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## **The 2001 Economic Recession: How Long, How Deep, and How Different From the Past?**

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# The Current Economic Recession: How Long, How Deep, and How Different From The Past?

## Summary

The 10<sup>th</sup> recession of the post-World War II period lasted from March to November of 2001. Of these 10 recessions, only two have been long and deep – the recession of 1973-1975 and the recession of 1981-1982. This report examines the 2001 recession and the recessions of the previous three decades in detail. It gives a brief overview of the other post-war recessions. It outlines the fiscal and monetary policy response to each recession. It also looks at theories of why recessions occur.

The report concludes by asking the question that many commentators in the news asked: was the 2001 recession different from the past? It finds little evidence that this is the case. Commentators have claimed that the 2001 recession was different from the past because it was an investment-led (rather than a consumption-led) recession. While the 2001 recession was investment-led, this is true of all the post-war recessions. Commentators also claimed that the 2001 recession was unique because its run-up was not characterized by an accelerating rate of price inflation. While this characteristic is different from recessions of the 1970s, 1980s, and 1990s, it is similar to recessions of the 1950s and 1960s. Another similarity between the 2001 recession and past recessions that has been somewhat overlooked by commentators is the role of rising oil prices. A spike in oil prices has preceded nine of the 10 post-war recessions.

The worldwide nature of the 2001 slowdown was unusual, but not unprecedented. For most countries, the slowdown did not develop into contraction, however, with the exceptions of Japan and Germany. Economic growth in the advanced economies in 2001 averaged 0.9%. World economic growth was also weak in both the 1973-1975 recession and the 1981-1982 recession. There has never been a year in the post-war period where world economic growth contracted.

In response to the 2001 recession, the Federal Reserve sharply reduced the federal funds rate. There was some easing of monetary policy in all post-war recessions, although in some cases the easing did not begin until the recession was already underway. There was also an easing of fiscal policy in 2001, with the passage of a tax cut and a move from a large budget surplus to a budget deficit. There was fiscal expansion in the recessions of the 1970s and 1980s, but little or no fiscal easing in the recessions of the 1940s, 1950s, 1960s, and 1990-1991. This did not prevent the economy from recovering quickly in those episodes.

Contrary to the claims of some commentators, the 2001 recession cannot be meaningfully compared to the Great Depression and recessions of the 19<sup>th</sup> century. At that time, the economy was characterized by the maintenance of a gold standard and little financial regulation. The Federal Reserve was not created until 1913 and did not operate a discretionary monetary policy aimed at promoting economic stability until after World War II.

This report will not be updated.

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# The 2001 Economic Recession: How Long, How Deep, and How Different From The Past?

On November 26, 2001, the National Bureau of Economic Research (NBER), the nonpartisan and nonprofit organization that dates the business cycle for the United States, decided that the longest economic expansion in U.S. history had come to an end in March of 2001, and the U.S. economy entered a recession. On July 17, 2003, the NBER declared that the recession had ended in November 2001.

The cover of the December 3, 2001 issue of the *New Republic* magazine read “Why This Recession Is Different.” The cover article captured a sentiment expressed by other recent articles in many different publications when it stated:

So despite the stream of bad economic news, economists were confident that Greenspan’s rate cuts would work their magic soon enough.... If this recession is like every other American recession since World War II, that optimism is fully merited. The problem is that there’s mounting evidence it’s not. This time around it wasn’t a change in consumer spending that brought the economy to a standstill; it was largely a change in *business* spending.... Cutting interest rates in the middle of this type of economic slowdown, as Greenspan did this year, won’t help much.... In other words, economists’ current faith in monetary policy has a lot to do with the kinds of recessions we’ve seen in the past and little to do with the recession we’re in now.<sup>1</sup>

If the 2001 recession was dissimilar from other post-war recessions, to what can it be compared? Some commentators believed it has more in common with recessions of the 19<sup>th</sup> century and early 20<sup>th</sup> century. For example, *The Economist* magazine paraphrased an argument of Goldman Sachs economists that

Greater vigilance from central banks, industrial deregulation, and ample productive capacity (as a result of strong investment) have all helped to hold down inflation. The traditional trigger of recession, therefore, has not been pulled.... As a result, the expansion has endured for longer than usual. The snag is that longer periods of expansion allow other sorts of imbalance – notably, personal and corporate debt, and overinvestment – to build up instead.... Eventually, overinvestment reduces the return on capital and firms decide to cut their spending on capital. Consumers feel overburdened with debt and increase their saving. Optimism gives way to pessimism and demand falls sharply. In the 19<sup>th</sup> and early 20<sup>th</sup> centuries, in fact, this was the typical business-cycle pattern....

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<sup>1</sup> Noam Scheiber, “Wretched Excess,” *The New Republic*, Dec. 3, 2001.

