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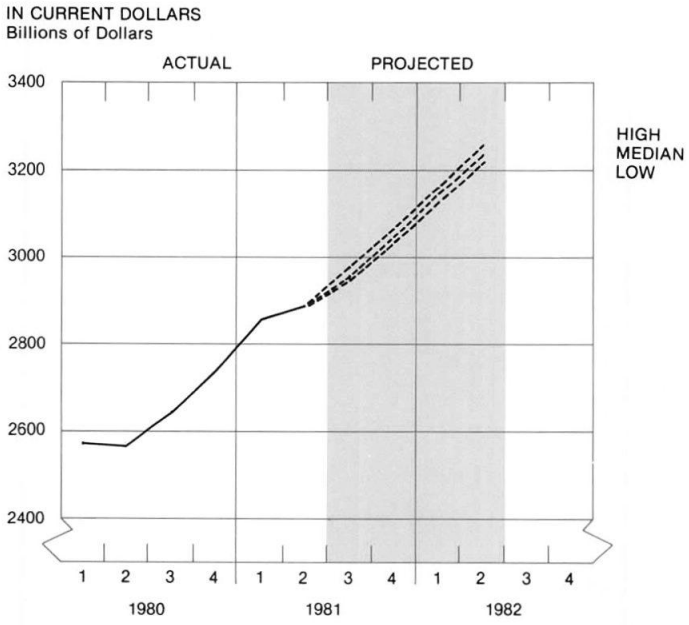

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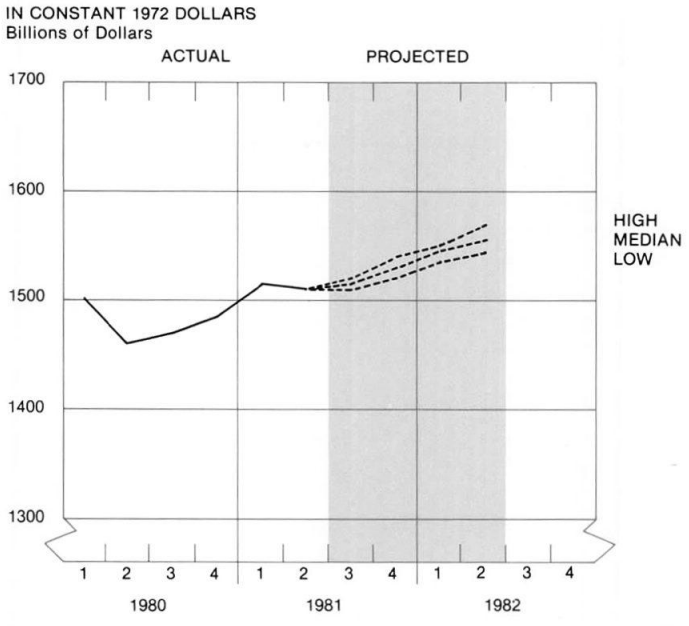


Sources: Actual data, U.S. Department of Commerce; projected data, ASA-NBER Panel of Forecasters, adjusted to reflect latest available data.

Frequently Used Abbreviations:

ASA	American Statistical Association
BEA	Bureau of Economic Analysis, U.S. Department of Commerce
NBER	National Bureau of Economic Research
SRC	Survey Research Center
19XY:Z	Zth quarter of 19XY

Supply-Side Economics: What Is It? Will It Work?

James Tobin
Sterling Professor of Economics
Yale University

Revolutions and revelations in economics are rare. They have generally occurred at intervals of 30-60 years and have taken decades to influence public opinion and policy. The Keynesian revolution, initiated by a forbidding theoretical book in 1935, made its way only gradually through academe to lay intellectuals, media pundits, business and labor leaders, bureaucrats and politicians. When, after considerable resistance and revision, J.M. Keynes's ideas became explicit rationales for American macroeconomic strategy in 1961-65, the press hailed them as the "New" Economics.

Recent Economic Counter-Revolutions

Has the pace of innovation quickened? Since 1965 three counter-revolutions swept through the economics professon, received lavish attention in the media, and powerfully affected influential opinion and the making of public policy. One was Monetarism, an ancient doctrine modernized and persuasively propagated by Milton Friedman beginning in the 1950s. When the New Economics appeared unable to explain or control the inflation of the late 1960s and the 1970s, Friedman's alternative attracted hordes of disciples. A second and related counter-revolution was the so-called New Classical Macroeconomics, based on the elegant and appealing theory of rational expectations. In the 1970s under the leadership of Robert Lucas and others, this movement made many theorists and practitioners skeptical of Keynesian hopes that fiscal and monetary policies can smooth out business fluctuations.[1]

The third is Supply-Side Economics, which in just a few years has become not only an obligatory slogan but the philosophy of the federal government. Though the three counter-revolutions differ, they have in common conservative messages popular in today's political climate: Government interventions, however well-intentioned, do harm, not good. They have led to inflation, instability, inefficiency, and declining productivity. Keynesian policies have failed, and the theories that supported them are discredited.

Supply-Side Economics, currently the most popular counter-revolution, is also the most amorphous. Without a Keynes or Friedman or Lucas, it lacks a sacred text expounding its theoretical foundations. It is more spirit, attitude, and ideology than coherent doctrine, and its enthusiasts are of many minds. They generally share the view that for forty years, under the malign spell of Keynesian concentration on demand, economic analysis and policy went wrong by neglecting supply. The most common theme is the sensitivity of work, productivity, saving, investment, and enterprise to after-tax rewards. The more exuberant supply-siders, economist Arthur Laffer and Congressman Kemp, expect cuts of tax rates to generate miracles of production and growth. While the more sober architects of Reagan administration policy do not promise that their tax cuts will pay for themselves in federal revenues, they do predict radical and durable renewal of the vitality of the United States economy.

Supply, Demand, and Equilibrium

All economics balances supplies and demands, *ad nauseam* of generations of students. Keynesian economics is no exception. Choosing up sides would be a laughable and harmless media diversion were it not taken so seriously. Clearly production and consumption are limited by supplies of labor, capital equipment, and other productive resources, and by technical know-how. Almost all economists, Keynesian or classical or eclectic, agree that in the long run these supply factors call the tune and demand adapts. They used to agree also that short-run business cycles are principally fluctuations of demand; economy-wide capacity to produce changes slowly and smoothly. Keynes pointed out that when labor and other resources are under-utilized, supply responds to demand. The New Economics of the 1960s stressed both demand policies to restore and maintain full employment, and supply measures to accelerate long-run growth. Among the latter were the investment tax credit, accelerated depreciation, and manpower training and retraining.

A serious intellectual challenge to the neo-classical-Keynesian synthesis just sketched is the New Classical view that a competitive market economy, to which the United States is taken to be a reasonable approximation, is continuously in demand-equals-supply equilibrium. Unemployment and idle capacity than appear not as pathologies but as voluntary choices at prevailing prices and taxes. The remedies, if any are needed, are not Keynesian demand stimuli but improvements of incentives, e.g., less generous unemployment insurance, more take-home pay for workers, businessmen, and investors. Forget about fine tuning, counter-cyclical fiscal and monetary policy. Set up a good stable framework of incentives and price signals and the market, preferably deregulated, will take care of both short-run stabilization and long-run growth. In this spirit a sophisticated economist like Rudolph Penner defines Supply-Side Economics as simply good micro-economics.[2] That involves minimizing or countering the distortions that taxes, subsidies, and regulations inject into market choices—work is taxed but leisure is not, income saved is taxed twice but income consumed only once, etc.—and then accepting whatever short- and long-run outcomes occur.

[1]For exposition and critique of this counter-revolution see *Rational Expectations*, a Seminar sponsored by the American Enterprise Institute for Public Policy Research, *Journal of Money, Credit and Banking*, November 1980 Part 2, especially the papers by B.T. McCallum, R.C. Lucas, Jr., J. Tobin, and A.M. Okun.

[2]"Policies Affecting Saving and Investment," paper presented at the Colloquium on Alternatives for Economic Policy, Washington, D.C., June 10-12, 1981, forthcoming in Proceedings to be published by the Conference Board, New York City.

Income and Subsitution Effects

As economics students know, those results are not theoretically predictable, even as to direction. Price and tax changes have both income effects and substitution (incentive) effects, and the two often conflict. An increase in real take-home pay is an inducement to work more hours per year, but since it makes workers better off anyway it may encourage them to take more time off. An increase in real after-tax returns is an incentive to save an extra dollar, but the enrichment of wealth-owners may dispose them to consume more both now and in the future. Standard microeconomic theory provides no license for assuming that substitution effects dominate, and certainly none for declaring income effects null and void, as Under-Secretary of Treasury Norman Ture is bold to do.[3]

Whether supply-side budget cuts, tax cuts, and other measures will, as advertised, lift the American economy from stagflation to a new era of prosperity, productivity, and growth depends on empirical magnitudes of income and substitution effects that are not very well established. Supply-siders' diagnoses of our economic ills do not fit the facts.

The Government Bite

One allegation is that government has been taking too much of the national product for its own use, leaving too little for private disposition. Actually federal absorption of GNP declined during the 1970s; it was 7½% in 1980, compared to takes of 10 to 11% in the 1950s and 1960s. The reason was the decline in defense spending relative to GNP, a trend the administration now is reversing. State and local civilian purchases, aided by federal transfers, filled the gap, but all-governments absorption was the same fraction of GNP, 20%, in 1980 as in the pre-Vietnam year of 1965. When correction is made for the increasing relative cost of public goods, which are comparatively labor-intensive, government purchases are now smaller relative to private purchases than in the 1950s and 1960s.[4]

What did happen since 1965, thanks to LBJ's Great Society as extended by presidents of both parties and Democratic Congresses in the 1970s, was an explosion of transfer payments, largely for retirement and disability insurance, Medicare, and Medicaid. Even so the federal tax burden is lower than in 1969 and only two percentage points higher than in 1956 and 1965. The all-government tax take is the same as in 1969 but because of increases in state and local taxes 4-5 points higher than in 1956 and 1965. Compared to other advanced capitalist democracies, United States taxes are on the low side.[4]

Taxes and Labor Supply

Supply-siders deplore particularly the increase in marginal federal personal income tax rates arising from the interaction of inflation and progressive rate structure. This has indeed happened faster than Congress has reduced rates, especially since 1977. According to calculations from the Brookings Institution tax file, the average rate of federal income plus payroll tax on an extra dollar of income for a breadwinner with spouse and two children was 18.0% in 1960, 15.9% in 1965, 18.2% in 1970, 18.0% in 1975, and 21.6% in 1980.[5] Whatever one may think of the specifics of the personal income tax cuts now before the Congress, it is high time for another tax reduction to arrest bracket creep and fiscal drag.

Nonetheless it is hard to detect evidence of weakened propensity to supply labor. Figures on labor force participation, overtime hours, multiple jobholding, weekly hours of work corrected for industry mix—all are in line with trends and cyclical effects dating from earlier decades. Econometricians have a hard time finding significant effects of real after-tax pay on labor supply.[6] Those they do find are mainly for secondary workers from low-income families, whose incentives will actually be diminished by proposed tax and transfer cuts in combination.

Taxes and Saving & Investment

Supply-siders also blame high taxes, their bite sharpened by inflation, for low rates of saving and capital investment in the United States. Public discussion of the effects on national saving of general income tax reduction have been confused and confusing. Taxpayers will both spend more and save more. The spending effect will be somewhat mitigated in the administration proposal, which distributes gains in disposable income disproportionately to wealthy taxpayers with higher than average marginal propensities to save the proceeds. But it will not be reversed. From given GNP household saving will be greater by some fraction of the tax cut but government dissaving will be greater by the full amount. Thus the tax cut *by itself* diminishes the national—government plus private—propensity to save. However, in the Reagan economic program, the tax reductions are roughly balanced by budget reductions and implicit tax increases due to inflation and economic growth. The net effect of the program as a whole is a small increase in national saving for given GNP.

As in the case of labor supply, econometric evidence for incentive effects on household saving is weak.[7] Proposed tax concessions to stimulate saving suffer not only from the usual income effects favoring consumption but also from their restriction to specific kinds and amounts of saving. Most taxpayers will simply shift other savings into the favored vehicles. This has already occurred as Congress has multiplied tax-free or tax-deferred ways of saving for retirement, home ownership, and posterity, a fact that itself limits the credence of the high-tax explanation of declining household saving.

