies are cited.

What Have You Done to Us Lately?

How can we characterize the policy mix that has prevailed since mid-1984? The fiscal stance is clear. As Table 1 shows, fiscal stimulus increased from 1983 to 1984 and was almost the same from 1984 to the first half of 1985.

Monetary policy is harder to appraise, or even to describe. Targeting on the money supply, or even paying lip service to monetary targets, has been abandoned by the Fed in stages. So we probably should not make too much of the fact that M1 grew at a 3.9% annual rate during the last half of 1984 and then at a 12.5% annual rate during the first three quarters of 1985. It is also clear that the Fed has not tried to keep interest rates constant. Both short- and long-term rates have fallen dramatically since mid-1984. Since little of this decline can be attributed to lower expected inflation, real interest rates have fallen, which suggests easy, or at least easier, money.

Some observers claim that the Fed has been targeting the growth rate of nominal GNP lately. And quarterly growth of nominal GNP has indeed been relatively steady since 1984:2 despite extraordinary gyrations in velocity (see Table 2). A potentially better characterization, it seems to me, is that the Fed now seeks to sustain real growth of about 3% per annum, that is, a constant unemployment rate around 7%, as long as inflation remains quiescent. In the second half of 1984, it could accomplish this objective with relatively little money growth, thereby keeping monetarists happy. But as velocity plunged in 1985, sustaining real GNP growth required extremely high M1 growth rates.

It is instructive to compare the recent experience with the four critical quarters from 1981:3 to 1982:3. In the earlier period, velocity declined 3.1% and the Fed permitted only 5.8% growth of M1. So nominal GNP grew only 2.6%, real GNP declined 3.4%, and we had a catastrophe on our hands. In the three quarters from 1984:4 to 1985:2, velocity declined at a 5.2% annual rate, but the Fed pushed the annual money growth rate up to 11.6%. Hence nominal GNP grew at a 5.8% rate and real GNP at a 2.6% rate. The Fed certainly seems to have learned from its experience.

For present purposes, the important point is that GNP targeting—whether nominal or real—implies that monetary policy dominates fiscal policy as a stabilization tool. As long as the Fed maintains this policy stance, changes in fiscal policy will have only allocative, not macro, effects.

How Should We Modify Our Views on the Policy Mix?

In a sense, we have now come full circle. At the end of Jimmy Carter's presidency, almost everyone thought we should shift the policy mix toward tighter fiscal policy and easier money. Now, almost everyone thinks that again. But much about our views on the policy mix has changed in the past five years. I would like to close by highlighting several aspects of this transformation.

Allocation: When we consider the allocative effects of the policy mix, we must now think first of the exchange rate and choosing between domestic demand and exports, and only later about real interest rates and choosing between investment and consumption. This requires a major change in thinking for Americans; but recent experience dictates it. For we have seen that swings in exchange rates can dwarf swings

in real interest rates in a world of floating exchange rates and international capital mobility. And we have been reminded that decades of econometric evidence suggest that net exports are far more price-elastic than is domestic investment.

Dominance: It now appears that a determined monetary authority can overwhelm the macro (but not the allocative) effects of even very strong fiscal policies. I do not think many economists thought this at the start of the Reagan experiment, but two developments call for a change of views. First, it now appears that what Mundell and Fleming taught us years ago about floating exchange rates applies even to the mighty U.S. economy. Second, GNP targeting by the monetary authority has the effect of vitiating the macro effects of fiscal policy.

The Assignment Problem: Putting these two observations together suggests a new version of the "assignment problem" of Mundell: monetary policy can be used to control the size of GNP while fiscal policy controls its composition. Whether this assignment of instruments to goals is desirable or not is another question entirely, given that fiscal and monetary policy are in different hands in the U.S..

The Optimal Mix: And, finally, there is the issue of the optimal policy mix. Feldstein and Mundell were proven right in part. The mix of tight money and loose fiscal policy through tax cuts does indeed appreciate the currency, which assists in disinflation. But it also decimates the tradable-goods sector, brings on protectionism, and may ultimately prove damaging to investment if and when international capital flows peter out. In the end, I wind up thinking that the old-fashioned mix of easy money and tight budgets looks better. Some things don't change.

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Prospects for Continued Recovery

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Introduction

At the end of last year, most observers of the economy expected modest continued growth in the 2-3 percent zone during 1986, with some looking for 4 percent or better real growth and a few anticipating little or no growth. Since then, significant and largely unexpected developments have unfolded, which by and large should have moved all the forecasts up a notch—or more than a notch. The most important developments are clearly interrelated—the striking decline in oil prices, the associated decline in both short- and long-term interest rates, and the extension of a stock market boom of major dimensions. Over the last several months, forecasters have thus been scrambling to redo their estimates of real growth and inflation, as oil prices continued to weaken and interest rates continued to fall—both well beyond any plausible projection dating from the end of last year.

The Case for Optimism

The most common view among members of the forecasting fraternity oriented to econometric models is that the recent declines in oil prices and interest rates have bumped up predictions of economic growth by something like one percentage point in 1986 and by close to two percentage points in 1987. The rate of price inflation drops a couple of percentage points each year, and the unemployment rate edges down—more in 1987 than 1986. Altogether, a happy scenario, considering the advanced stage of the economic expansion.

Results of this sort are obtained by simply grinding through the impact on major economic variables of the oil price decline. While it is unclear exactly where oil prices will stabilize, most analysts pick a figure for dollars per barrel of oil somewhere in the mid-teens as a reasonable basis for estimating crude oil prices over the next several years. That price decline, coupled with weakness in commodity prices generally, has significantly strengthened the view that inflation rates will continue to head down, and in turn the continued disinflation is one of the driving forces behind the sharp decline in interest rates over the last several months. The declines in oil prices and interest rates give consumers more spendable income, boost the demand for housing (with reasonable certainty) and for business capital goods (with less certainty as to both magnitude and timing), and provide monetary policy-makers with more room for maneuver—policy has less need to be concerned with the inflationary consequences of easier money.

Once these changes in the prices of oil and money are processed through the system, the outcomes are both positive and quite large, and tend to swamp the negative fiscal impact built into most forecasts by the Gramm-Rudman-Hollings Balanced Budget Act, which can be expected to tighten fiscal policy significantly in the fall of this year. And even the most recent news with significant economic implications—the Libyan air strike with its apparent influence on the willingness of Americans to travel abroad—seems to have positive if minor economic consequences: fewer Americans traveling abroad will mean fewer purchases of services from foreigners and, presumably, more purchases of services domestically as vacation and travel plans are switched from abroad to home, an event which should have a small but measurable impact on the net foreign trade balance.

Are there any glitches in this picture of renewed economic growth? As usual, there are, starting with the simple proposition that there are no guarantees that the positive effects of lower oil prices will be the mirror image of the negative effects that we came to know so well from the experience of the 1970s. The econometric models must be feeding largely on information from the 1970s relating to the impact of oil price changes on economic activity, in order to estimate the impact of the oil price declines that have occurred during recent months—there is no other data base from which the economic consequences of oil price changes can be estimated.

While it is true that oil price changes do affect the economy, and that some of the consequences of the oil price increases of the 1970s should be mirrored by the opposite consequences when oil prices decline, nothing guarantees that economic responses are symmetrical. Certainly, in the short run, there are visibly negative consequences to the sharp decline in oil prices—witness the drop in employment in the oil fields in Texas, Louisiana, and Oklahoma, the sharp decline in the operation of drilling rigs in those areas, the possible consequences for banks whose portfolios are heavily loaded with energy loans, and the consequence of sharp oil price declines for Third World countries that are heavily dependent on export earnings from oil. Thus one part of the current economic scene is that some of the negative consequences of the decline in oil prices are already showing up in the data, while many of the positive influences will show up only with a considerable lag.

The Case for the Pessimists

While forecasts based on large-scale econometric models are uniformly optimistic about the economy over the next several years, observers who use less formal procedures are apt to include at least some who see distinct signs of weakness in the economy, and who are not yet convinced that renewed growth is imminent. If one looks closely at recent developments, it is tempting to say that the economic data currently available show a curiously dichotomous picture. On the one hand, most variables that reflect a price phenomenon—commodity prices, consumer prices, stock market prices, interest rates (the price of money), exchange rates (the price of foreign currency)—show movements that are judged to be positive for the U.S. economy. On the other hand, much of the data reflecting changes in the real sector of the economy do not appear to be quite so strong, and some of them are distinctly on the weakish side. For example:

- Automobile sales, despite sharply declining interest rates and strong financial incentives provided by the manufacturers, have declined during recent months to an overall rate of under 10 million units per year, while domestic

sales have been even weaker at between 7 and 8 million units.