This old fashioned kind of recession may in general tend to be longer-lived, as well as deeper, than the ordinary post-war sort.<sup>2</sup>

The performance of the American economy is important to the government in its ability to accomplish its domestic and foreign objectives. High among these objectives is full employment. This report will examine the historical record more closely to judge the validity of these arguments. It first examines the 2001 recession, then explores economic theories about the causes of recessions, and then compares historical recessions to the 2001 episode. It concludes that upon careful examination, the 2001 recession was not so unusual after all.

## The 2001 Contraction

From 1994 through mid-2000, U.S. economic performance was outstanding. The average growth rate of GDP was about 4% and the unemployment rate was reduced to 3.9% in September 2000 (the lowest rate in more than 30 years). While the inflation rate averaged less than 3% per year over most of the period, it began to creep up in 2000. The Federal Reserve expressed growing concern that the U.S. was on an unsustainable growth course and that unless the economy was cooled off, the inflation rate would begin to accelerate. To this end, the target rate for federal funds was increased from 4.75% in June 1999 to 6.5% in May 2000. In retrospect this tightening may have been excessive, for GDP growth promptly slowed from an annual rate of 3.7% in the first half of 2000 to 0.8% in the second half. With GDP growth virtually 0% in 2001, the unemployment rate began to rise, reaching 5.6% in November. As shown in Table 1, the economy shrank in the first three quarters of 2001, and has been expanding since then.

The desire to quell an accelerating inflation has been a major reason why recent expansions have been brought to an end. Yet it is hard to find inflation acceleration during the 1991-2001 expansion. It is true that the Consumer Price Index for the 12 months ended in December 2000 rose 3.4%, which was a high for the expansion, compared with the 1.7% increase in 1997 and the 1.6% increase in 1998. However, inflation in both of those years was eased by falling oil prices. This is evident when the comparison is made with the CPI purged of its energy component. The rise in this index during 2000 was 2.6%, which, while higher than 1997-1999, was lower than 1994-1996. Indeed, the failure of the inflation rate to accelerate noticeably as the economy was operating at more than full capacity during the last four years of the 1991-2001 expansion remains largely unexplained. Once the recession began, the inflation rate fell noticeably, as one would expect in an economy with insufficient demand. It fell from an average of 3.4% in 2000 to 2.8% in 2001 to 1.6% in 2002. If the CPI excluding energy prices is considered, inflation has been virtually constant from 2000 to 2002. (For inflation data as measured by the GDP deflator, see Table 1.)

Besides tighter monetary policy, the U.S. economy was also slowed by another oil price shock, in which prices rose from \$10/barrel in February 1999 to above \$30/barrel for several months in 2000. Prices fluctuated in the \$20-30/barrel range

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<sup>2</sup> "What a Peculiar Cycle," *The Economist*, March 10, 2001.

in 2001-2002. The effect of this shock was less than those of the 1970s both in dollar terms and because the U.S. economy now uses much less energy per unit of GDP.

While consumption expenditures held up during the 2001 contraction, investment outlays did not, similar to the pattern in most recessions. Gross private investment declined by nearly \$190 billion (in 1996 dollars) in 2001. Approximately two-thirds of this decline has been accounted for by inventory liquidation. Fixed investment outlays (investment excluding inventories) fell during and after the recession, falling each quarter from 2001 to the third quarter of 2002. Perhaps the decline in investment should not be surprising since the 1991-2001 economic expansion was the first since 1960 to have a substantial investment component.

**Table 1: Economic Indicators in the 2001 Recession**

Quarter	GDP Growth	Consumption Growth	Investment Growth	Inflation Rate (GDP Deflator)	Unemployment Rate
2001:Q1	-0.6%	2.4%	-2.2%	3.7%	4.2%
2001:Q2	-1.6%	1.4%	-11.1%	2.5%	4.5%
2001:Q3	-0.3%	1.5%	-4.3%	2.2%	4.8%
Cumulative	-0.6%	1.3%	-4.5%		High: 6.2% (2003:Q2)

**Note:** Data presented in annualized form except for the cumulative total; investment growth excludes changes in inventories.

**Source:** Bureau of Economic Analysis, *National Income and Product Accounts*; Bureau of Labor Statistics.

The 2001 downturn did not affect all sectors of the economy uniformly. Industrial production reached a peak in September 2000 and declined in each subsequent month through December 2001. The service sector, by contrast, remained relatively robust. Residential investment and auto sales also remained strong.

Despite the contraction, the U.S. trade deficit continued to grow as a fraction of GDP, reaching 5% during 2001. The foreign exchange value of the dollar measured against a broad base of currencies did not begin to depreciate until the recession had ended, reaching a peak in February 2002. The slowdown in growth was worldwide: economic growth in the advanced economies was below average in 2001 (0.9%), and 2002 (1.8%). The Euro Area grew faster than the U.S. in 2001, and slower in 2002. But only Japan and Germany experienced a recession among the major economies.