Business non-residential investment held up much better in the 1970s than the spate of solicitous rhetoric suggests. For its weakness through much of the decade, 1970-72 and

[3]"Supply-Side Analysis and Public Policy," unpublished paper presented to the Economic Policy Round Table, The Lehrman Institute, November 12, 1980.

[4]On the figures and analyses of these two paragraphs see my paper, "Reflections Inspired by Proposed Constitutional Restrictions on Fiscal Policy," forthcoming in Kenneth D. Boyer and William G. Shepherd, editors, *Economic Regulation, Papers in Honor of James R. Nelson*, East Lansing: Michigan State University Press, 1981. Extension of the tables there compiled to 1980 does not significantly alter the story.

[5]I am grateful to Joseph A. Pechman for these calculations.

[6]See Jerry A. Hausman, "Labor Supply," in Henry Aaron and Joseph A. Pechman, editors, *How Taxes Affect Economic Behavior*, Washington, Brookings Institution, 1981, 27-84.

[7]See George M. von Fustenberg, "Saving," in Aaron and Pechman, *op. cit.*, 327-402.

1975-78, recessions, tight money, and energy shocks are sufficient explanation. At 11.6% of GNP in 1979, plant and equipment investment surpassed previous post-war cyclical peaks. However, for various reasons, some economic and some tax-accounting, investment net of replacement is estimated lower than at previous peaks.

Misguided Policy Proposals

Spurred by supply-side ideology, the administration and both parties in Congress are vying to bestow on business and on wealthy individuals tax cuts and subsidies rationalized as investment incentives. These are half-baked proposals, which will introduce more distortions of efficiency and equity than they correct. Reform to diminish tax-cum-inflation distortions is overdue. But neither the Reagan depreciation plan nor the Democratic alternative is the specific remedy, which would be indexing of depreciation and debt. Both propose costly giveaways, subsidies that will still be there if and when inflation subsides. While inflation erodes the real value of tax deductions linked to historical cost depreciation, it also enhances the real value of tax deductions for debt interest. The latter is partially offset by personal income taxation of the same nominal interest payments, but most such income never appears on taxable returns.[8] The proposals distort choices among different types and durabilities of investment projects, and they waste revenue by granting tax relief to income from existing capital and from investment that will occur anyway. The results are likely to fall short of the administration's goal of increasing the business investment share of GNP by two to three percentage points. One reason is that the supply-side incentives will be bucking an inclement macroeconomic climate, dominated by restrictive monetary policy.

The anti-inflation strategy is to slow down the growth of money stocks while the new incentives expand the supplies of goods the money is chasing. Confidence that this scenario will bring disinflation together with prosperity rather than recession and stagflation is borrowed from the other two counter-revolutions, monetarist and new classical. Keynesians, eclectics, and traditional conservatives are skeptical that entrenched patterns of inflation will melt away so painlessly. Lucky breaks on oil, food, and exchange rates make the price indexes look good for a while, but there cannot be permanent improvement unless and until wage and cost trends give way.[9]

The Essential Message of the Supply-Side Revolution

The only sure results of supply-side policies are redistributions of income, wealth, and power—from government to private enterprises, from workers to capitalists, from poor to rich. A revolution is in process all right, social and political more than economic. A capsule symbol is the nearly universal enthusiasm in Washington to rid the federal tax system of all semblance of taxation of intergenerational transfers of wealth. This capitalist democracy was never committed to equality of outcomes. But we were committed to equality of opportunity. And for more than forty years we have shown that an essentially capitalist economy can prosper and grow while the society collectively moderates extremes of wealth and poverty, privilege and deprivation, power and insecurity, boom and depression. Keynes and a generation of economists he influenced believed that capitalism was robust enough to flourish under these compromises with democracy and equality. Both Marxist critics on the extreme Left and conservatives of the extreme Right have always doubted it, and theirs is the essential message of the supply-side counter-revolution.

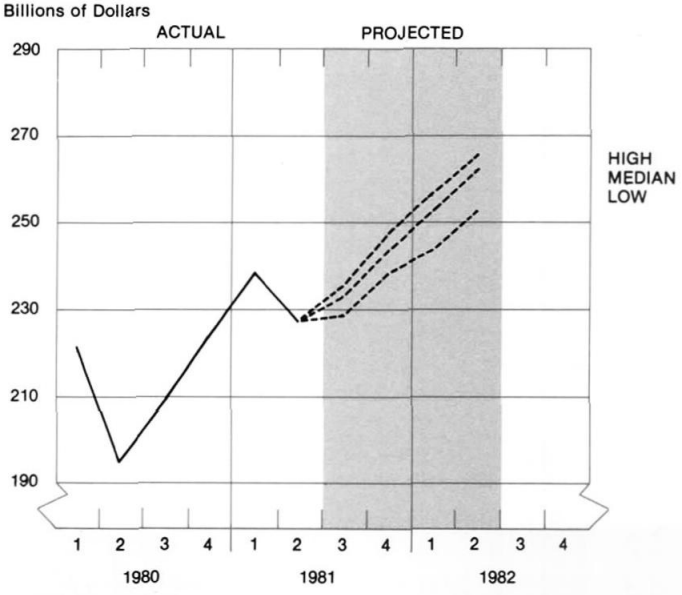
July 1981

[8]See Eugene Steuerle, "Is Income from Capital Subject to Individual Income Taxation?," U.S. Department of the Treasury, Office of Tax Analysis Paper 42, October 1980.

[9]For discussion of the Reagan administration's macroeconomic and anti-inflation strategy see my article "The Reagan Economic Program: Budget, Money, and the Supply Side," May 1981, forthcoming in *Federal Reserve Bank of San Francisco Quarterly Review*.

With deep regret we anounce the death of George Katona on June 18, 1981. Dr. Katona, who originated the study of psychological economics and demonstrated for over 30 years the importance of consumer attitudes for cyclical movements of the economy, was a valued contributor to OUTLOOK since its beginning in 1974. His most recent article focused on the psychology of inflation and appeared in the Winter 1979 issue.

CONSUMER DURABLE OUTLAYS



Sources: Actual data, U.S. Department of Commerce; projected data, ASA-NBER Panel of Forecasters, adjusted to reflect latest available data.

Saving, Economic Growth, and Economic Policy

F. Thomas Juster
Director, Institute for Social Research
Professor of Economics
The University of Michigan

Introduction and Background

It is widely believed by economists, policy-makers, and perhaps even the general public that a significant part of the current problem faced by the U.S. economy lies in a shortage of savings, a shortage which has lowered the rate of capital formation and is thus partly or mainly responsible for the poor productivity performance of the economy during recent years. The sources of that concern are easy to identify: personal saving rates in the U.S. have tended to be around the 6-7 percent zone for many years, while comparable estimates of personal saving rates in Western European countries and Japan tend to be at least twice and sometimes three times as high. The resulting differential in savings is seen as a principal reason for differential economic performance. That general perception has been made more visible during the last several years by U.S. saving rates which, as initially reported, were as low as 3 or 4 percent in contrast to the customary 6 or 7 percent, allegedly driven down by consumers' unwillingness to save in the face of high inflation rates.

At the same time as many have perceived a gap between actual U.S. saving rates and what would be desirable to restore economic vigor and competitiveness, concerns have also been voiced about the longer term consequences for saving and investment of the predictable aging of the U.S. population. The issue here has little or nothing to do with inflation. Rather, it concerns the widely believed proposition that saving has a "life-cycle" character to it, that older people are typically dissavers who spend more than they receive in current income, and that a rise in the proportion of older people would have a perceptible impact on the total flow of saving available for productive investment.

These concerns have brought to the surface a number of issues, which the Reagan adminstration's economic policy proposals are designed to deal with. For example, the administration's proposal for tax reduction is clearly designed to have a significant impact on the rate of personal saving as well as on investment incentives. The attempt to pare down the rate of growth of the public sector and to reduce the deficit are in part designed to reduce the inflation rate, with the hope that it will have a positive impact on saving behavior. And finally, discussions about possible modification of the Social Security program to increase the retirement age are presumably designed not only with the object of maintaining solvency of the Social Security trust fund, but also with an eye to its possibly favorable impact on the saving behavior of the elderly population.

Saving Behavior in Historical Perspective

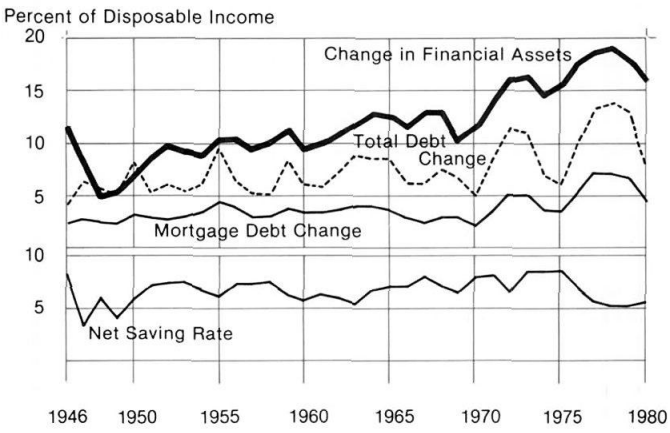
Some of these concerns represent old problems that are being taken more seriously, others represent relatively new problems that have not been faced by previous administrations, while still others represent the application of the new "supply-side" economics to analysis of saving behavior. But before any of them can be carefully examined or assessed, a few basic facts about saving behavior need to be understood.

In general terms, saving is the difference between disposable income and current outlays by consumers; alternatively, it is the difference between change in assets and change in liabilities—the change in net worth *excluding* changes due to capital gains or losses. If all the data were perfect and all the definitions were consistent, either income minus outlays or asset change minus liability change would come out with the same number. But that doesn't usually happen, and the discrepancy is sometimes pretty large. Given the difficulty of measuring asset levels accurately, to say nothing of measuring changes in asset holdings, most analyses of saving focus on the income less outlay definition.

The postwar trajectories of a number of series relevant to saving are shown below in Chart 1. The solid line in the lower panel shows the ratio of saving to disposable income as conventionally measured. The thick line in the upper panel shows the financial asset change component of saving, the dashed line shows the liability or debt change component, and the thin line shows an important component of debt—the change in housing mortgage debt.

What kind of story is shown by the data in Chart 1? First, a dominant characteristic of the saving/income ratio is that it appears to have no trend at all over the entire postwar period. Saving rates were relatively low during the late 1940s, as consumers were spending a relatively large fraction of income to replenish and replace stocks of durables depleted during World War II. During the 1950s saving rates were typically between 6 and 7 percent, averaging a little under 7, while during the 1960s saving rates averaged a bit lower, although they were usually between 6 and 7 percent then as well. And during the 1970s,

Chart 1. SAVING, ASSET, AND DEBT CHANGE RATIOS, 1946-1980



saving rates actually averaged over 7 percent, although during the last several years they have been much lower.

An interesting perspective on the allegation that saving rates during the last few years of the 1970s were driven down to historically low levels by inflation-induced spending is provided by the fact that saving rates during that period were not much if any lower than they were during the early part of the 1960s—the halcyon days when inflation rates were in the one or two percent zone![1]

If data relating to a longer span of time had been plotted in Chart 1, they would show about the same story—not much evidence of any secular trend in saving behavior. The historical studies of Goldsmith, for example, which take saving back into the late nineteenth century, can be summarized by saying that there was no evidence of a secular trend in saving behavior all the way from the late 1800s to the 1920s and on to the late 1940s. Thus we have no persuasive evidence at all that saving rates have been significantly different, measured in a secular trend sense, for the last century.

The second thing Chart 1 tells us is that simple theories relating saving behavior to inflation rates will not hold water. We have had four periods in the U.S. when inflation rates either reached high levels or accelerated dramatically: in 1950-51, we reached inflation rates of close to 6 percent after a couple of years when prices were roughly constant; in 1967-1970, inflation rates went up to the 6 percent level after a relatively long period of stability in the 1-2 percent range; in 1973-74, inflation rates went from the 3 percent range to as high as 12 percent; and in 1978-80, inflation rates went from a low of 5 percent to a high of over 13 percent. The corresponding behavior of saving rates during this period cannot be generalized: in 1950-51, rates of personal saving appeared to increase with inflation; in 1967-70, saving rates were high and erratic; in 1973-74, saving rates increased substantially; and in 1978-80, saving rates were low by historical standards, and lower than in the previous several years.