- Industrial production has shown a couple of months of decline and is only slightly higher than a year ago.
- Retail sales have shown no strength at all during recent months, partly reflecting the weakness in automobile sales.
- Capacity utilization in manufacturing is declining rather than advancing and is at a lower level than 12 months ago.
- Employment changes, while behaving erratically, appear to be better characterized as sluggish than vigorous.
- Unemployment, after a couple of months under 7 percent, is back up at its last year's level of over 7 percent.
- There is no evidence as yet that business investment plans have been improved much by the better financial climate for such decisions, and some sectors—notably oil—have cut investment plans sharply.

What are we to make of this mixed bag of price and quantity statistics? One interpretation is that the positive real effects to be expected from declining oil prices, continued disinflation, and declining (or low) interest rates are future events and have not yet emerged in the current data. But the positive effects will be strong, they will inevitably appear shortly, and it is premature to expect much in terms of a reflection in current output and employment growth. In particular, since some of the short-term consequences of oil price declines are known to be negative and those negative effects have been dominating the current data, the data will soon begin to look better as the negative effects fade and the positive effects begin to take their predicted course.

That is certainly a plausible story. However, the fact that it is plausible does not necessarily make it right. The pessimistic view would probably say that housing is the only significant area where we can expect declines in interest rates to exert a major influence on spending decisions. While some positive effects will be seen in housing, they will not be strong and they cannot carry the capital goods sector. In the pessimistic view, the effects of interest rate declines on business capital spending cannot be expected to be dramatic, since they never have been. Moreover, capacity utilization is pretty low, thus there is lots of excess capacity around and no particular urgency to phase in major investment projects—even with the attraction of low borrowing costs. In the consumption sector, things have been sluggish for awhile, and there is no good reason to expect otherwise. While consumer attitudes are certainly favorable, they are not becoming more favorable, and it is change in optimism that drives consumer spending. And in the public sector, the only certain event is that whatever level of fiscal stimulus is being provided currently, less will be provided later on this year as the Gramm-Rudman-Hollings targets (or their negotiated equivalents) come into play. In some respects, the pessimistic story is basically a quite old-fashioned one—the main positive driving force in the system currently is monetary policy, and monetary policy does not guarantee stronger economic growth if potential borrowers see no need to borrow.

Which of these stories makes more sense? Probably something toward the more optimist part of the range. We certainly ought to be getting some net positive impact from the very favorable events of the break-up of the OPEC cartel, the decline in oil prices, and the resulting impact on inflation generally and on interest rates. But those effects may not be quite so strong as the models appear to be predicting, and they may be more deferred in time than the models are suggesting. On the other hand, it is entirely reasonable to expect that whatever positive repercussions ensue from these major events will take some time to unfold, and therefore it's not that all unsettling that we can find so little evidence of it thus far in the data.

Some Final Comments

A worrisome feature of the present expansion is the failure of productivity to rise much during the last several years. What the data seem to be showing is that manufacturing productivity is behaving about as it has during past expansions—growing at reasonable rates, and continuing to grow as the expansion matures. But nonmanufacturing productivity has hardly grown at all over the entire expansion period—after showing a normal growth in the very early stages of expansion back in 1983, nonmanufacturing productivity has actually declined slightly. Overall, productivity growth can only be characterized as disappointing (see the second chart on p. 23).

A measure of the degree to which we have lowered our sights on productivity is that an optimistic scenario these days is output growth of something like 4 percent per year, consisting of about two and a half percentage points in employment and hours growth, and another one and a half percentage points in the growth of output per man hour—the conventional productivity measure. A pessimistic view might be a trend growth rate of output little more than 3 percent.

To recall just how far from past experience those numbers are, the reader should recall that productivity growth during much of the decade in the 1960s was running at an annual rate of about 4 percent, with growth in real output a couple of percentage points higher due to hours and employment growth.

Overall, productivity probably represents a more important economic problem than whether we have a vigorous recovery this year or a sluggish one. Over long spans of time, differentials of one or two percentage points in productivity growth add up to the difference between our national ability to solve a great many pressing economic, social, and political problems and our inability to do much more than decry their existence. Whatever may be said about the successes or failures of current economic policy, our current inability to restore vigor to productivity growth must surely rank among the major disappointments. *May 1986*

Favorable Buying Attitudes Reach New Peak

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In the first quarter 1986 survey, the Index of Consumer Sentiment was 95.5, up from 91.1 one quarter earlier, and 94.5 one year earlier. The recent improvement has been due to the establishment of new record levels in favorable buying attitudes. The current reading is only 5 Index-points below the cyclical peak of 99.5 recorded two years earlier in the first quarter of 1984. This small decline over the past two years reflects concerns about the vitality of the domestic economy. These concerns are almost entirely focused on future employment prospects, since expectations for inflation and interest rates remain favorable.

Among families with incomes of $30,000 or more, the Index stood at 106.8 in the first quarter 1986 survey, up from 102.1 one quarter earlier, but below the 111.6 recorded one year earlier and the cyclical peak of 115.9 recorded two years earlier. The first quarter improvement in consumer sentiment over year-end 1985 levels was widespread across all major geographic regions, age, and income groups.

Favorable Buying Attitudes Set New Records

Favorable attitudes toward buying conditions for homes, vehicles, and large household durables reached new all-time record levels at the start of 1986, due to the widespread availability of price discounts and reductions in interest rates. More families than ever mentioned interest rate reductions, and fewer families complained about high prices than at anytime since the mid-1960s.

Vehicles. Favorable attitudes toward buying conditions for vehicles were held by 72 percent of all families in the first quarter 1986 survey, the highest proportion recorded in more than thirty years. This is the third time that a new record level has been set since the recovery began. The prior peaks were 67 percent recorded in mid-1985, and 65 percent in 1983. Overall, this has been the most favorable three-year period for vehicle buying attitudes since the 1960s.

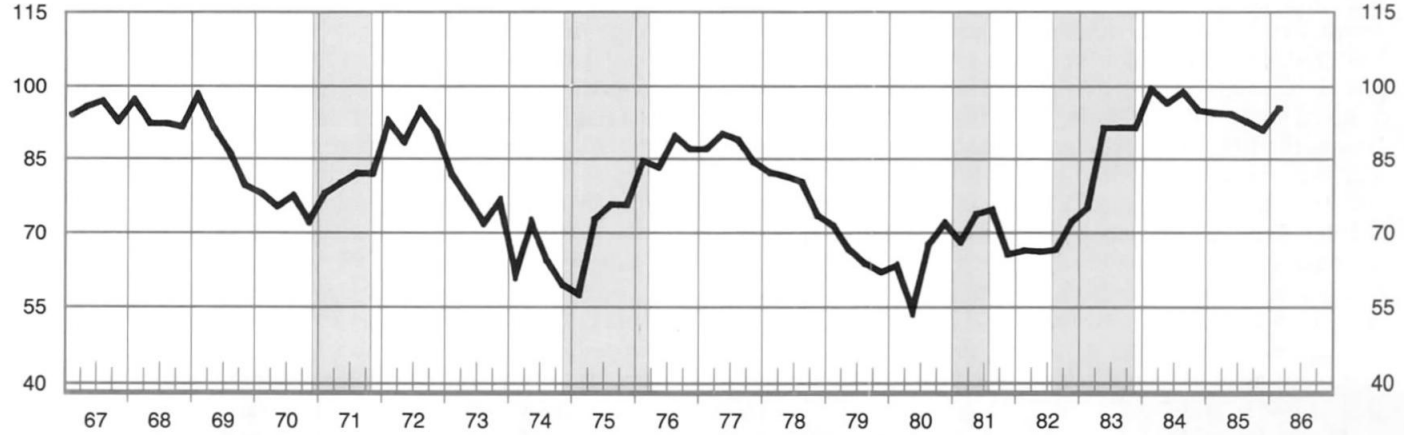
Reduced interest rates on vehicle loans have been the primary factor behind these very favorable buying attitudes. Among all families in the first quarter 1986 survey, 51 percent cited interest rate reductions as the reason underlying their favorable evaluation, more than twice the 22 percent recorded one year earlier, and the highest proportion ever recorded. Complaints about high interest rates were made by only 3 percent of all families in the first quarter 1986 survey. In comparison, five years ago, when half of all families rated vehicle buying conditions unfavorably, 25 percent complained about high interest rates, while just 2 percent favorably mentioned interest rates.