The third thing that Chart 1 shows is that movements in saving rates associated with economic expansions and contractions are much more easily identified in the debt change component of total savings than in the asset change component. Changes in debt are clearly a more volatile series than changes in assets, and the nature and direction of changes are easily predictable from knowledge of the peak and trough dates of cyclical expansions and contractions. Thus, in a cyclical sense, most of the action in saving behavior shows up in terms of changes in debt, while in a secular trend sense, there doesn't appear to be any action at all.

Finally, the reader should note the big differences between total saving and the asset and debt change components. As an illustration, the saving-to-income ratio was 5.6 percent in 1977; but that figure resulted from the combination of an asset change-to-income ratio of roughly 18 percent and a debt change-to-income ratio of roughly 13 percent. Thus, while the U.S. saving rate is low by comparison with Western Europe or Japan, the reason is not that conventional saving (increases in savings or checking accounts, CDs, etc.) is that much lower, but that consumer debt changes are so much larger. The way to impact most effectively on total saving may well be to affect the debt component rather than the asset component.

What Determines Saving Behavior?

There is an enormous professional literature on the determinants of saving. This is in part a consequence of the fact that we have a lot of data of various sorts that relate to consumption and saving behavior, and there are lots of fascinating puzzles in those data. For example, once Kuznets and Goldsmith discovered that the long-term saving/income ratio was trendless, that appeared at odds with the consistent finding that rich people seemed to save a higher proportion of their income than poor people. If rich people save more than poor ones, why didn't everybody save more when they all got richer? Various theories have been developed to explain this and other puzzles, but the two that attracted most attention were the permanent income hypothesis (attributable to Friedman) and the life cycle hypothesis (attributable to Modigliani, Ando, and Brumberg).

The two theories are really quite similar, and differ only in their subtleties. Both are based on standard assumptions of economic theory: that people live in a world characterized by perfect certainty and perfect foresight; that there are long-term income, consumption, labor supply, and bequest plans; that changes in family circumstances and in the general economy are foreseen and embedded in the plans; and that all consumers are busily making small adjustments in their consumption and saving behavior as new information and different circumstances occur over their lifetimes. The conventional theory has a static flavor—it assumes fixed expectations and goals and does not provide for much in the way of learning, adaptation, or other dynamic processes. To many people, including this writer, models of this sort are not very plausible representations of how people actually make consumption and saving decisions, given the uncertainties and vicissitudes of the real world.

Theory has a powerful influence on policy. For example, the widespread belief in the life cycle view of saving is the basis for the current debate about the implications of an aging population structure for the Social Security system. The idea is that younger people tend to save little or dissave because they are in the process of acquiring durable goods and are thus expanding debt of one kind or another, older people are using up the assets thay have accumulated during their working lifetimes and are thus either saving little or dissaving, while middle-aged people whose children have grown and whose durable goods stocks are adequate for their needs are relieved from expenditure pressures, are looking toward retirement, and are saving at relatively high rates. As a rational way of acting in a perfectly certain world, that picture has a lot to recommend it. But does it accord with the way people actually behave?

Most of the evidence used to test saving theory is based on time-series analysis of aggregate data. For well-known technical reasons, all such attempts to estimate savings functions are unstable and, in my judgment, unpersuasive. One would like to find evidence, at the level of individual

[1]Part of the reason why everyone thought saving rates were being driven to historically low levels is that the estimates of saving which appeared on a current quarterly basis were significantly revised (upward) when better data became available, and the numbers in Chart 1 are the revised data rather than the initial estimates. Thus part of the perceived sharp decline in saving was nothing more than a statistical illusion—measurement errors associated with initial observations—a phenomenon known to have had a potent effect on other estimates of saving rates besides those of the late 1970s.

behavior, which either confirms or refutes the theory, especially one with such potent policy implications as suggesting that we may need to revamp the Social Security system because of its negative impact on private saving.

Although good data on individual saving behavior are hard to come by, and most of them are subject to serious potential biases arising from measurement errors, it is instructive to look at the most recent data with an eye to its match with the life cycle theory. Chart 2, based on data from the 1971-73 Consumers Expenditure Survey, takes the 20,000-odd households covered by that survey, divides them into 20 groups based on income quintile and age, and then computes aggregate savings/income ratios for each of the 20 groups.

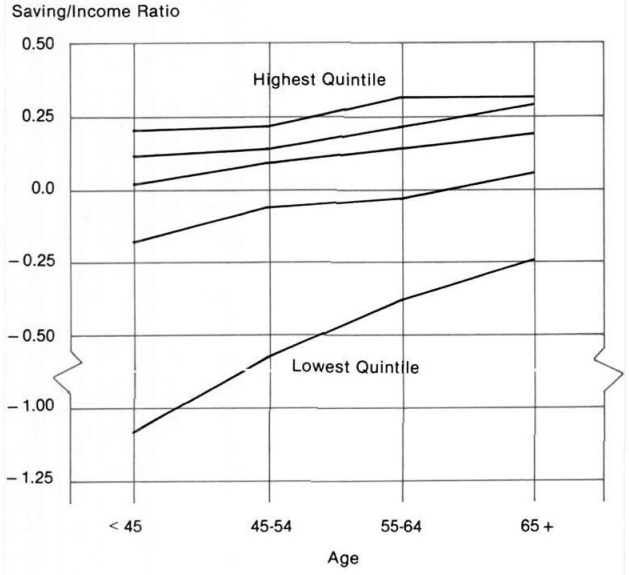
If the life cycle hypothesis is valid, we ought to find it reflected in the relationship of saving to age in any given income class. In general, saving ought to be lower in the under 45 and over 65 groups, higher in the other two groups, and highest in the 55-64 group where people are accumulating assets with the expectation of retiring. The data show no such patterns. In each income quintile, the saving rate rises monotonically with age. Not only do the elderly not dissave, they apparently don't even save less than the near elderly![2] As a generalization, these data are consistent with the behavioral view that saving gets to be a habit which people acquire with circumstances and then retain, even in the face of dramatic changes in life circumstances.

Similar patterns can be found for life cycle savings patterns in other countries, and for other cross-sectional data from the U.S. for earlier periods. For example, data on wealth holdings, which are scarce and also subject to significant measurement error problems, are also inconsistent with the life cycle view: if people dissaved when they retired, older people who die should have fewer assets than younger people who die, and that seems generally not to be the case.

[2]Although there are some conceptual shortcomings in the measurements of saving and income in these data, appropriate adjustments would not significantly change the configuration shown in Chart 2—although they would probably modify it slightly toward making the 65-and-over group save a bit less relative to the other groups.

The reader should also be aware of the magnitude of the measurement error problem in these data. There are actually two measures of saving in the CES data set—one defined as income less consumer expenditures and the other as change in net worth excluding capital gains. Eliminating what I judged to be clear cases of measurement error (a reported saving/income ratio in excess of 75 percent, for example, or reported family consumption of under $1,000), the net-worth calculation shows an aggregate ratio of saving to income for the entire sample of about one percent, while the income-less-consumption calculation shows a ratio of about 13 percent!

Chart 2. SAVING/INCOME RATIOS FOR AGE GROUPS IN THE U.S. POPULATION, 1972-73, BY INCOME QUINTILE



Current Policy Issues: How Can We Increase Saving?

Virtually everyone agrees that it would be good for the economy if saving rates were to increase. The implicit theory behind the proposals advanced by the administration, as reflected by the public comments of various economic spokesmen, is that the way to get saving up is to get the inflation rate down, provide a greater reward to savers, and legislate a tax cut with relatively favorable treatment of upper income groups who do most of the saving.

Before examining the likelihood that those effects will be observed, it might be well to remind ourselves that there is another view of the best way to increase saving, which might be called the conventional demand-side view. According to that theory, the way to increase saving is to initiate policies that have the effect of pushing up real income, and higher saving would follow along. If one attempted to push up saving without worrying about pushing up real income, the demand-side theory says that the saving would be dissipated—it wouldn't necessarily be matched by any demand for investment, and would simply take the form (temporarily) of investment in undesirably high inventories and (subsequently) of reduced rates of income growth, with the end result of actually reducing both saving and investment. That view has lots of problems with it, although it continues to retain a kernel of truth that ought not to be ignored.

But what about the "new" views of how to get the saving rate up? To begin with, there is absolutely no evidence that a cut in taxes will produce more than a temporary bulge in the saving rate. One can expect with some confidence that the bulk—perhaps three-quarters—of any tax cut would end up in saving during the quarter in which the tax cut was enacted. But one can expect with equal confidence that, over the next several years, the tax cut would result in the "normal" proportions of the increased income being spent and saved, with no permanent effect on saving rates. The absolute level of saving would of course be higher, simply because under the right conditions a tax cut would increase the level of real income. And if real income rose fast enough, there would be a longer though still temporary bulge in saving.

Secondly, there is little evidence that whether the taxes of the rich are cut more or less than the taxes of the poor makes much difference to the impact of a tax cut on saving. The argument being made by the adminstration—that the rich save more and therefore the tax cut would benefit saving if it favored the rich—has a curious political as well as economic history. In reverse, it is the same argument

that used to be made by liberals—that tax cuts ought to favor the poor because they were more likely to spend it, and what the economy needed was a boost in spending that would pull income and subsequently saving along with it. But after long and careful examination of the data, it turned out that there really wasn't much difference between what the poor did with an extra dollar of income and what the rich did with it—they were likely to spend it on different things, and the rich might be more likely to save by adding to assets while the poor saved by paying off debt, but they apparently didn't have very different propensities to spend. If that was true when liberals were arguing for tax cuts which favored the poor in order to stimulate consumption, it ought to be equally true now when conservatives are arguing for high-income tax cuts in order to stimulate saving.

Finally, the argument which says that saving incentives in the form of higher real rates of return would make a difference is also one that will not stand up on the evidence, as I read it. At least one study has found such an effect, but no one has been able to reproduce it. The studies in which I have most confidence show that real interest rates have no detectable effect on saving behavior. And that conclusion is eminently plausible on theoretical grounds: an increase in the rate of return on saving certainly provides an incentive to shift toward saving and away from spending, since saving has become more attractive. But at the same time, the higher rate of return to saving means that consumers need less assets to generate the same income return, and if the object is an income return, people can save less because they can get the target return more easily. Finding that these two effects seem to cancel out should not come as a great surprise.

Although the evidence clearly points in the direction of suggesting that neither tax cuts, income redistribution, nor higher real rates of return would do much to increase the saving rate, there still might be some impact of a supply-side type coming out of the program. If taxes are reduced substantially for high income households, investment incentives might be improved enough to warrant entrepreneurial individuals taking a more positive view of the rewards from investment. But here, it isn't so much that relatively high income entrepreneurial types would save more of their income in order to invest, but that they would see the future as more favorable, see themselves as being able to keep more of any return from investment, and be encouraged to borrow in order to expand their business. Whether the policy succeeds or fails may depend more on whether the admininstration can create an environment that encourages borrowing on the part of small entrepreneurs: seen in that light, prime interest rates in the neighborhood of 20 percent will not be particularly helpful.

If the policies espoused by the administration are unlikely to do much by way of increasing saving, are there other policies that might? If I were to set out to boost saving, I think I would rather work on the debt side than on the asset side. The data displayed in Chart 1, and all of our historical experience, suggest that it is very difficult to fashion policies that will have a large and permanent effect on the rate of personal saving—after all, that rate has been more or less stable for about a century, in the face of demographic and other changes far more potent than any of the proposed changes in public policy.

On the other hand, there are policies that could make for temporary improvement in the saving rate, but many of those seem to be ones that would cause consumers to change their debt behavior rather than their asset behavior. For example, we know from experience that controls over various kinds of consumer credit can have a dramatic effect on the rate of extension of such credits, and will thus have a potent effect on saving. But credit controls are surely not the policy of choice for an administration that wants more, not less, reliance on the free market.

An alternative, which is compatible with the general philosophy of conservatives, might be to try to affect saving by way of changing the current set of subsidies that have created an enormous demand for mortgage debt. As Chart 1 shows, the drop in the saving rate in the late 1970s seems due almost entirely to an explosion of mortgage debt. What happened is simple enough: high inflation rates, coupled with rapidly rising housing prices and interest rates that were little if any higher than the inflation rate, induced large numbers of people to "monetize" some of the capital gains they accrued when housing prices rose rapidly. Getting as much house as possible, with as much mortgage debt as possible, seemed to be a pretty good way to cope with the combination of high inflation rates and rising housing prices, provided people didn't have to undertake such transactions with mortgage interest rates in the middle or high teens. Thus getting the inflation rate down would have some impact on consumers' willingness to incur housing and other debt. Perhaps more to the point, reducing some of the subsidies associated with owner-occupied housing might well do some good. The chief subsidy here is the tax deductibility of mortgage interest and property taxes, for those who itemize income tax deductions.

Such a policy might well make sense. In earlier times, the subsidy to homeowners was a conscious national policy. It was widely thought that homeownership was a good thing, and that the government should encourage people to own their own homes rather than rent. Thus a significant subsidy to homeowners became national policy. As a result, close to 70 percent of American households now own their own homes, and the policy can be regarded as an outstanding success. But at the present time the attractive subsidies (especially for high income people) that accrue to homeownership may be serving the purpose of attracting speculative resources into the homebuilding industry, at the very time when we need to have more resources going into industrial investment. Cutting back on the deductibility of either mortgage interest or property taxes or both seems a reasonable way to do that, and would tend to balance the administration's policy of reducing the availability of subsidized housing for low income families. More importantly, perhaps, it has some prospect of causing at least a temporary bump in the saving rate that might last a few years.

July 1981

Confidence in Government Raises Consumer Optimism

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Sentiment Improves

In the April-June 1981 surveys, the Index of Consumer Sentiment was 73.9, a gain of 5.6 Index points from the first quarter 1981 level, and nearly 20 Index points above the year-earlier figure. Most of the 20 point gain during the past year was recorded in the last half of 1980 (18 Index points), not in the first half of 1981 (2 Index points). Since late 1980, consumer sentiment has remained largely unchanged, although at a much improved level, due to favorable evaluations of the proposed economic policies of the Reagan administration.

Among families with incomes of $25,000 or more, the Index of Consumer Sentiment was 82.0 in the April-June 1981 surveys, up 5.9 Index points from the first quarter 1981 level. In each of the four major geographic regions, as well as in each major age subgroup, the Index of Consumer Sentiment in April-June 1981 was 16 to 23 Index points higher than comparable year-earlier readings. The major portion of the improvement for each subgroup was recorded in the last half of 1980.

Personal Finances

When asked to evaluate their current financial situations, consumers have indicated only small progress during the past year. In the April-June 1981 surveys, 28 percent reported improvement in their financial situations, only marginally above the 27 percent recorded in the first quarter 1981 surveys, and the 25 percent in the second quarter 1980 surveys. Reporting a worsening financial situation, rather than an improving one, was more common in the April-June 1981 surveys (41 percent of all families), although this was somewhat below the 48 percent recorded a year earlier. This small improvement from the year-earlier reading was mainly due to more favorable references to changes in family income and unfavorable references to inflation. Despite the small improvement, consumer evaluations of their personal financial situations remained near record unfavorable levels.

Even so, the balance of opinion has shifted toward favorable expectations for change in the year ahead. Among all families, 32 percent expected improvement in their financial situations, compared with 18 percent that expected deterioration, the rest expecting their financial situations to remain largely unchanged during the year ahead. This represents a sizeable improvement from the lows recorded in the second quarters of 1979 and 1980, when deterioration rather than improvement was more widely expected.

The improvement in personal financial expectations resulted from more favorable nominal income expectations, together with declines in the expected rate of inflation. Among all families, 32 percent reported that they expected their nominal family income to increase by 10% or more during the next year, just above the 31 percent recorded in the second quarter of 1980. On balance, nominal income expectations have remained at relatively high levels during the past year. The median income increase expected among all families was 6.4% in May 1981, up significantly from the 4.5-5.2% range recorded in the May surveys the prior four years. The recent increase in the overall median was largely due to an increase in the proportion of families that expected nominal income gains (from 63 percent in 1980 to 70 percent in 1981). Among families that expected income increases, the median expected increase was 9.9% in 1981, only marginally above the 9.7% recorded in 1980.

Because of the concurrent decline in price expectations, real income expectations have improved considerably. Among all families, the proportion that expected real income declines due to inflation fell from a high of 53 percent in early 1980 to 40 percent in the April-June 1981 surveys.

Lowered Price Expectations

The second quarter 1981 surveys recorded a significant decline in perceptions of the current rate of inflation. In the 1981:2 surveys, consumers reported an average increase of 12.9% in the prices of the things they bought during the past year, a significant decline from the 15.9% recorded in the second quarter 1980 surveys. The proportion that thought the rate of inflation during the past year was 15% or higher fell to 26 percent in the 1981:2 surveys from 38 percent the year earlier.

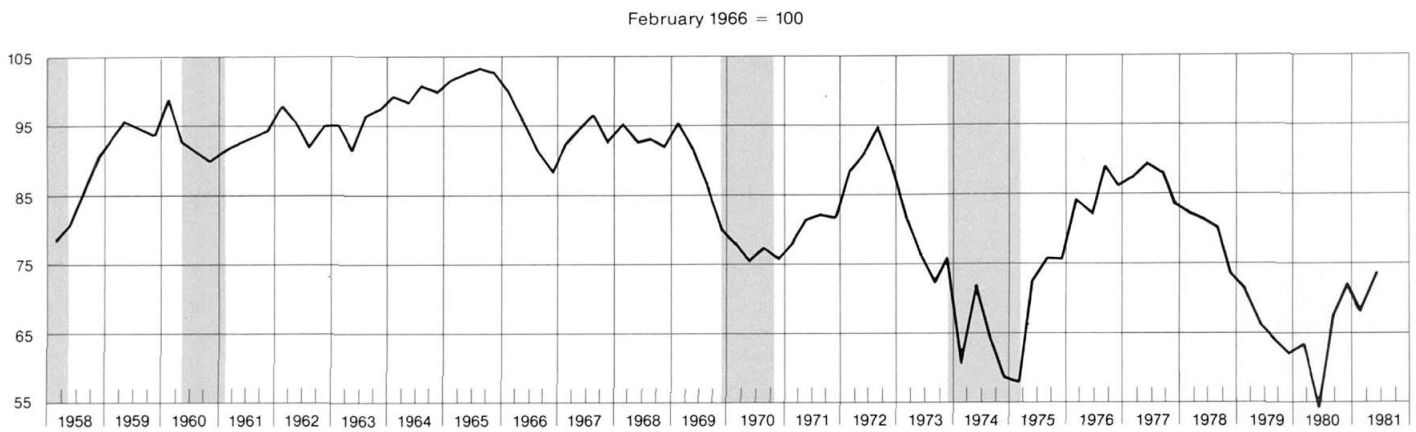
The rate of inflation expected during the year ahead has also declined considerably, falling to the 7-8% range in the first half of 1981. In the second quarter 1981 surveys, consumers expected prices to increase an average of 7.4%, down somewhat from the 7.7% expected in the 1981:1 surveys, and well below the 9.1% expected increase recorded in the second quarter of 1980. At 7.4%, the expected rate of inflation is now lower than at any time during the past three years.

Business Prospects Improve

The mix of news items heard and recalled by respondents of recent changes in business conditions has become more favorable during the past several months, although it still remains on balance negative. In the April-June 1981 surveys, news of unfavorable developments exceeded favorable changes by a margin of 46 to 28 percent, which stands in sharp contrast to the overwhelmingly negative margin of 94 to 12 percent recorded in the second quarter of 1980. In comparison with a year earlier, many fewer respondents reported news of increasing unemployment (16 versus 37 percent), and fewer reported news of interest rate increases (7 versus 16 percent).

Although current business conditions are still viewed more often as having worsened rather than improved dur-

INDEX OF CONSUMER SENTIMENT



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

ing the past year, evaluations have continued to grow more optimistic in the second quarter 1981 surveys. Among all families, 28 percent reported that business conditions had improved during the past year, up from 15 percent in 1980:1 and just 7 percent a year earlier. The proportion that reported a worsening economy fell to 53 percent, from 69 percent in the first quarter 1981 and 86 percent in the second quarter 1980 surveys.

The outlook for business conditions during the year ahead remained at the much improved levels first established in late 1980. Among all families, 36 percent expected improved business conditions during the year ahead, largely unchanged since late 1980, but significantly above the 20 percent recorded in the second quarter of 1980. The proportion that expected worsening business conditions fell to 20 percent in the 1981:2 surveys, from 39 percent one year earlier. The proportion that reported past *and* expected declines in business conditions fell to 14 percent in the April-June 1981 surveys, from 36 percent in the second quarter of 1980. Similarly, the proportion that expected cumulative improvement in business conditions rose to 16 percent in 1981:2, up from just 2 percent one year earlier.

Many fewer respondents expected unemployment to increase in the second quarter 1981 surveys (37 percent) than one year earlier (66 percent), but the proportion that expected *improvement* in the unemployment situation has not increased as much, with 17 percent expecting less unemployment in the second quarter of 1981, up from 7 percent one year earlier. The most frequent expectation was that unemployment would remain at its same high level during the upcoming year, held by 44 percent of all families in 1981:2, up from 26 percent in the 1980:2.

Interest rate increases were expected by 37% of all families in the April-June 1981 surveys, up from 30% in the first quarter and 34% in the second quarter of 1980. Expected declines in interest rates were reported by 31% in the second quarter of 1981, down from 41% in the first quarter. Overall, nearly two-thirds expected interest rates to remain at the same high levels (28 percent) or to increase (37 percent) during the year ahead rather than to decline.

Among all families, 39 percent expected good times in the economy as a whole during the next 12 months in the April-June 1981 surveys, up from 28 percent in the January-March 1981 surveys, and just 14 percent in the year-earlier readings. Although bad times financially in the economy as a whole are still expected by half of all consumers, this is appreciably lower than the more than three-in-four who held this view one year earlier.

Long term business expectations posted more modest gains in the second quarter 1981 surveys, with 32 percent of all families expecting good times during the next five years or so, up from 28 percent in the 1981:1 surveys and 17 percent in the 1980:2 surveys.

Growing Confidence in Economic Policies

After reaching record lows in 1979, favorable business expectations improved rapidly during the last half of 1980; but since then they have remained largely unchanged at greatly improved levels. In explaining why respondents expected business conditions to change, each monthly survey since the November 1980 election has recorded between one-quarter and one-third that spontaneously mentioned the role of government economic policies and the Reagan administration. These favorable references to government economic policies remained the dominant factor behind improved business expectations. Since President Reagan took office, the proportion that rated government economic policy favorably increased from 17 percent in the first quarter of 1981 to 28 percent in the second quarter, while the proportion that rated government economic policy as poor fell from 33 percent to 18 percent. On balance, by mid-1981 confidence in government economic policy exceeded the prior peak level recorded in early 1977. The ratings were dissimilar in that respondents were more polarized about Reagan's economic policies: 28 percent rated them favorably, versus 22 percent for Carter's policies, while 18 percent rated them unfavorably, versus 15 percent for Carter's policies. Overall, confidence in government economic policy was higher by mid-1981 than at any other time in the past decade.

When asked whether they expected a reduction in personal income taxes, 50 percent of all respondents in the April-May 1981 surveys expected Congress to pass such a law, nearly equal to the 52 percent recorded in the January-March 1981 surveys. During the past several months, the proportion not believing that Congress would pass such a law grew from 35 percent in the January-

March 1981 surveys to 41 percent in the April-May surveys.

Respondents were asked what impact they expected from the proposed reductions in federal spending and taxes on their own financial situations as well as on business conditions in general. Among all families, 41 percent expected their personal financial situations to improve, and 56 percent expected business conditions to improve, if the current economic proposals were adopted. Very few respondents expected an unfavorable change in either their personal financial situations (5 percent) or in business conditions (7 percent) if the Reagan proposals were adopted, with the balance expecting that passage of these proposals would not make much difference to their personal financial situations (50 percent) or business conditions (30 percent).

Respondents were also asked about the influence these proposals might have on the rate of inflation. Among all families, 45 percent reported that they expected them to lower the rate of inflation. Rather than act to increase the rate of inflation (11 percent), the passage of these proposals was more frequently expected to leave the rate of inflation unaffected (36 percent). Among those who expected the Reagan proposals to lower the rate of inflation, approximately half thought that unemployment would also be lower, while the other half expected the lower inflation rates to be accompanied by the same or even higher levels of unemployment (see Table 1).