Perceptions of market prices for vehicles also remained very favorable in the first quarter 1986 survey. Complaints about high vehicle prices were made by just 13 percent of all families in the first quarter 1986 survey, down from 21 percent one year earlier, and the lowest proportion recorded since the mid-1960s. However, references to the availability of price discounts were made by 22 percent of all families in the first quarter survey, somewhat below the 27 percent recorded one year earlier.

Retail sales of new vehicles during the past three years have reflected these very positive trends in buying attitudes. The number of vehicles sold in 1985 was about 50% higher than three years earlier. From the 1982 recession low of 10.4 million units, vehicle sales rose by 2 million units in both 1983 and 1984, and by another 1 million units in 1985, to 15.4 million units (see Table 1). In the first quarter of 1986, new vehicle sales amounted to 14.8 million units on an annual

INDEX OF CONSUMER SENTIMENT

February 1966 = 100



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

TABLE 1. Vehicle and Home Sales (millions of units sold)

	Vehicles			Homes		
Year	Cars	Trucks	Total	New	Existing	Total
1971	10.2	1.8	12.0	0.7	2.0	2.7
1972	10.9	2.2	13.1	0.7	2.3	3.0
1973	11.4	2.7	14.1	0.6	2.4	3.0
1974	8.8	2.3	11.1	0.5	2.3	2.8
1975	8.5	2.2	10.7	0.5	2.5	3.0
1976	10.0	2.9	12.9	0.7	3.0	3.7
1977	11.1	3.3	14.4	0.8	3.7	4.5
1978	11.2	3.7	14.9	0.8	4.0	4.8
1979	10.6	3.1	13.7	0.7	3.8	4.5
1980	9.0	2.2	11.2	0.5	3.0	3.5
1981	8.5	2.1	10.6	0.5	2.4	2.9
1982	8.0	2.4	10.4	0.4	2.0	2.4
1983	9.2	2.9	12.1	0.6	2.7	3.3
1984	10.4	3.8	14.2	0.6	2.9	3.5
1985	11.0	4.4	15.4	0.7	3.2	3.9
1986:1*	10.7	4.1	14.8	0.8	3.3	4.1

*Entries are at annual rates.

basis, just below the 1985 fourth quarter rate of 14.9, but well below the extraordinary third quarter rate of 17.2 million units (when the availability of reduced interest rates greatly stimulated sales).

More vehicles were sold in 1985 than in any prior year. In total, 15.4 million cars and light trucks were sold, up from the 1978 cyclical peak of 14.9 million units, and the 1973 peak of 14.1 million. The overall increase reflected a small decline in sales of cars, offset by a larger increase in sales of light trucks. Cyclical peak years in car sales were in 1973 at 11.4, followed by 1978 at 11.2, and 1985 at 11.0. In contrast, light truck sales rose to an all-time high of 4.4 million units in 1985, up from the previous peaks of 3.7 in 1978 and 2.7 in 1973. Because a larger share of the trucks sold in 1985 were domestically produced, the import share for all vehicles was lower than for cars alone (23 versus 26 percent). Since the 1973 peak, the import share of all vehicle sales has risen from 14% to 23%, while truck sales as a proportion of all vehicle sales increased from 19% to 29%.

Although the cyclical peaks in annual sales rates have increased over time, the 1985 rate was only 1.3 million units above the 1973 level, despite the increase of 19 million households and 22 million employed persons over that same period. New vehicle sales as a proportion of the total number of households fell to 18% in 1985, from 20% in 1978, and 21% at the 1973 peak. As a proportion of all employed persons, new vehicle sales fell to 14% in 1985, from 15% in 1978 and 16% at the 1973 peak. Some of this decline can be attributed to the relatively higher growth rate in single adult households, and the relatively higher employment growth rates in the lower-paid service sectors. More importantly, vehicle prices have risen faster than family income over the past decade. The average price paid for a new car as a proportion of median family income was 44% in 1985, up from 36% in 1978, and 34% in 1973.

Homes. Favorable home buying attitudes were held by 76 percent of all families in the first quarter 1986 survey, the highest quarterly average ever recorded in these surveys. Recent declines in mortgage interest rates have been largely responsible for improved home-buying conditions. In the first quarter 1986 survey, 63 percent of all families mentioned the availability of reduced mortgage rates, up from 41 percent at the start of 1985, and the highest proportion ever recorded. Complaints about high mortgage rates fell to 10 percent in the first quarter survey, the lowest level since the mid-1970s. As an indication of the extent of change during the past five years, 75 percent of all families complained about high interest rates in the first quarter of 1981, while just one percent mentioned the availability of low interest rates.

The lowest proportion of families since the mid-1960s complained about high home prices in the first quarter 1986 survey—just 9 percent. Favorable perceptions of home prices were held by 23 percent of all families in the first quarter survey, the highest level recorded in more than twenty years. In comparison, five years ago just 4 percent of all families favorably evaluated home prices, while 32 percent complained about high home prices.

Purchases of homes totaled 3.9 million units during 1985, more than 50% above the level recorded three years earlier (see again Table 1). Most of the improvement in home sales came in 1983, when sales of new and existing homes rose to 3.3 million units, from a recession low of 2.4 million in 1982. Although 1985 sales were the highest recorded since the last recession, they remain well below the peak of 4.8 million units sold in 1978. Nearly the entire shortfall from the 1978 peak was in sales of existing homes (3.2, down from 4.0), while sales of new homes in 1985 were just below the 1978 level (0.7, down from 0.8 million units). The 1978 peak in existing home sales was propelled by consumers' reactions to expected rapid increases in home prices. In contrast, the 1985 sales level has been built on favorable perceptions of current home prices. Very few consumers now report the advantages of buying-in-advance, since few consumers expect renewed rapid increases in home prices.

In the first quarter of 1986, sales of new and existing homes totaled 4.1 million units on an annual basis, continuing their slowly rising trend since the resurgence in 1983. These gains in home sales reflect consumers' responses to reductions in mortgage interest rates. Mortgage interest rates were slow to decline, and only recently fell below double digits. These declines in mortgage rates will continue to improve home sales during the year ahead.

Durables. Favorable attitudes toward buying conditions for large household durables were held by 77 percent of all families in the first quarter 1986 survey, the highest proportion recorded in 35 years. This new record level is only slightly higher than the prior peaks recorded in 1985 (74 percent) and 1984 (72 percent). This sustained period of favorable buying attitudes has been mainly due to favorable perceptions of market prices for household durables. In the first quarter 1986 survey, 39 percent referred to the availability of discounted prices for durables, just below the all-time record of 41 percent recorded in the first quarter of 1985, and the 40 percent recorded at the start of 1984. Fewer families complained about high prices on household durables than at any other time since the mid-1960s—just 7 percent in the first quarter 1986 survey.

Personal Finances Remain On Favorable Plateau

The financial situation of American families remained favorable in the most recent survey. Nearly the entire improvement from the recession lows was recorded from the first quarter of 1983 to the first quarter of 1984, when the proportion of families that reported improvement in their financial situation rose from 30 to 45 percent. That proportion has remained largely unchanged since the start of 1984. Among all families in the first quarter 1986 survey, 44 percent reported that their financial situation had improved during the prior year, between the 41 percent recorded at the start of 1985 and the cyclical peak of 45 percent recorded in 1984. Consumers' assessments of their own financial progress have not been as favorable for this long a period of time since the mid-1960s.

When asked to explain how their financial situation had changed during the past year, fewer consumers than at any time since the mid-1960s complained about the erosion of living standards due to inflation—11 percent in the first quarter 1986 survey. Income increases were reported by 35 percent of all families in the first quarter 1986 survey, just above the 33 percent recorded one year earlier, and equal to the figure recorded two years earlier. Declines in family incomes were reported by 16 percent of all families in the first quarter 1986 survey, unchanged from one and two years earlier.