Respondents were asked to estimate the increase they expected in their take-home pay if the reduction in personal income taxes is adopted, and how they planned to use the money. Among all families, 46 percent expected their monthly take-home pay to increase, while 40 percent expected no change. Among those who expected an increase, the median expected increase was $50. When asked about their planned use of this money, 25 percent indicated they have spending plans, 21 percent intended to repay debt, and 41 percent said they intended to save or invest the money. Most of the planned expenditures were to repair inflation-ravaged budgets, rather than to make new purchases.

A comparison with prior studies conducted before the 1964 tax cut indicates little difference in consumer reactions to the potential tax cuts (Table 2). Approximately the same proportions reported saving plans in both 1963 and 1981. Spending plans, however, differed significantly in their composition—most of those with spending plans in 1963 reported intentions to make new purchases, while spending plans in 1981 were to help meet current expenses and to repay bills (in fact a kind of saving), rather than for new purchases. This may reflect the harsh impact inflation has had in recent years.

Table 1. EXPECTED IMPACT ON INFLATION FROM TAX AND SPENDING REDUCTIONS, April-May 1981

Stated Expectation	Percent of Respondents	Expected Inflation Rate
Inflation rate lower	45	7.4%
(Both inflation and unemployment lower)	(24)	—
(Only inflation lower)	(21)	—
Not much difference	36	8.4
Inflation rate higher	11	11.1
Don't know; not ascertained	8	—
Total/Average	100	7.5

Note: Tabulations based on 1224 cases.

Table 2. EXPECTED USE OF TAX REDUCTION, 1963 and 1981

Expected Use	1963	1981
Spend	31%	25%
Repay debt	12	21
Save, invest	44	41
Both spend and save	9	4
Don't know; not ascertained	4	9
Total	100%	100%

High Interest Rates Stifle Buying

Attitudes toward buying conditions for houses remained near record unfavorable levels in the second quarter 1981 surveys. Among all families, just 23 percent viewed buying conditions for houses favorably, slightly above the 20 percent recorded in the first quarter 1981 and the 22 percent in the second quarter 1980 surveys. In the second quarter of both 1980 and 1981 the proportion holding unfavorable house buying attitudes stood at 71 percent, down from the peak level of 76 percent recorded in early 1981. When asked why they thought buying conditions were unfavorable, high interest rates continued to dominate opinions. In the April-June 1981 surveys, 69 percent mentioned the unfavorable impact of high interest rates, down from 75 percent in the second quarter of 1980. The proportion that reported high interest rates remained at record high levels throughout the past year, while the proportion giving buy-in-advance price rationales has fallen to near record lows. Declines in price expectations have led to a decrease in buy-in-advance rationales, while at the same time heightened concern with interest rates has prompted postponement of purchases. In comparison with four years earlier, buy-in-advance price rationales fell from 46 percent in the second quarter of 1977 to just 11 percent in the second quarter of 1981, while at the same time unfavorable references to high interest rates rose from 7 percent to 69 percent.

Attitudes toward market conditions for cars have remained largely unchanged at low levels since mid-1980. The proportion holding favorable views of buying conditions for autos ranged from 38 to 40 percent, while the number holding unfavorable attitudes ranged from 47 to 52 percent. The major factor behind the continued negative view was high interest rates, mentioned by 22 percent in the second quarter 1981 surveys, just below the record high level of 25 percent recorded both one quarter and one year earlier. Although high car prices were the most common reason given for unfavorable buying conditions (mentioned by one-third of all consumers in the first

half of 1981), their impact on overall market evaluations was partially offset by rebates and price reductions, which were also more frequently mentioned during the past year (by 20 percent, on average) than in the prior several years (less than 10 percent, on average).

Summary Outlook

The second quarter 1981 surveys indicate that consumer sentiment was at a much improved level by mid-1981 compared with one year earlier, although little net improvement has been recorded during the past six months. Despite wide-spread unfavorable evaluations of current economic conditions, the proportion that expected future improvement has grown substantially, mainly due to the anticipated impact of Reagan's economic policies. Comparable data suggest that consumer reactions to the proposed Reagan tax cut would stimulate sales to a lesser extent than reactions to the Kennedy-Johnson tax cut did.

Before vigorous and sustained recovery in consumer sales can take place, the recent gains in optimism, which have been based on expected improvement rather than actual developments, need to be reinforced by cumulative improvements in the economy as a whole, as well as in the financial situation of consumers. Expected declines in the rate of inflation, coupled with a widespread concern with high interest rates, have acted to keep attitudes toward buying conditions at greatly depressed levels throughout the past year. Increases in real disposable incomes, and declines in interest rates, are needed to reestablish the necessary financial latitude for making discretionary expenditures, and to lower consumer resistance to credit purchases.

July 1981

Youth Views About the Military: Recent Trends

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Since 1973 the United States has had an all-volunteer military force (AVF). There was much debate in the late sixties and early seventies about the viability of an AVF, and that debate has continued through the seventies and into the eighties. Although the debate about viability goes on, there is no argument about the fact that the sheer number of young men available for recruitment has been declining as the baby boom generation moves into its twenties. (There is, however, a good deal of discussion and argument about the extent to which the increased recruitment of women can fill the gap.) In any event, so long as the nation operates under the AVF concept, views about the military—particularly the views of youth—will have a critical impact on the staffing of the armed forces.

This report provides an overview of high school seniors' views of the military as an institution, and also as a prospective work role. It examines trends from 1976 through 1980 in seniors' views about (a) their own possible service in the armed forces, (b) the nature of the job opportunities provided in the military, (c) the military contrasted with other national institutions, and (d) the needs and uses for military power.

Earlier work indicates that these dimensions are interrelated; specifically, attitudes about job opportunities and fair treatment in the armed forces are positively correlated with plans and preferences for enlistment, especially among males. Moreover, it has been demonstrated that such enlistment plans bear a substantial, though far from perfect, relationship to actual enlistment. The fact that the data are limited to seniors surveyed shortly before graduation means that we omit a substantial segment of current recruits to the military—the high school dropouts. On the other hand, high school graduates are much more preferred by the armed forces because of their higher levels of productivity, fewer disciplinary problems, and substantially lower rates of premature discharge. In sum, we are examining trends in views which are relevant to the enlistment plans and behaviors of a group that is particularly needed under the current all-volunteer approach.

The data for this report are obtained from an ongoing study of high school seniors conducted by the Institute for Social Research. The project has been carrying out large-scale nationally representative surveys of each high school senior class, beginning in 1975. This report focuses primarily on seniors in the five graduating classes of 1976 through 1980, each surveyed in the spring. (Although many of the items reported here were included also in the 1975 survey, changes in questionnaire format and response rates reduce comparability—thus the decision to begin with the class of 1976.)

Males' Plans and Preferences for Military Service

Among male high school seniors, the proportion who expected "probably" or "definitely" to serve in the armed forces dropped from 22 percent in the class of 1976 to less than 18 percent in the class of 1979; however, the figure rose again to 21 percent in the class of 1980. This rise in expectations as of 1980 closely matches Pentagon reports of a recent sharp increase in the numbers of high school graduates among new recruits.

One possible explanation for the 1980 rise in expectations of military service might have been that the armed forces became more attractive to seniors; as we shall see below, this was not the case. Other more likely explana-

tions are that increased numbers of young men felt a duty to military service, or they were responding to the increased discussion of reintroducing conscription, or they were anticipating "economic conscription"—the need to enlist because no better alternatives are available. In this connection it may be worth noting that the 1980 rise occurred to a much greater extent among those seniors who were not expecting to complete college.

It is of considerable interest to note seniors' responses when asked their *preferences* for a variety of post-high school activities, as follows: "Suppose you could do just what you'd like and nothing stood in your way." Most of those who checked "serve in the armed forces" in response to that question had also indicated that they expected to serve. Just over 12 percent of the male seniors in 1980 both expected and preferred to serve—about one percent more than in 1979.

The match between preferences and expectations is far from perfect, however. About five percent of all males in both 1979 and 1980 indicated that they would prefer to serve, but did not expect to do so. A more troublesome sort of mismatch consists of those who did not prefer to serve but nevertheless expected to do so. This category of "reluctant warriors" rose from just over six percent in 1979 to nearly nine percent in 1980.

In sum, the proportion of male seniors expecting to serve declined during the late seventies, but rose somewhat in 1980. However, the rise in expectations took place largely among those who would not prefer military service if they were free to do "just what they would like."

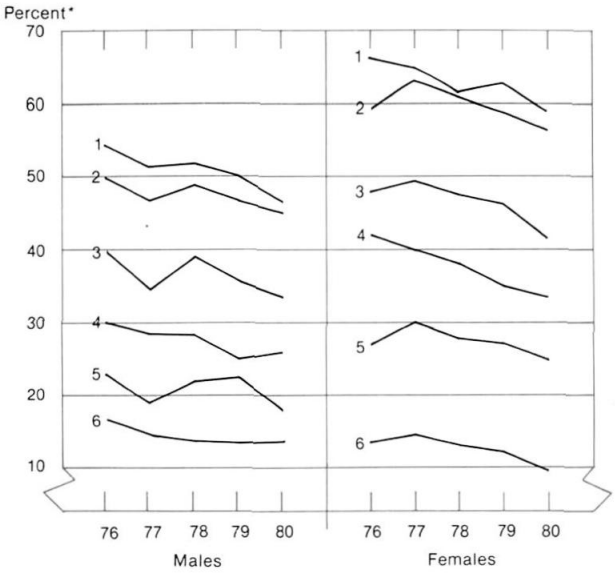
Females' Plans and Preferences for Military Service

Females have traditionally been less likely than males to serve in the armed forces, and their recent preferences and expectations are consistent with that tradition. About seven percent of females in the class of 1976 expected to serve; the figure dropped to 5.5 percent for the class of 1978 and remained essentially unchanged for the classes of 1979 and 1980. Preferences for service, on the other hand, dropped throughout the period—from over eleven percent in 1976 to just over seven percent in 1980. Thus, while it continues to be true that there are some females who would prefer to serve but do not expect to do so, their numbers have declined considerably during the past few years.

Views About the Military as a Place to Work

One of the keys to understanding recent trends in plans and preferences for military service is the way in which it is evaluated as a work role. One survey question asked seniors how they would feel about working in a small business, a large corporation, a government agency, a social service organization, a police department, the military service, and several other work settings. The responses indicate that the military has been decreasing in attractiveness more or less steadily since 1976 for both males and females. In 1980 only one in four males, and one in five females, rated it "acceptable" or "desirable" as a work setting. More important is the fact that none of the other work settings had nearly as low a level of acceptability, nor did any other show as strong a trend toward decreased acceptability. In other words, military service started at the bottom in 1976 and has been going down since then.

Chart 1. VIEWS ABOUT THE MILITARY AS A WORK SETTING



*Percent who responded "great" or "very great" extent to the following question: "To what extent do people who work in the military service have a chance to...

1. Get more education?
2. Advance to a more responsible position?
3. Have a personally more fulfilling job?
4. Get ahead?
5. Get their ideas heard?
6. Get things set right if treated unjustly by a superior?"

The trends displayed in Chart 1 may help to explain the above findings. Ratings of various opportunities in the military work role have almost all shown a fairly steady erosion from 1976 through 1980. Another finding, not shown in the figure, is that perceptions of discrimination against women in the armed services rose fairly gradually from 1976 through 1979, and then showed a further and sharper increase in 1980.

Views About the Military as an Institution

The study includes several sets of items dealing with the honesty, effectiveness, and influence of a variety of institutions including large corporations, labor unions, the news media, the three branches of the federal government, the U.S. military, and others. (It should be noted that the several sets of questions about institutions were included in different questionnaire forms so that ratings of effectiveness would not be confounded with ratings of honesty or influence, etc.)

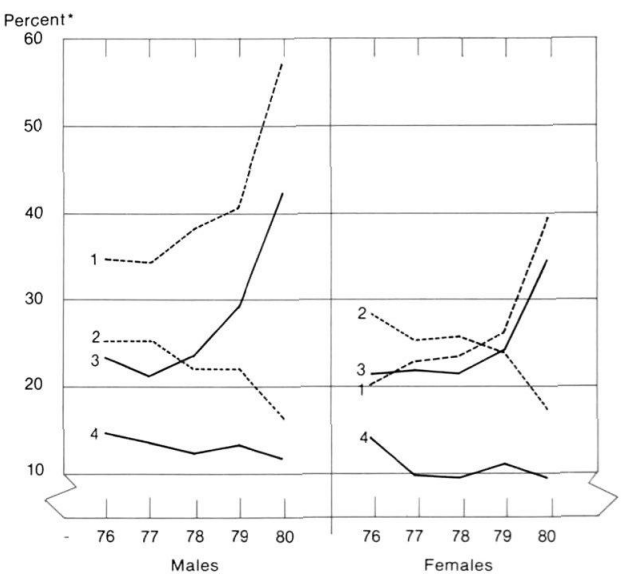
No more than one in four males and one in five females in the classes of 1976 through 1980 felt the leadership of the U.S. military had "considerable" or "great" problems of dishonesty and immorality. These ratings were roughly on a par with ratings of the U.S. Supreme Court, public schools, and colleges and universities; ratings for large corporations, major labor unions, the Congress, the president and administration were all substantially less favorable.

Ratings of how good a job the military has done for the country declined substantially during the past two years. Among male seniors the proportion who rated the military as "good" or "very good" dropped from 58 percent to 38

percent from 1978 to 1980; among females the drop was less severe. As of 1980, the seniors' ratings of the military were about comparable to their ratings of public schools, and somewhat higher than their ratings of the several branches of the federal government, large corporations, and labor unions. The ratings of the military were not, however, nearly as high as the ratings of colleges and universities or the national news media. Perhaps more important than the overall ratings in 1980 is the fact that most of the other institutions did not show substantial changes in their ratings during the late seventies. The noteworthy exceptions, of course, are the U.S. Congress and the president and administration, which rose in the 1977 ratings (the start of the Carter administration) and declined each year thereafter.

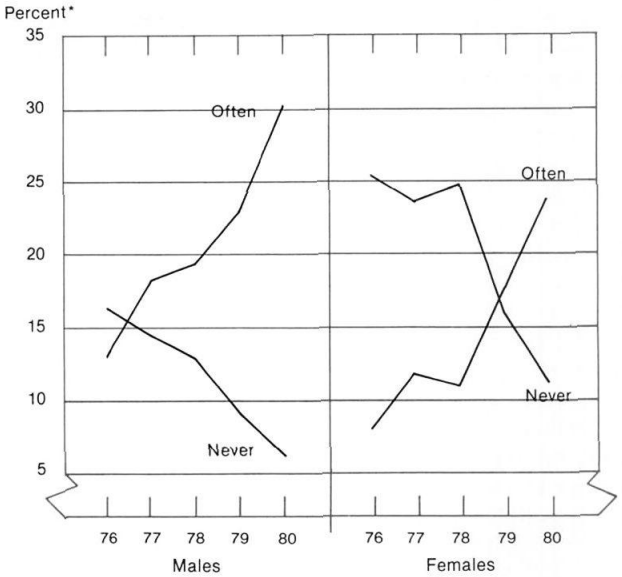
Chart 2 displays trends in seniors' ratings of whether military influence and spending are too high or too low. The item about "influence on the way the country is run" revealed a sharp rise in 1980 in the percentage of seniors who felt that the military had "too little" or "far too little" influence. A similar, but even more dramatic, picture is provided by the item dealing with military spending. In the class of 1980, the majority of males and a large minority of females indicated that the U.S. spends "too little" or "far too little" on the armed services, whereas only about one in six considered military spending too high. Just four years earlier, the class of 1976 was about evenly divided on the same issue (with males a bit more likely to favor an increase, the opposite true for females, and the modal response for both groups "about right"). Since 1976 the trend in support for increased military spending rose gradually through the class of 1979, and then rose sharply (about 15 percent) in 1980.

Chart 2. VIEWS ABOUT THE MILITARY AS AN INSTITUTION



*Percent who responded as follows:
1. That spending on the armed services is "too little" or "far too little."
2. That spending on the armed services is "too much" or "far too much."
3. That the armed services' influence on the way the country is run is "too little" or "far too little."
4. That the armed services' influence on the way the country is run is "too much" or "far too much."

Chart 3. WORRY ABOUT THE CHANCE OF NUCLEAR WAR



*Percent who responded "often" or "never" to the question: "of all the problems facing the nation today, how often do you worry about...the chance of nuclear war?"

Views About Needs and Uses for Military Power

The high school seniors in our surveys have all grown up in the nuclear age; the possiblity of nuclear war has existed throughout their lifetimes. A series of questions included in each of the Monitoring the Future annual surveys asked seniors, "Of all the problems facing the nation today, how often do you worry about each of the following?" The first problem presented in the list was "Chance of nuclear war." As the data in Chart 3 indicate, the percentages of males and females who report worrying "often" about this possibility have increased dramatically in the past few years. Indeed, going back to 1975, we find that the percentage of males worrying "often" quadrupled in the following five years, while the percentage for females tripled. Although higher percentages of seniors reported worrying "often" about some of the other problems in the list (e.g., crime and violence, or economic problems), no other dimension has shown such a dramatic shift in percentages, either upward or downward. It is also of interest to note the higher percentages of males than females who reported worrying "often" about the chance of nuclear war; no other problem area showed a similar pattern of substantially higher percentages of male worriers, although several areas showed females much more worried than males.

At least some of the growing concern about risk of nuclear war is translated into support for U.S. arms superiority. A large and growing majority of seniors disagreed with the assertion that "the U.S. does not need to have greater military power than the Soviet Union." The somewhat stronger statement that the U.S. should have "much more" military power than any other nation showed a rise in support, particularly during the last one or two years.

Seniors' responses to several items about the possible uses of U.S. military power present a somewhat mixed pic-

ture. Roughly seventy percent from 1976 through 1980 agreed or agreed mostly that "the only good reason for the U.S. to go to war is to defend against an attack on our own country." Nevertheless, about sixty percent tended to agree that "the U.S. should be willing to go to war to protect its own economic interests," and opinion was divided roughly equally on the statement that "there may be times when the U.S. should go to war to protect the rights of other countries." The rather critical statement that "our present foreign policy is based on our own narrow economic and power interests" prompted twice as much agreement as disagreement, although large proportions of seniors responded "neither." The responses to these four items showed rather little overall shift, comparing the classes of 1976 and 1980; however, a shorter-term phenomenon can be detected in the responses of the last few senior classes. To some extent in 1978, but much more strongly in 1979, there was an increased resistance to the idea of U.S. military action to protect the rights of other countries, and an increased agreement with the idea that the U.S. should go to war only to defend against attack. In 1980, however, the responses looked very similar to those for the class of 1976, reflecting an appreciable shift back toward a "harder line" position.

One other questionnaire item is clearly speculative in its content; nevertheless, responses to this item seem to be related to a number of the dimensions and trends presented earlier. The question asked whether the respondent would be likely to volunteer for military service "...if YOU felt it was necessary for the U.S. to fight in some future war." Among male high school seniors in 1977 and 1978 the proportions who thought they would volunteer and those who thought they would not were roughly equal; in 1979 the balance shifted somewhat in the direction of more volunteers; and in 1980 the percentage of likely volunteers increased further. Although the proportion of likely volunteers among female seniors was consistently much lower than among males, the female proportion also showed an upward shift in 1980. Perhaps equally significant is the fact that 1980 marked a drop in the proportions of both males and females who chose the response "In my opinion, there is no such thing as a 'necessary' war."

Policy Issues and Implications

The last half decade has witnessed increased tensions in the Middle East, Soviet military action in Afghanistan, much debate about the nuclear arms race and the SALT II treaty, and more than a year in which we were nightly reminded about "the U.S. held hostage." There was also much national debate about the success or failure of the AVF, the problems with military pay scales failing to keep pace with inflation, short-falls in quality as well as quantity in military recruiting, and the possibility that the nation would be better served by a return to conscription. And if all that were not enough, women were admitted to the service academies for the first time; and their successes and failures and feelings of discrimination were the subjects of frequent news reports, documentaries, and dramas. In short, a good deal has been happening which might reasonably be expected to have an impact on views about the military.

One of the impacts of these events has been a growing support for U.S. military superiority, and for increases in military spending and influence. These overall trends have appeared in surveys of adult cross-sections as well as in our surveys of high school seniors. It should be noted that support for military spending rose more sharply among seniors in 1980 than did their support for military influence; this could represent, at least in part, their reaction to the recent publicity about low military salaries as a problem in the AVF.

But although seniors from 1976 through 1980 have shown increased support for a "strong" military establishment, they have not shown a growing interest or willingness to become part of that establishment themselves. To the contrary, their perceptions of the military as a work role have eroded steadily during that period. The proportions of seniors expecting, and preferring, to serve also declined during the period. Among males, but not among females, 1980 saw some rise in expectations of service; however, much of this change was not paralleled by an increase in the proportion saying that military service is what they would prefer if they were free to do what they want.

The data presented here have been largely descriptive. Much more detailed and sophisticated treatment of our survey findings would be possible, and we hope in the future to be able to carry out such analyses. In addition, of course, we are eager to see another year of trend results, based on our just completed survey of seniors in the class of 1981. Meanwhile, although the present analyses are limited in several respects, they do seem to have implications for policy, a few of which are noted below.

Perhaps the most serious finding in the present report, at least from the standpoint of the viability of the AVF, is the continuing erosion of high school seniors' perceptions of the military service as a potential work role. It seems likely that this shift reflects some underlying realities; recent reports have noted declining job satisfaction among those who are in the armed services. Obviously, if the experience of military service is disappointing to increasing numbers of new recruits, this information will quickly be fed back to their younger siblings and friends; this, plus the increased media attention to difficulties in the AVF, may underlie much of the recent shift in seniors' views about job opportunities in the military. This is really part of the "market test" aspect of the AVF, and it represents much more than salary levels. It has often been acknowledged that making the AVF work will require satisfying working conditions—including some sense of dignity and mission, as well as decent pay. Our current findings suggest that this is an area requiring increased attention. And I would argue that one clear *success* of the all-volunteer approach is that it requires that such problems be confronted; it is not feasible to overlook them in the face of declining enlistments.

Another policy issue has to do less with trends than with consistent differences between males and females. It is interesting that female seniors' views of the military work role, on the average, are a bit more positive than male seniors' views. Given that such views are positively correlated with enlistment expectations, it is perhaps surprising that relatively few females expect to serve. One possible explanation is that many females treat the military work role largely at an abstract level rather than considering it as a role that they themselves might enter. Indeed, it turns out that female seniors' views about the military work role are less strongly correlated with their preferences and expectations about enlistment than is the case for males. Although the proportion has been declining during the past few years, it still remains true that there are some female

seniors who might *want* to serve but do not *expect* to do so. At present, one of the things which may stand in their way is the increasing perception—among both males and females—that women in the armed services are discriminated against to a considerable extent.

One further policy issue is the extent to which the AVF appeals not just to those who complete high school but also to those expecting to complete college. Our findings indicate clearly that the college-bound are presently less attracted to military service than other high school seniors are, but the gap is not overwhelming. Moreover, there remains a small but important subgroup of college-bound seniors whose responses suggest that they might want to serve even though they do not expect to do so. Current proposals to provide a paid college education in return for a single tour of duty in the armed forces might be the key to attracting such individuals. In any case, some success in recruiting larger proportions of the college-bound would do much to deal with AVF problems of demographic balance, as well as the needs for higher levels of ability and motivation.

An Overview of Family Economic Mobility

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The following continues the discussion begun in the Spring 1981 issue. There the author, using data from the SRC's Panel Study of Income Dynamics, analyzed patterns of change in economic status, introducing as measures both family income and the ratio of that income to the family's poverty-level needs ("income/needs"). Investigating the extent of family economic mobility, Duncan reported that a substantial amount occurred between 1971 and 1978 and that "Family income mobility is as pervasive with the income/needs measure of status as with income alone. In each case, about one-fifth of the sample moved at least two quintile positions in either direction and two-fifths moved at least one, leaving less than half of the population in the same relative income position." *He concludes below with an analysis of the correlates of change in economic status.*

Accounting for Change in Economic Status

Changes in economic status are common and occur as frequently to families at the bottom and top ends of the distribution of economic status as to those in the middle. How can we account for these changes? What is it about the individuals or their environments that causes some to do much better than others?