Although the frequency of reported financial progress is below only that recorded in the mid-1960s, the situation then and now is not otherwise comparable. The all-time record proportion of families to report financial progress was 50 percent, recorded in the second quarter 1965 survey, 5 percentage points above the current cyclical peak. More importantly, at the 1965 peak just 12 percent of all families reported a worsening financial situation, about half the recent low of 23 percent. Reports of increases in family income reached a high of 50 percent in 1965, compared with 36 percent in the current expansion.

When asked about prospects for their financial situation during the year ahead, consumers continued to hold a positive outlook in the most recent survey. In the first quarter of 1986, 36 percent of all families expected their financial situation to improve during the year ahead, between the 35 percent recorded one year and the cyclical peak of 41 percent recorded two years earlier. This small moderation in financial prospects can be traced to the expectation that income increases would be somewhat smaller during the year ahead. But because inflation expectations have declined by a comparable amount, real income expectations have been maintained at favorable levels. Just 12 percent of all families at the start of 1986 expected their financial situation to worsen during the balance of the year, the same as at the start of 1985.

Outlook for the Economy: Not Better, But Still Good

Improved economic conditions in the country as a whole were expected by 26 percent of all families in the first quarter 1986 survey, slightly above the 24 percent recorded in the fourth quarter of 1985, but just half the peak of 52 percent recorded nearly three years earlier. While the proportion of families that expected improvement has declined sharply, the proportion that expected the economy to worsen has remained low—15 percent in the first quarter of 1986, unchanged from one year earlier. The majority of consumers expected the performance of the economy during the year ahead to be neither better nor worse than at present. In the first quarter 1986 survey, 57 percent of all families expected overall economic conditions in 1986 to remain about the same as in 1985.

Despite the diminished outlook for growth, good times in the economy as a whole were nonetheless expected by the majority of consumers. Among all families in the first quarter 1986 survey, good times financially were expected by 59 percent, up from 53 percent one quarter earlier, but below the recent peak of 69 percent recorded two years earlier. The recent improvement was associated with expected declines in inflation and interest rates; the decline over the past two years has been mainly due to rising concerns with future job prospects.

At the start of 1986, half of all families expected the national unemployment rate to remain largely unchanged at its current level during the year ahead. For most of the past two years, this proportion has remained unchanged. On the margin, however, fewer families expected further declines in unemployment during 1986, while more families expected renewed increases. During the past two years, the proportion that expected declines in unemployment fell from 35 to 17 percent by the start of 1986, while the proportion that expected increases rose from 15 to 31 percent.

In contrast to the gradual worsening of unemployment expectations, inflation and interest rate expectations have become more favorable during the past two years. The annual rate of inflation was expected to average 3.7% at the start of 1986, down from 4.4% one year earlier, and the lowest level recorded in more than a decade. Interest rate declines were expected by 29 percent of all families in the 1986 survey,

up from 23 percent at year-end 1985, and the low of 9 percent in 1984. Increases in interest rates during the year ahead were expected by 32 percent of all families in the first quarter 1986 survey, down from 38 percent one quarter earlier, and the recent high of 65 percent recorded in 1984.

Summary Outlook

Consumer sentiment has now remained at very favorable levels for three years. For the past twelve consecutive quarters, the Index of Consumer Sentiment has been above 90, the highest sustained period of consumer confidence since the 1960s. Declines in inflation and interest rates have raised buying attitudes to record favorable levels. Though the expected size of nominal income increases has trended downward during the past few years, lower rates of inflation have also maintained consumers' evaluations of their own financial situation at favorable levels. Consumers expected the growth in the domestic economy to remain slow during the year ahead, resulting in no further declines in the national unemployment rate. Although slow, the economic expansion was expected to continue, and this expectation supported the view that good times financially would continue in the country as a whole during the year ahead.

These results point toward diminished growth but still favorable levels of consumer sales in 1986. Real personal disposable income grew by only 1.6% in 1985 over year-earlier levels, substantially below the 5.7% growth recorded during 1984. Total real consumption expenditures, however, rose twice as fast as real personal disposable income – 3.3% versus 1.6%. Due to the increased use of debt to finance this spending increase, the personal saving rate fell by nearly 2 percentage points – from 6.5% in 1984 to 4.6% in 1985. This was the lowest annual rate of savings recorded in more than thirty years. Rather than consumer willingness to spend, the constraint lies in the diminished ability of consumers to sustain spending increases above the growth rate of their personal income during the year ahead.

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Preferences for Work and Leisure*

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Introduction

It is a commonplace among economists and other observers of the social scene that people prefer leisure activities to work activities, and that an important part of the function of wage rates is to overcome the "distaste for work" that is thought of as a natural characteristic of mankind. That general notion is deeply ingrained in much social policy—the disincentive effects of welfare programs on willingness to work is often a topic of public concern, disability programs are often viewed skeptically because they provide an alternative to work for people who have marginal disabilities and who might be able to work, etc. And there is an extensive literature in economics, going back more than a century, which looks at the role of real wage rates in inducing people to supply labor to the market, and an almost equally extensive literature on the non-monetary characteristics of jobs which make them relatively attractive or unattractive and which therefore influence the wage rates needed to induce people to work.

The analysis of preferences for work and leisure, and the way in which work enters individual welfare (utility) functions, has been largely based on inferences from the relation between aggregate statistics on wage rates and on hours worked. The best evidence that people generally prefer leisure to work is probably the long-term decline in hours of work, and the offsetting long-term increase in hours of leisure, over the period of a century or more when wage rates rose very substantially in the industrialized West. That people will take some increased leisure as part of an increase in real income resulting from growth in real wage rates is not a disputable proposition. However, there are some interesting characteristics of the nature of preferences for work and leisure that have not been explored, and that have some intriguing implications for future developments in both the job market and the home.

Concepts

It is important to recognize that all activities carry two kinds of rewards. On the one hand, many activities result in an extrinsic product—working at a paid job produces income, and the income can be used to buy goods and services. Similarly, working within the home at cleaning, meal preparation, and child care also produces an extrinsic product—a clean house, a gourmet meal, or a certain quality of child. Some activities appear not to have extrinsic outcomes—watching television, for example, might appear to provide only rewards in the form of enjoyment of the activity, and not any extrinsic product. But even that is not entirely clear—watching television news, a documentary, or a movie may add to one's stock of information or insight about the world, and those can be thought of as extrinsic products.

Whether or not all activities are associated with extrinsic outcomes, it seems clear that all activities do contain a second type of reward—the intrinsic satisfaction obtained from doing the activity. In the case of work, some of the literature reads as if economists believe that people get negative intrinsic satisfaction from work, or at least negative satisfaction at the margin of the last hour or minute of work. But the simple proposition that people derive some level of satisfaction from each and every activity that they engage in seems logically indisputable, and the notion that these intrinsic satisfactions (let us call them process benefits) have some influence on the pattern of activities also seems compelling in principle.

Empirical Findings

Is there any direct evidence on the intrinsic satisfaction obtained from different activities, including work and leisure? Historically no, but during recent decades, yes. In conjunction with a 1975-76 study of time use among American households, we obtained measures of the intrinsic satisfactions associated with some 25 activities (child care, housework, job, television viewing, etc.). These same data were replicated in the early 1980s. In both studies, process benefits were obtained on a 10-point scale, ranging from 10 (enjoy doing the activity a great deal) to zero (dislike doing the activity a great deal). The scale has an implicit zero point (don't care about the activity one way or the other), labeled as five.

Some of the data obtained from the 1975-76 study are shown in Table 1. (The 1981-82 study has results that are virtually identical.) Activities are arrayed from the most satisfactory to the least satisfactory. Work is represented by a single variable—the intrinsic satisfactions obtained from one's job. Leisure is represented by a good many different variables—socializing, reading, playing sports, television viewing, etc. Housework activities, which might or might not be defined to include child care, also are represented by a number of different variables—cooking, shopping, cleaning, etc.

What is most striking about the results is the ranking of process benefits from work compared to process benefits from leisure. The conventional wisdom clearly suggests that the latter should outrank the former, certainly at the margin of choice and probably on average—after all, the prevailing theory is that people supply labor to the market in order to earn income so that leisure time can be enjoyed, and that a sufficiently high wage must be offered to overcome the disutility from work. But the data suggest just the reverse—that the intrinsic satisfaction from work, which represents an addition to the extrinsic reward in the form of income, is generally *higher* than the intrinsic satisfaction from leisure. Although some leisure activities outrank work in terms of process benefits, most do not, and the weighted average of process benefits from leisure would clearly rank well below process benefits from work.