To answer this question we use as a measure of change in economic status the average annual growth rate in family income and income/needs. The time interval chosen is the same one used earlier, 1971 to 1978, but our growth rate measures are calculated from all of the annual observations from 1971 to 1978, not just from the two end years. In addition, each dollar figure is inflated to 1978 price levels using the Consumer Price Index, so the calculated growth rate is real rather than nominal. Families with positive real growth rates did better than inflation, those with negative growth rates did worse. The size of the growth rate figure is analogous to a compound interest rate. Over a seven-year period, a ten percent real annual growth rate will double a family's real income or income/needs ratio just as a ten percent interest rate will double the amount in one's savings account. A five percent annual growth rate will increase a $20,000 income to $28,000 in seven years; a minus five percent rate will decrease that same income level to $14,000.

Table 2 displays statistics on the growth of real income and income/needs for the population as a whole during 1971-78. Several startling facts emerge. First, despite the turbulent economic conditions of the 70s, with high inflation rates and a severe recession, slightly more than half of the population lived in families in which incomes kept up with inflation, and nearly three-fifths kept up in terms of the more comprehensive measure of economic status, income/needs. Furthermore, consistent with the picture of change shown earlier, half of the population lived in households where family incomes and income/needs either increased or decreased dramatically (at more than a five percent real growth rate).

That most of the population more than kept up with inflation seems surprising, but there are several reasons why this is the case. First, many people apparently misperceive their success in keeping incomes rising with inflation. As Juster has pointed out, inflation is a continual process, visible each week at the grocery store or at the gasoline

Table 2. GROWTH IN REAL INCOME AND INCOME/NEEDS, 1971-1978

Category	Income	Income/Needs
Kept Up With Inflation	54%	59%
Annual Real Growth Rate Exceeded 5 Percent	27	32
Annual Real Growth Rate Was Between −5% and +5%	49	49
Annual Real Growth Rate Was Less Than −5%	24	19
Total	100%	100%

Note: Tabulations are based on all sample individuals.

pump, while income increases occur very infrequently, often just once a year[2]. Second, aggregate statistics indictate that per capita income almost kept pace with inflation—its real growth between 1971 and 1978 was negative but very small, −.15 percent. Whether most families keep up with inflation will depend upon the *distribution* of individual family growth rates around the average. It is quite possible to have no real growth, *on average,* with a small proportion of families having large income losses (as around retirement) and a large proportion of families having modest but positive real income growth. Over time, low income new families are always being formed and higher income older families are dying off. Moderate income increases can be quite widespread even though aggregate income per capita stays constant.

That families were more successful in keeping income/needs up with inflation rather than income alone suggest that, on average, family composition changes that tended to reduce needs more than income (or to increase income more than needs) were more common than other kinds. And, this was indeed the case. The seventies were a time when birth rates were unusually low and when the children of the baby boom were splitting off from their parental homes in record numbers. Births tend to increase needs and decrease income (if the mother drops out of the labor force). For the parental family, splitting off increases economic well-being, since the departing children tend to consume more than they earn. This imbalance between births and departures (which will not persist indefinitely) tended to increase the income/needs of a substantial portion of the population, thus leading to more success in keeping income/needs ahead of than inflation than income alone.

The Importance of Family Composition Changes

Since the early years of the Panel Study project, there have been repeated attempts to gauge the relative importance of a variety of attitudes, skills and events in accounting for changes in family economic status. All of these attempts have indicated that family composition changes are sufficiently frequent and dramatic in their effects to be the most important. As with all sweeping generalizations, several qualifications are in order. First, the economic status of men is affected far less by family composition changes than that of women. This results from the facts that women earn much less, on average, than men, that children typically go with the mother rather than the father after a divorce or separation, and that compensatory transfers such as alimony and child support payments are infrequent and typically insufficient to make up very much of the lost income. Second, the relative importance of family composition changes does not imply that other events or characteristics were totally unimportant. Quite the contrary, a number of them had substantial (and certainly statistically significant) effects on family well-being. But the ability of an event to account for changes in family well-being depends upon the size of the effect and the frequency with which it occurs. On this score, family composition change was clearly the most important.

[2]F. Thomas Juster, "The Psychology of Inflation: I. Why is Inflation Bad?," ECONOMIC OUTLOOK USA, 7:1 (Winter 1979), pp. 16-17.

We can illustrate the importance of family composition changes by focusing on three groups most affected by them: adult women who began the 1971-1978 period as unmarried heads of their own households, adult women who were married, and young (1-14 year old) children.[3] Table 3 shows the changes in real family income levels (i.e., 1978 family income minus inflated 1971 family income) as well as the average annual inflation-adjusted growth rates in income and income/needs associated with various family composition changes which these individuals underwent. The latter two measures were adjusted statistically for the effects of a set of demographic measures.[4]

The first group shown in Table 3 are the women who began the period as unmarried heads of their own households. While most (80.8 percent) remained unmarried, more than one-sixth had married by the end of the period. (A very small number had undergone more complicated changes such as marriage coupled with subsequent divorce.) The difference in the financial fortunes of these two groups is striking. Those who married enjoyed inflation-adjusted family income increases that were about $14,500 more ($15,357 − $864) than those who remained

[3]These three groups combined constitute over three-fifths of the entire population.

[4]An example of why the statistical adjustments may be usful is in assessing the impact of becoming widowed. Family income grows much less rapidly, if at all, for elderly couples than for couples just starting out. Since becoming widowed is much more likely to occur among older persons, part of the unadjusted comparison of income growth rates of women who become widowed to those who remained married is really an age effect that has nothing to do with becoming widowed. A multiple regression that controls for initial age will adjust for these age-related growth rate differentials and give a better estimate of the "pure" effect of becoming widowed. Age, education and race were the measures included in the regressions to get the adjusted effects.

Table 3. EFFECTS OF FAMILY COMPOSITION CHANGES ON CHANGES IN ECONOMIC STATUS, 1971-1978

		Family Income		Income/Needs
Group and Change	Percent of Group	1978 Minus 1971	Annual Growth Rate	Annual Growth Rate
Female Heads in 1972				
Remained Unmarried	80.8%	$ 864	−0.9%	0.4%
Married	18.6	15,357	10.0	7.0
Wives in 1972				
Remained Married	84.8	3,086	0.7	1.2
Widowed	7.7	−5,267	−5.4	−0.8
Divorced or Separated	7.8	−7,385	−9.4	−5.3
Children Aged 1-14 in 1972				
Parents Stayed Married	68.1	6,995	3.3	2.7
Parents Divorced	5.3	−6,602	−8.7	−5.8
Female Head Remained Unmarried	7.4	1,088	−0.1	−0.1
Female Head Married	2.0	10,521	9.4	6.9
Child Left Home	9.0	−9,002	−9.2	−1.1

Note: All income figures have been inflated to 1978 levels using the Consumer Price Index. Growth rates were adjusted for inflation and for the effects of demographic measures, as discussed in the text.

unmarried. Adjusted annual growth rates in family income were also much higher (10 percent vs. −1 percent).[5] Marriage increases family size and, hence, family needs as well as income, so that the growth in income/needs associated with marriage was not quite as dramatic as the growth of income alone.

The economic status of the women who began the period married is equally dependent upon family composition changes, particularly divorce. Relative to women who remained married, those who divorced had a drop in real family income amounting to more than $10,000, a ten percent lower growth rate in income, and a 6.5 percent lower growth in income/needs. As mentioned before, many factors contribute to the devestating economic effects of divorce: married women have less regular labor force participation patterns and cannot command earnings levels that are as high as those of men; children usually go with the mother *after* a divorce, increasing the needs of her new family and reducing her chance of having a full time job; and alimony and child support payments are inadequate in maintaining an ex-wife's standard of living. On the latter point, Saul Hoffman found that fewer than half of the divorced or separated women received any alimony or child support payments, and the average annual payment for those who did receive them was less than $2,600 for white women and $1,500 for black women.[6]

Women who became widowed also did worse, although the economic effects were not as strong as with divorce. Income fell substantially, but so did needs, so the income/needs growth rate for women who became widowed was actually slightly positive.

Young children (aged 1-14 in 1972) had little, if any, control over the economic fortunes of the families in which they lived, and yet family composition changes explained more of their changes in economic status than any other group's. Some were old enough in 1978 to have splitoff and formed their own households. These splitoffs suffered a substantial fall in family income but experienced only a modest reduction, on average, in income adjusted for family needs. Most of the rest were in stable families which, on average, did quite well. The real incomes of these families grew by about $7,000 between 1971 and 1978, or by about 3.3 percent per year.

Children living in families with a divorce or separation by the end of the period present a very different picture. Even after adding in alimony and child support, family incomes for them fell by $6,600, or over eight percent annually. Income/needs fell by more than half that amount. Although these children constituted only about one twentieth of the entire group of children, their vulnerability to the effects of marital disruption is striking.

The fortunes of the remaining groups of children mirrored the experience of their elders. Those living in families in which an initially unmarried mother later married did very well, especially when compared to those living in similar families with no marriage.

The ability of family composition changes to account for the variation in economic fortunes varies greatly for different groups of the population. For adult men, family composition changes explain only two percent of the variance of income growth rates and much less than one percent of the variance of income/needs growth. The economic fortunes of all other groups were much more dependent on family composition changes. For young children, nearly one-quarter of the variation in family income growth could be explained by them; for family income/needs, the figure is about ten percent. This explanatory power far exceeds that of other events or of initial skills and attitudes.

Since our measures of family economic status depend so directly on the numbers of earners and mouths to feed, the importance of family composition changes may not seem surprising. Some may even view them as inevitable life cycle changes that have inevitable economic consequences. But these results go far beyond inevitability. Our analysis of the first seven years of information, for example, showed that one-third of the initially married women living in families with incomes above the poverty line who subsequently became and remained divorced were in poverty seven years later. A reasonable system of transfer payments—including child support payments and, if necessary, public sources of income support for those who need it—should, when coupled with the labor income of the ex-wives, preserve the economic status of these women and their children much better than it appears to do.

That marriage increases family economic well-being and divorce decreases it does not, of course, mean that we ought to do all we can to encourage one and discourage the other. After all, both kinds of changes are at least partly voluntary, with both parties believing that the change will leave them better off in some global, if not economic, sense. But, at a minimum, it does mean that we ought not to have policies with *unintended* incentives or disincentives toward family composition. The "marriage tax"—the feature of the tax law which makes the tax liability of relatively high income two-earner couples considerably higher if they are married than if they are not—is the most celebrated recent example of such a policy. But there are other examples as well, such as the evidence that the Aid to Families with Dependent Children program may encourage divorce and discourage remarriage.[7]

Beyond marriage and divorce, a more general issue that permeates many tax and income support policies is the treatment of family needs and the extent to which the government is trying to capture the economies of scale that go to large families. To illustrate these economies, recall the approximate federal poverty formula: $2,000 plus $1,000 per person. This standard rests on the assumption that there are economies of scale in larger families—a doubling of family size does not double family needs. These economies provide a natural incentive for families to remain together or to come together in the first place. Of course such incentives may not be uppermost in the minds (and hearts) of most of those making such decisions. But there must be many decisions regarding the timing of the departure of children from the parental home, of the movement of elderly parents in with their children or into nursing homes, and, perhaps, of some divorces and marriages as well. And yet many government programs attempt to capture some of these economies of scale by lowering benefits or increasing taxes for combined families relative to separate ones.

[5]Recall that a 10 percent annual growth rate nearly doubles a sum of money in seven years.

[6]Saul D. Hoffman, "Marital Instability and the Economic Status of Women," *Demography,* 14 (February 1977), pp. 67-76.

[7]For a thoughtful discussion of evidence and policy considerations concerning the family, see Mary Jo Bane, *Here to Stay: American Families in the Twentieth Century* (New York: Basic Books, 1976).