*This paper is based on a paper with an identical title that appears as Chapter 13 in *Time, Goods, and Well-Being*, edited by F. Thomas Juster and Frank P. Stafford, Institute for Social Research, 1985.

TABLE 1. Mean Process Benefits and Time Use

Activity	N	Average Process Benefits	Average Hours Per Week*
Child care	429	8.76	2.89
Socializing	951	8.38	9.15
Job	612	7.95	25.79
Reading[1]	934	7.50	3.77
Sports[2]	841	6.56	3.16
Spectator events[3]	882	6.55	1.01
Crafts	898	6.53	1.67
Television	945	6.24	14.10
Cooking	930	6.16	6.36
Repairs	893	5.19	1.30
Organizations[4]	808	4.83	2.96
Shopping[5]	932	4.61	5.47
Cleaning	944	4.36	3.26

[1]Time use includes all reading; process benefits are for reading books only.
[2]Time use includes indoor games as well as outdoor exercise. Process benefits apply only to active sports.
[3]Time use includes all spectator events. Process benefits are for movies and plays.
[4]Time use includes church attendance and all other organized activities other than work. Process benefits apply to "social organizations."
[5]Time use includes all shopping and market services. Process benefits are for grocery shopping only.
*N = 975 for all activities

Before discussing some possible implications of this result, it might be well to examine some of the structural characteristics of the process benefit data. For example, it would not be surprising if certain types of jobs had very high intrinsic satisfaction associated with them—challenging managerial jobs, professional jobs, etc. Moreover, it might be that the data on process benefits from work (which are self-report data) are contaminated by the fact that work carries a considerable extrinsic reward in the form of income. Respondents might be reporting high levels of intrinsic satisfaction with work, while actually meaning that they liked the product of the work activity (money income) rather than that they liked the activity itself.

Table 2 tells us something about the first of the questions—how do the process benefits from work compare for different types of jobs? The top panel contains data for men, the bottom panel has data for women, and the table divides the sample into a set of occupational categories ranging from professional and managerial to unskilled and service jobs. The results are quite interesting. There is hardly any evidence at all that process benefits from work are related to occupational category: For men, there is some slight indication that professional, managerial and sales jobs rank relatively high, while clerical, unskilled and service jobs rank a bit lower—as might be expected. But in all categories except unskilled labor, work continues to outrank most leisure activities. For women, there is absolutely no relation at all between process benefits from work and occupational class.

There is, however, an interesting relationship between work for pay and work in the home in these data. For both men and women, work in the home (represented by cleaning the house) is clearly associated (negatively) with level of occupational skill—the higher the level of occupational skill, the less the reported satisfaction with housecleaning as an activity. Thus the *differential* between process benefits from work for pay and from work in the home is greater for people in highly skilled and professional jobs than for those in unskilled or service jobs. But the rank order is unaffected—work still greatly outranks housework, and generally outranks leisure activity—although as noted the unskilled category for males had work ranking about the same as the overall average for leisure.

On the second issue—are the data contaminated by respondents mixing together the intrinsic and extrinsic rewards from work?—we have some indirect evidence. In another part of the study, we asked respondents about the particular characteristics of their work situation that accounted for the assessment of process benefits that they had just given. We then analyzed the resulting job characteristics, to see whether the factors reported as being associated with high (or low) levels of process benefits could have reflected the financial reward from work. The answer is unambiguously in the negative: people who reported that the kind of people they worked with, the amount of learning opportunity, the supervisory relationships, the boring or repetitious nature of the job, etc., were the important factors in their assessment did report significantly higher (or lower) levels of process benefits from work than others; people who reported that characteristics like pay and benefits were responsible for their assessment reported just about the same process benefit scores as others.

Interestingly enough, when the same test was applied to housework, there was clear evidence that respondents were mixing together the extrinsic products of housework (a clean house) with the intrinsic satisfaction from doing housework: people who reported relatively high scores on satisfaction from doing housework were quite likely to say that the reason for their response had to do with the fact that they liked having a clean house—clearly an extrinsic product and not an intrinsic reward. Thus the (low) process benefit scores for housework would be even lower if we eliminated households who were mixing intrinsic and extrinsic rewards in their responses.

What characteristics of activities seem to account for these results? One relationship that clearly emerges from scanning the data in Table 1 is that the amount of personal interaction involved in an activity appears to be strongly associated with process benefits—the more interactive the activity, the higher the process benefit score. Thus child care, which leads the activity list, is necessarily interactive, while cleaning house, which is the lowest ranked activity, is quite apt to be a solitary activity that does not involve interaction with others. Generally speaking, the more interactive activities tend to dominate the top half of the rankings, while the less interactive ones are to be found in the bottom half of the rankings.

Implications

That result, and the finding that work ranks high on process benefit relative to leisure, has some interesting implications. In particular, these results may well have an influence on the way in which technology impacts on American society, and on the growth of the labor force participation rate among women in the U.S.

TABLE 2. Process Benefit Mean Values, Selected Activities, 1975-76 Data, Within Occupational Groups

Activity	Professional-Managerial, Self-employed	Clerical	Sales	Craftsmen, Foremen, Operatives	Unskilled Services
	A. Men				
	N = 239	N = 33	N = 37	N = 252	N = 43
Enjoy...					
Cleaning house	2.77	3.35	2.36	3.33	3.56
Your job	8.36	7.52	8.47	7.96	7.30
Talking with friends	8.04	7.77	8.12	8.33	8.40
Home entertainment	7.64	6.94	7.62	7.30	7.72
Watching TV	5.95	6.00	6.06	6.22	6.72
Playing sports	7.28	7.35	7.53	7.36	7.43
Movies and plays	6.87	7.16	7.28	6.66	7.15
	B. Women				
	N = 119	N = 155	N = 31	N = 59	N = 81
Enjoy...					
Cleaning house	3.89	5.03	4.62	5.10	5.42
Your job	8.11	7.47	8.52	7.80	8.28
Talking with friends	8.34	8.34	8.46	8.16	8.31
Home entertainment	8.16	7.55	7.96	7.72	7.11
Watching TV	5.57	5.81	5.71	6.47	6.05
Playing sports	6.66	6.90	6.33	6.87	5.66
Movies and plays	7.65	7.35	6.76	6.52	6.11

Technology is generally thought of as a way of improving economic efficiency. Thus, the automated teller machine, automated shopping, electronic communication devices, and the dispersal of work activities from the office to the home are often thought of as representing significant gains in efficiency achieved through technology. That such changes represent efficiency gains may well be true. But at least some of them appear to run directly into a potential obstacle represented by consumer preferences.

A characteristic of these automated processes is that they are not as interactive as the activities that they displace. In some cases, the efficiency gain may be substantial and the interpersonal relationship not very important, as, for example, automatic teller machines. But in other cases, the efficiency gain may be relatively modest and the loss of interpersonal communication may be substantial, as, for example, dispersal of work to the home by way of computing technology. If the results above are to be believed, it seems entirely possible that the replacement of interpersonal communication processes with electronic ones may be more limited than pure efficiency considerations would suggest.

The data suggest that people have strong preferences for work as an activity *per se*, quite independent of the income produced by it. Over the last decade or so, analysts have been continually surprised by the extent of growth in labor force participation rates for women, and models that use wage rate and income variables to explain that growth have often underestimated it. A possible interpretation is that part of what is driving labor force participation growth rates among women is simply the intrinsic satisfaction obtained from having part of one's activities involving a work environment rather than a home environment.

There are no data from which change over time in the intrinsic satisfactions from work can be assessed, but the fact that preference patterns have the shape they do suggests that there may well be a latent demand for market work on the part of many, especially women. The data, overall, do not suggest that people have strong preferences for a mix of activities that involve a *full-time* job in the market. But they are consistent with the notion that an element of work is a desirable feature of an activity package, and for many people the preferred mixture of activities may well include part-time employment.

One characteristic of employment markets in the U.S. generally is that, with some exceptions, employment opportunities are quite apt to be dominated by the supply of full-time jobs. Many employers are not well organized to make effective use of part-timers, and there are economic costs to part-time employment that make it less efficient from the point of view of employers. The preference data suggest that there may be a substantial demand for the right configuration of part-time employment, certainly among women, and possibly among others as well. Employers able to configure work activities so as to capitalize on that demand might well be able to exploit an opportunity for profit.

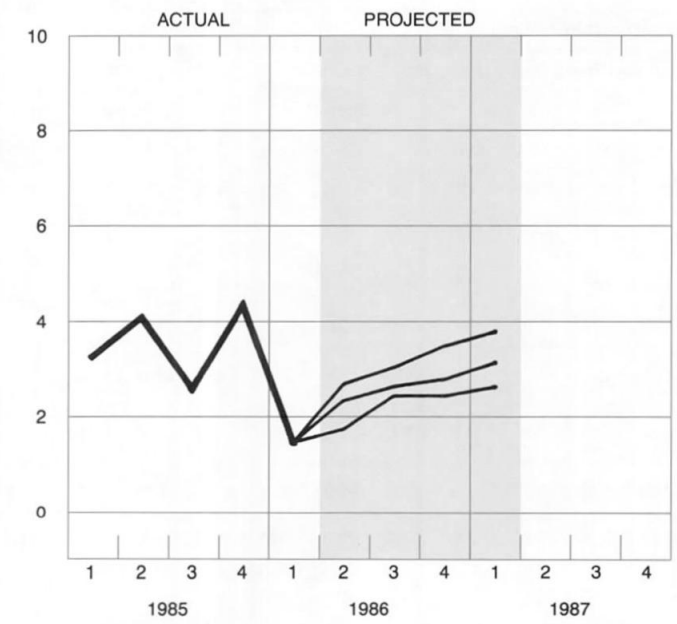
EDITOR'S NOTE

Regular readers are undoubtedly aware that we have been unable to meet our publication schedule during the past several months. Our issue dated Fourth Quarter 1985 was published in February of this year, and this "First Quarter 1986" issue is being released in early June.

Such publication delays have been due, primarily, to difficulties in attracting articles of suitable quality for publication. We are actively working to overcome this problem by broadening our contributor base; specifically, we are currently obtaining commitments from the large community of social scientists at The University of Michigan—both inside and outside of the Institute for Social Research, from which we publish. We also expect to obtain a better mix of economic forecasting articles—an area where we have been deficient recently—by attracting contributions from writers with viewpoints ranging over the rather wide spectrum of thought and opinion existing among economists.

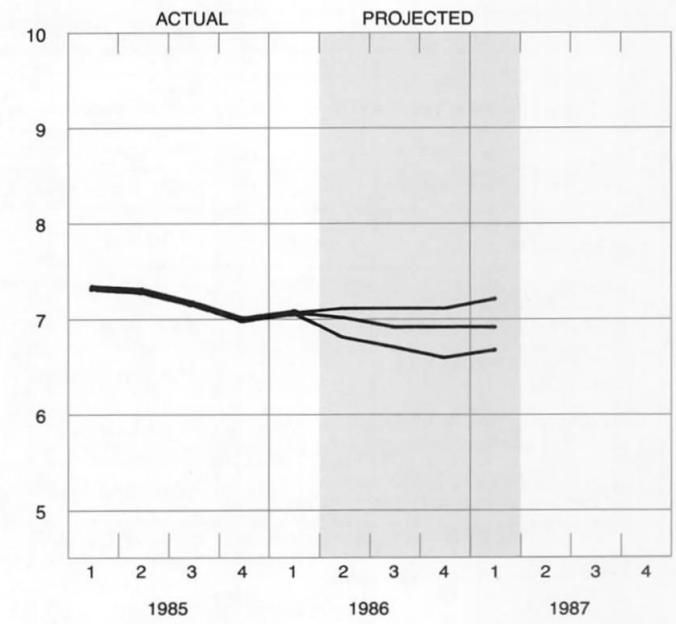
We expect to resume our normal publication schedule shortly. Of course we very much appreciate your understanding and continued support for ECONOMIC OUTLOOK USA.

CONSUMER PRICE INDEX



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

UNEMPLOYMENT RATE



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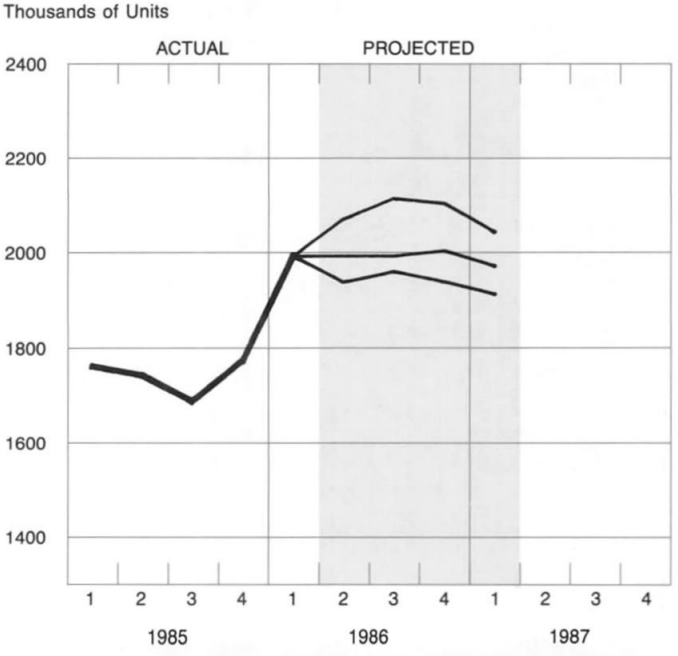
NEW PRIVATE HOUSING UNITS STARTED



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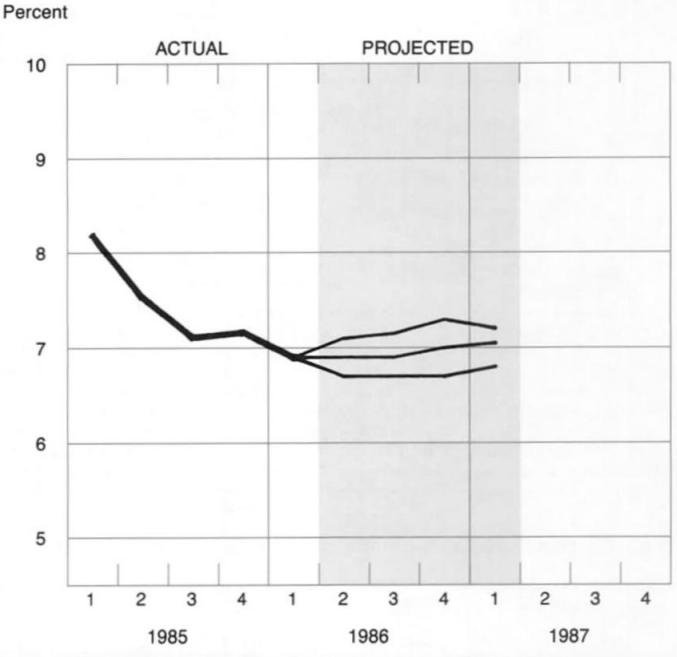
3-MONTH TREASURY BILL RATE