Actual and Projected Economic Indicators

seasonally adjusted

SERIES FORECAST BY THE ASA-NBER PANEL															
ECONOMIC INDICATOR	Quarterly Data												Annual Data		
	Actual							Projected					Actual		Proj.
	1979:4	1980:1	1980:2	1980:3	1980:4	1981:1	1981:2	1981:2	1981:3	1981:4	1982:1	1982:2	1979	1980	1981
GROSS NATIONAL PRODUCT	2496	2572	2565	2637	2731	2853	2881	2906	2979	3072	3165	3263	2414	2626	2946
GNP IMPLICIT PRICE DEFLATOR (index, 1972 = 100)	167.5	171.2	175.3	179.2	183.8	188.1	190.9	191.9	195.8	200.2	204.3	208.7	162.8	177.4	193.7
GNP IN CONSTANT DOLLARS (billions 1972 $)	1491	1502	1463	1472	1486	1516	1509	1515	1523	1535	1551	1561	1483	1481	1521
INDUSTRIAL PRODUCTION (index, 1967 = 100)	152.5	152.5	144.6	142.1	149.1	151.8	152.6	152.0	153.3	156.0	158.5	161.0	152.5	147.1	153.4
UNEMPLOYMENT RATE (quarterly measure, percent)	5.933	6.233	7.333	7.533	7.500	7.333	7.400	7.40	7.50	7.30	7.20	7.10	5.800	7.150	7.383
CORPORATE PROFITS AFTER TAXES	168.2	182.9	146.5	159.1	164.3	168.0	NA	165.0	164.5	174.0	174.5	180.0	167.8	163.2	167.9
EXPENDITURES FOR NEW PLANT and EQUIPMENT	284.3	291.9	294.3	296.2	299.6	312.2	NA	317.0	326.0	335.0	348.0	358.5	269.6	295.5	322.5
NEW PRIVATE HOUSING UNITS STARTED (millions)	1.587	1.234	1.055	1.390	1.535	1.391	1.174	1.300	1.365	1.465	1.570	1.680	1.716	1.303	1.349
CHANGE IN BUSINESS INVENTORIES	−0.8	2.5	7.4	−16.0	−17.4	4.5	20.4	5.0	7.5	10.0	15.0	16.8	17.48	−5.88	10.6
CONSUMER DURABLE EXPENDITURES	216.1	220.9	194.4	208.8	223.3	238.3	226.7	234.0	240.0	251.0	260.0	270.0	212.3	211.9	239.0
NATIONAL DEFENSE PURCHASES	118.7	125.0	128.7	131.4	141.6	145.2	148.1	150.0	156.0	165.0	170.0	175.0	111.2	131.7	153.6

SERIES FROM THE GROSS NATIONAL PRODUCT ACCOUNTS															
ECONOMIC INDICATOR	Quarterly Data												Annual Data		
	1978:3	1978:4	1979:1	1979:2	1979:3	1979:4	1980:1	1980:2	1980:3	1980:4	1981:1	1981:2	1978	1979	1980
GROSS NATIONAL PRODUCT	2191	2272	2341	2375	2444	2496	2572	2565	2637	2731	2853	2881	2156	2414	2626
PERSONAL CONSUMPTION EXPENDITURES	1370	1417	1454	1478	1529	1582	1631	1627	1682	1751	1810	1830	1349	1511	1673
DURABLE GOODS	202.0	210.2	212.5	207.4	213.3	216.1	220.9	194.4	208.8	223.3	238.3	226.7	199.3	212.3	211.9
NONDURABLE GOODS	536.3	558.3	571.8	586.4	611.5	639.2	661.1	664.0	674.2	703.5	726.0	732.7	529.8	602.2	675.7
SERVICES	631.6	648.1	669.9	684.2	704.3	727.0	749.0	768.4	799.2	824.2	845.8	870.9	619.6	696.4	785.2
GROSS PRIVATE DOMESTIC INVESTMENT	380.4	392.6	408.3	423.2	421.7	410.0	415.6	390.9	377.1	397.7	437.1	453.8	375.3	415.8	395.3
NONRESIDENTIAL	247.1	258.7	267.3	272.9	288.5	290.2	297.8	289.8	294.0	302.1	315.9	322.0	241.9	279.7	295.9
RESIDENTIAL STRUCTURES	114.2	116.2	116.7	117.2	119.8	120.6	115.2	93.6	99.2	113.0	116.7	111.4	111.2	118.6	105.3
CHANGE IN BUS. INVENTORIES	19.1	17.7	24.3	33.1	13.3	−0.8	2.5	7.4	−16.0	−17.4	4.5	20.4	22.2	17.5	−5.9
NET EXPORTS	1.9	11.4	19.9	8.2	17.9	7.6	8.2	17.1	44.5	23.3	29.2	19.4	−0.6	13.4	23.3
GOVERNMENT PURCHASES	438.3	451.3	458.2	465.1	475.4	496.4	516.8	530.0	533.5	558.6	576.5	577.6	432.6	473.8	534.7
DISPOSABLE PERSONAL INCOME	1482	1531	1580	1613	1664	1710	1765	1784	1841	1897	1948	1985	1463	1642	1822
PERSONAL SAVING RATE (% of disposable income)	5.0	4.8	5.3	5.6	5.4	4.7	4.9	6.2	6.1	5.1	4.6	5.3	5.23	5.25	5.58

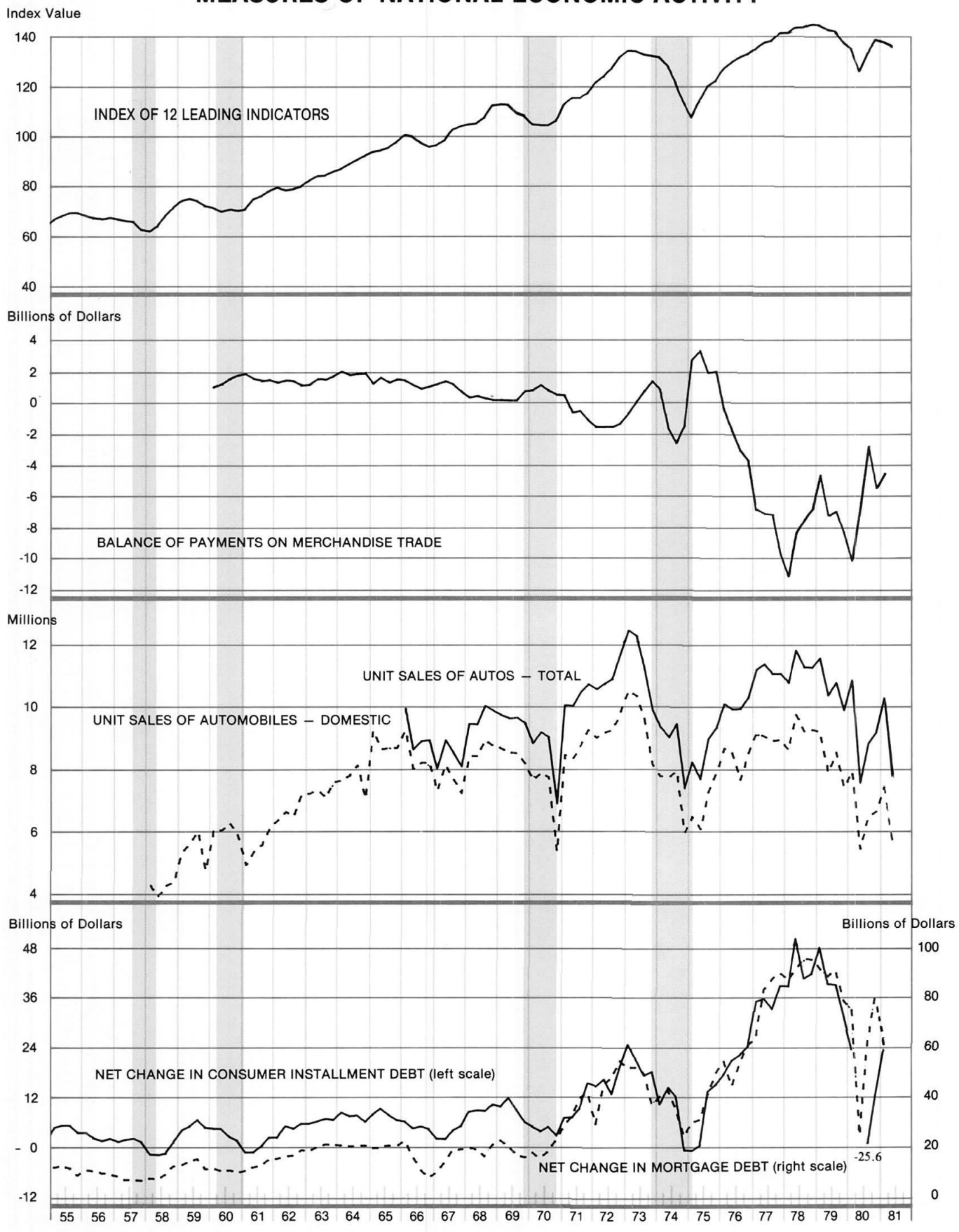
Note: (1) All data are at annual rates and in billions of current dollars unless otherwise indicated. (2) To facilitate comparison and evaluation of forecasts, both actual data, released in late July, and projected data, released by ASA-NBER in June, are displayed for second quarter 1981.

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.

SRC MEASURES OF CONSUMER ATTITUDES

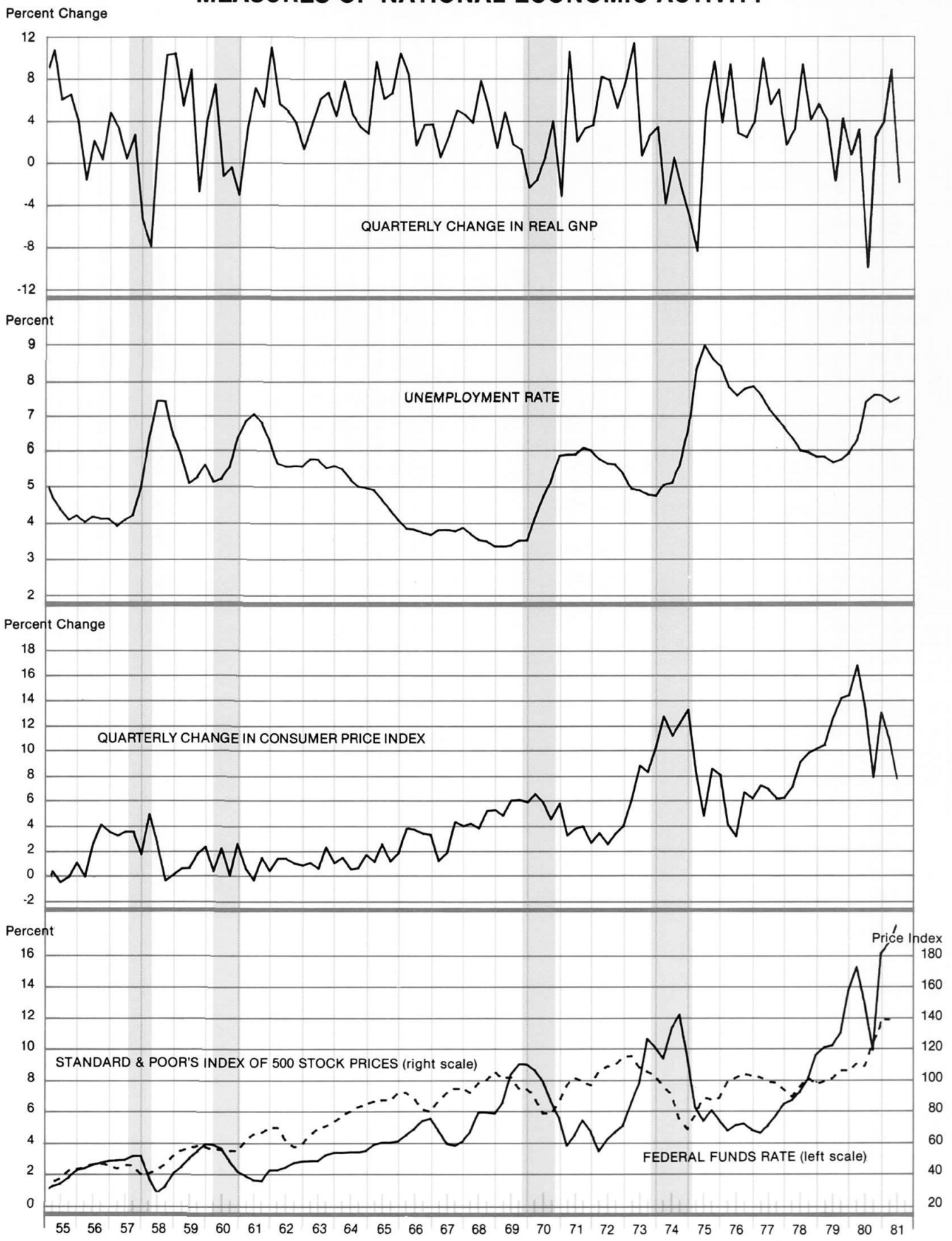
Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

MEASURES OF NATIONAL ECONOMIC ACTIVITY



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

MEASURES OF NATIONAL ECONOMIC ACTIVITY



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