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

Actual and Projected Economic Indicators

seasonally adjusted

SERIES FORECAST BY THE ASA-NBER PANEL															
ECONOMIC INDICATOR	Quarterly Data												Annual Data		
	Actual							Projected					Actual		Proj.
	84:3	84:4	85:1	85:2	85:3	85:4	86:1	86:1	86:2	86:3	86:4	87:1	1984	1985	1986
GROSS NATIONAL PRODUCT*	3,812	3,853	3,918	3,961	4,017	4,059	4,121	4,138	4,204	4,280	4,352	4,418	3,775	3,989	4,240
GNP IMPLICIT PRICE DEFLATOR* (index, 1982 = 100)	108.6	109.6	110.4	111.3	112.1	113.0	113.7	114.0	114.7	115.8	117.0	117.8	108.1	111.7	115.2
CORPORATE PROFITS AFTER TAXES*	140.3	140.6	136.6	136.4	141.1	146.7	139.5	145.0	148.0	150.5	152.5	151.0	144.0	140.2	149.5
UNEMPLOYMENT RATE (percent)	7.43	7.23	7.33	7.30	7.17	7.00	7.07	6.85	6.80	6.70	6.70	6.70	7.51	7.20	6.80
INDUSTRIAL PRODUCTION (index, 1977 = 100)	123.3	123.1	123.8	124.2	124.8	125.4	125.8	127.0	128.0	129.7	131.0	131.5	121.8	124.5	129.0
NEW PRIVATE HOUSING UNITS STARTED (millions)*	1.675	1.613	1.762	1.743	1.688	1.773	1.988	1.800	1.800	1.800	1.810	1.780	1.763	1.741	1.820
CONSUMER PRICE INDEX (annualized percent change from prior quarter or year)*	3.84	3.68	3.21	4.05	2.56	4.32	1.44	3.20	3.20	3.50	3.65	4.00	4.26	3.54	3.30
3-MONTH TREASURY BILL RATE (percent)	10.34	8.97	8.18	7.52	7.10	7.15	6.89	7.00	7.00	7.00	7.10	7.15	9.57	7.49	7.00
NEW HIGH-GRADE CORPORATE BOND YIELD (percent)	13.72	12.63	12.57	11.88	11.52	11.04	10.03	10.20	10.00	10.10	10.25	10.20	13.37	11.75	10.10
GNP IN 1982 DOLLARS*	3,510	3,516	3,548	3,557	3,584	3,591	3,624	3,630	3,657	3,693	3,718	3,731	3,492	3,570	3,679
PERSONAL CONSUMPTION EXPENDITURES (1982 dollars)*	2,243	2,262	2,289	2,303	2,330	2,330	2,354	2,352	2,367	2,381	2,394	2,409	2,240	2,313	2,374
NONRESIDENTIAL FIXED INVESTMENT (1982 dollars)*	437.6	457.8	457.2	470.9	473.7	486.5	469.8	486.0	489.0	491.0	495.0	494.1	430.2	472.1	489.0
RESIDENTIAL FIXED INVESTMENT (1982 dollars)*	170.8	166.0	166.7	169.6	173.1	175.5	177.8	178.5	181.0	184.0	184.5	185.0	168.3	171.2	182.0
CHANGE IN BUSINESS INVENTORIES (1982 dollars)*	64.9	36.1	15.8	15.1	−1.8	−6.3	33.0	10.0	14.0	16.0	19.0	20.0	62.6	5.7	17.9
NET EXPORTS (1982 dollars)*	−88.7	−100	−71.8	−101	−120	−141	−130	−125	−119	−110	−102	−99.0	−85.0	−108	−110
FEDERAL GOVERNMENT PURCHASES (1982 dollars)*	296.7	307.3	304.3	305.9	331.1	349.0	319.7	340.0	341.0	337.0	338.0	336.0	292.5	322.6	337.5
STATE AND LOCAL GOVERNMENT PURCHASES (1982 dollars)*	385.7	386.6	387.1	393.6	398.1	396.5	399.1	400.1	402.1	404.1	407.3	409.0	383.3	393.8	403.5

SERIES FROM THE CURRENT-DOLLAR GNP ACCOUNTS															
ECONOMIC INDICATOR	Quarterly Data												Annual Data		
	83:2	83:3	83:4	84:1	84:2	84:3	84:4	85:1	85:2	85:3	85:4	86:1	1983	1984	1985
GROSS NATIONAL PRODUCT*	3,365	3,438	3,535	3,677	3,758	3,812	3,853	3,918	3,961	4,017	4,059	4,121	3,402	3,775	3,989
PERSONAL CONSUMPTION EXPENDITURES*	2,210	2,255	2,306	2,359	2,414	2,439	2,480	2,525	2,563	2,606	2,635	2,669	2,229	2,423	2,582
GROSS PRIVATE DOMESTIC INVESTMENT*	483.7	521.2	577.6	658.8	673.3	687.9	676.2	657.6	672.8	666.1	680.7	715.4	501.9	674.0	669.3
NET EXPORTS*	−2.6	−19.7	−27.4	−37.4	−65.3	−61.9	−72.2	−42.3	−70.3	−87.8	−113	−99.8	−5.3	−59.2	−78.5
GOVERNMENT PURCHASES*	673.8	681.1	678.6	696.5	735.1	747.3	768.4	777.2	794.8	832.5	857.2	836.6	675.7	736.8	815.4
DISPOSABLE PERSONAL INCOME*	2,388	2,448	2,520	2,610	2,650	2,697	2,724	2,739	2,818	2,800	2,846	2,895	2,425	2,670	2,801
PERSONAL SAVING RATE* (percent of disposable income)	4.9	5.3	5.8	7.0	6.1	6.7	6.0	4.8	5.9	3.7	4.0	4.4	5.5	6.4	4.6

Note: (1) All data are at annual rates and in billions of current dollars unless otherwise indicated. (2) To facilitate comparison and evaluation of forecasts, both actual data, released in late May, and projected data, released by ASA-NBER in March, are displayed for first quarter 1986.

Sources: Projections: American Statistical Association—National Bureau of Economic Research panel of forecasters.
Actual Data: U.S. Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

*Substantial revision of the data for variables marked with an asterisk has occurred since the last printing.

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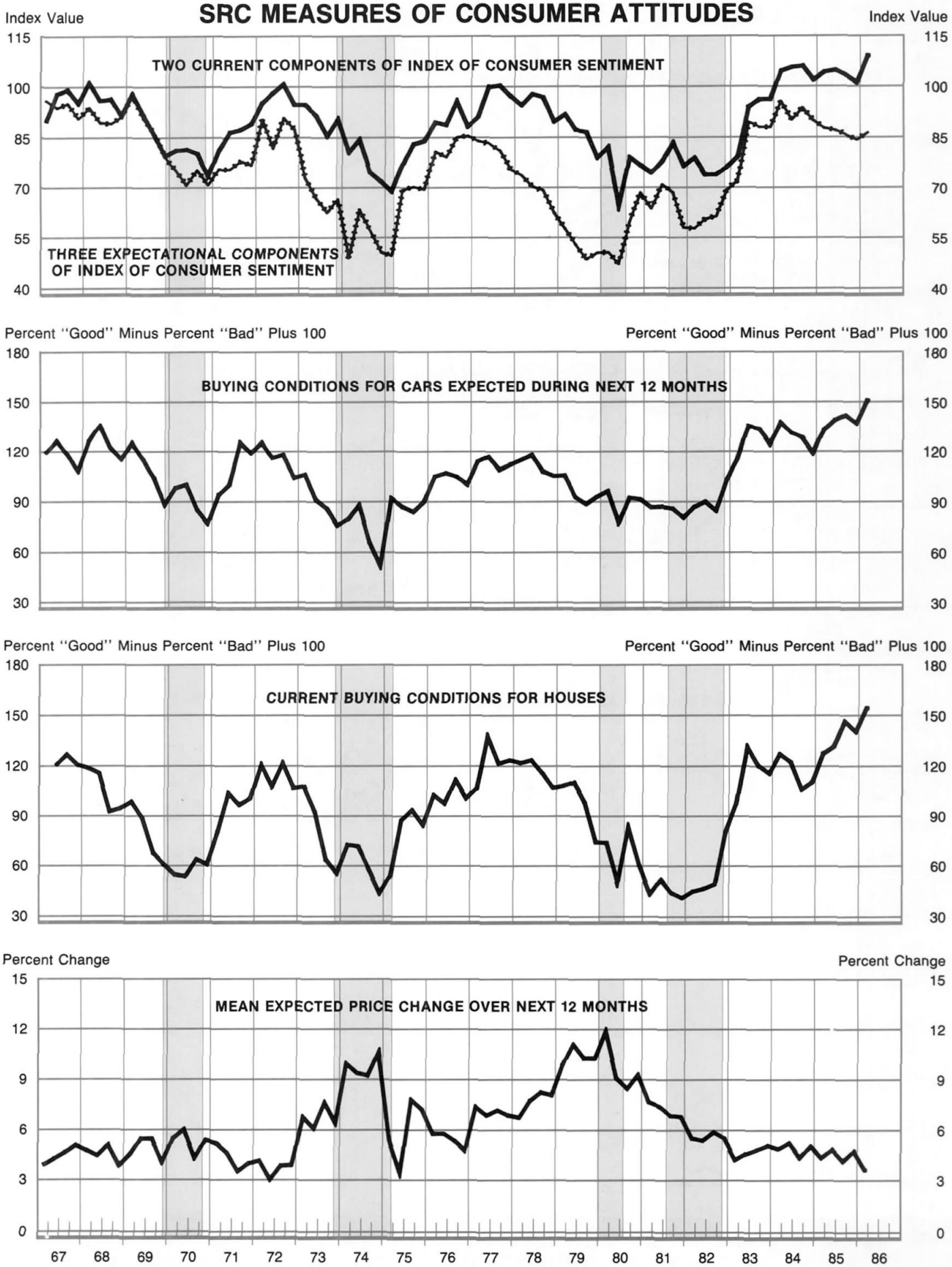

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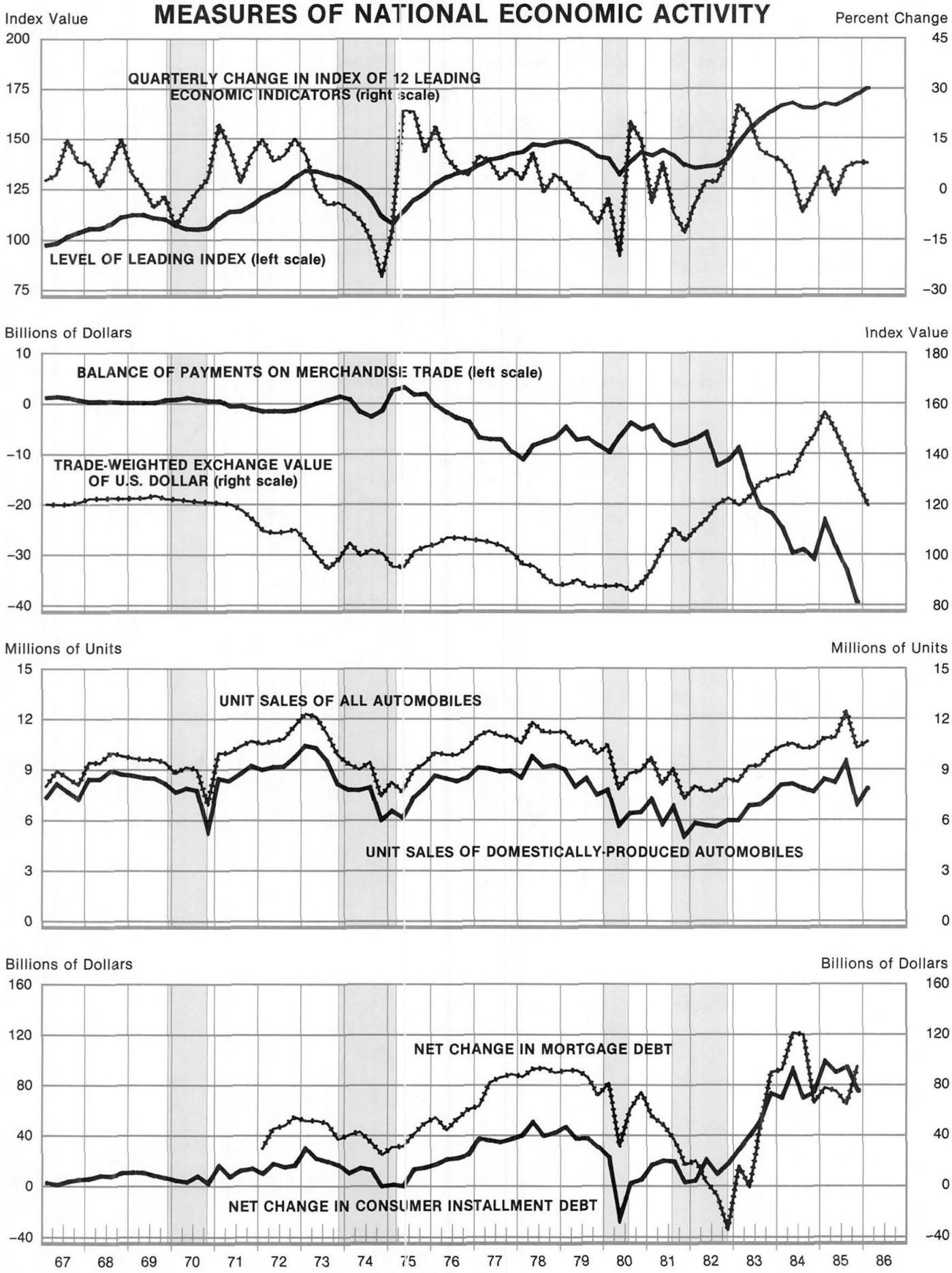

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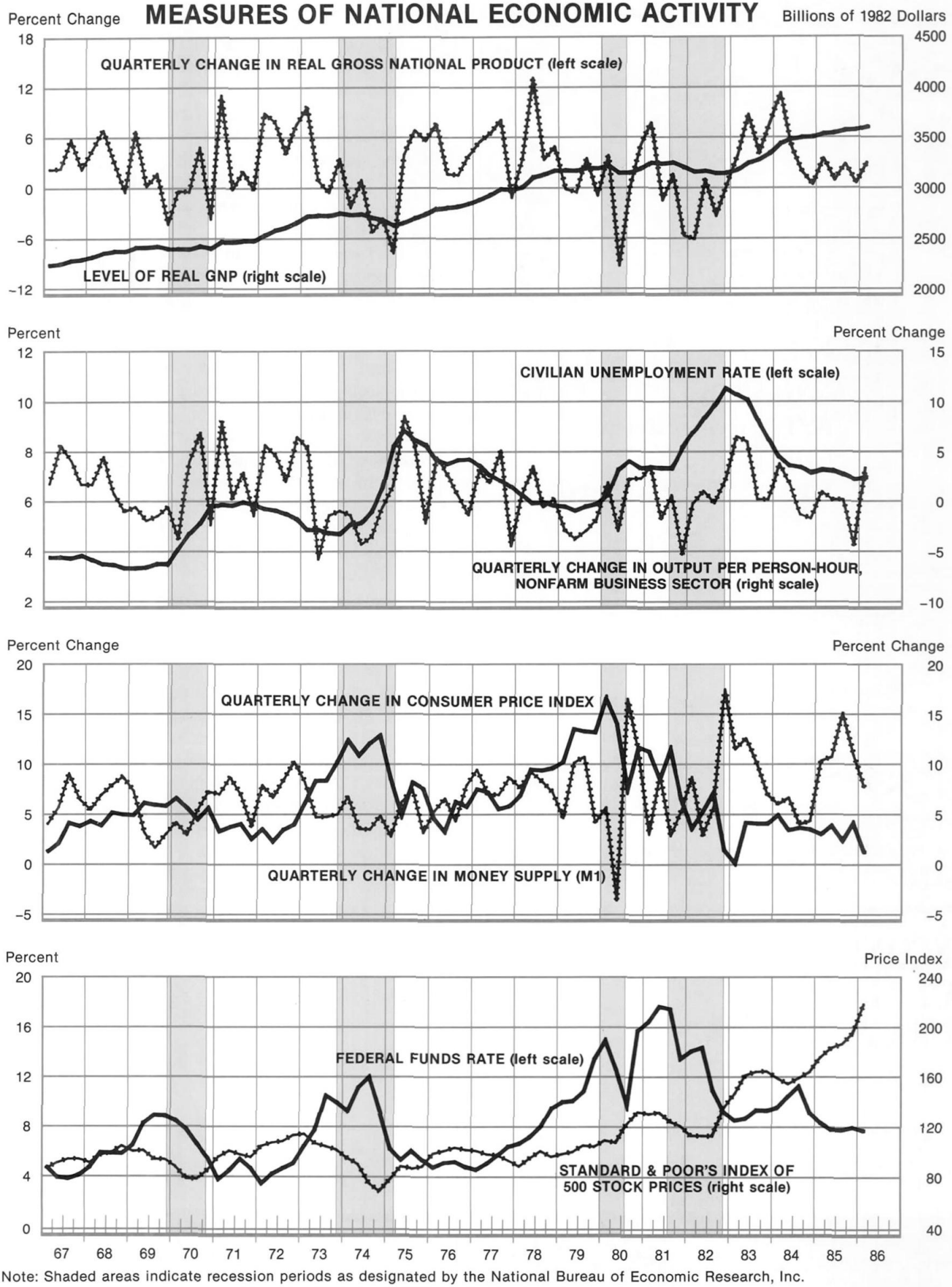
MEASURES OF NATIONAL ECONOMIC ACTIVITY



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This new collection of 20 essays explores a shared set of time use data bases spanning two decades and provides a comprehensive overview of developments in the study of time use.

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