Short term interest rates followed the downward decline in the federal funds rate and were at levels last seen in the 1960s. Longer term rates did not fall much at all. The AAA and BAA bond rates declined from 7.5% and 8.3% respectively in the 4<sup>th</sup> quarter of 2000 to 6.9% and 7.9% in the 4<sup>th</sup> quarter of 2001. A noticeable feature of the downturn was the very sharp decline in equity prices. The S&P 500 index declined nearly 40% from its peak in July 2000. A somewhat smaller decline was recorded by the Dow Industrial index.

The initial recovery from the recession was unusually tepid. In the first seven quarters of the recovery, growth exceeded 3% only twice. As of July 2003, the labor market had shown no sign of sustained recovery.<sup>3</sup> There were a number of factors holding back the recovery after the recession had ended, including the corporate and accounting scandals, war with Iraq, persistently high oil prices, and the persistent weakness of the stock market. Long-term interest rates and the exchange rate declined more after than during the recession. The stock market began to recover in early 2003. Historical trends suggest that this is a good sign: stock market recoveries have always preceded economic recoveries in the post-war period.

## **September 11, 2001 and the Stock Market Decline**

What makes economic activity so difficult to forecast is the large role played by emotional factors such as confidence, uncertainty, and pessimism that can neither be easily quantified nor predicted. The 2001 recession offers two good examples of the importance of such factors: the attacks of September 11 and the bursting of the stock market bubble.

It is difficult to discern the effects of the terrorist attacks on the course taken by the economy. These attacks on the U.S. homeland were a unique experience. Direct physical damage to the U.S. capital stock due to the attacks was small and mostly confined to Manhattan and the airlines. In any case, damage to the existing capital stock is not measured in GDP. However, the horrific nature of the attacks was widely believed to have undermined public confidence, leading the public and businesses to refrain from spending at a rate that would have occurred without the attacks. Consumer confidence indices did show a sharp decline following the attacks. Yet the public responded to special incentives to purchase automobiles, which it generally refrains from buying in downturns, leading to a record sales month in October 2001 for the automobile industry. November 2001 sales, which also benefitted from the incentives, were also very strong. A longer term consequence of the attacks was a change in the composition of expenditures. A larger fraction of expenditures will be directed to making the country more secure. Hence, a lasting effect of the terrorist attacks will undoubtedly be to alter the composition of national output.<sup>4</sup>

It is hard to argue that the attacks had a considerable effect on the economy, independent of the recession already in motion when the attacks took place. GDP contracted in the first three quarters of 2001. Since September 11 occurred near the end of the third quarter, its impact on that quarter was minimal. One would have expected its main effects to materialize in the fourth quarter, yet GDP began growing again in that quarter and has grown ever since.

Similarly, it is difficult to determine what sort of effect the stock market decline had on the investment climate. A fall in stock prices in secondary markets has no

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<sup>3</sup> See CRS Report RL32047, *The "Jobless Recovery" from the 2001 Recession*, by Marc Labonte and Linda Levine.

<sup>4</sup> See CRS Report RS21076, *The Economic Effects of Spending on Homeland Security*, by Brian Cashell.

direct effect on investment spending. Rather, it depresses investment spending through balance sheet effects and consumption through wealth effects. Thus, how great an impact the decline had on the economy depends heavily on how investors reacted to it, which cannot be easily differentiated from the investors reaction to the recession.

## Policy Responses to the 2001 Downturn

Both fiscal and monetary policy were used to curb the extent of the economic contraction. The Federal Reserve decided on January 3, 2001 that the economic slowdown was greater than required to bring the economy back to its full employment growth path.<sup>5</sup> Between January 3 and December 11, 2001, the federal funds rate was reduced to 1.75% from 6.5%. About half of the easing was subsequent to May 15<sup>th</sup>. The response of economic activity to an easing of monetary policy is not immediate, as will be explained below. One of the channels by which monetary policy affects the pace of economic activity is through changes in the international exchange value of the dollar. This channel is not going to be strong since the major trading partners of the United States also experienced economic slowdowns and lowered their own interest rates. Thus, the dollar has had less scope for depreciating against other currencies. In addition, various parts of the industrial sector of the U.S. appeared to have redundant capital, especially in computer equipment and software. This means that there was less incentive to add capital to this vital sector in the face of capital redundancy even as interest rates fell.

Fiscal expansion was also used to revive aggregate spending. The full employment measure of the federal budget moved from a surplus of 1.3% of GDP in 2000 to 0.6% in 2001 to a deficit of 1.5% of GDP in 2002. Government spending increased by about 1% of GDP from 2001 to 2002. The tax rebate and the reduction in personal income tax rates raised the disposable income of households and, it is thought, led to an increase in consumption spending. However, the portion of the tax cut delivered in 2001 was small, less than ½ of 1% of GDP. Further tax reductions were phased in beginning in 2002. But most of the tax cuts were spread well into the future.

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<sup>5</sup> Economists generally define full employment relative to an unemployment rate. Many estimates of this full employment rate of unemployment clustered about 5%. An unemployment rate of 3.9% reached in September 2000 implied that the economy was characterized by excess demand. Full employment can also be considered in terms of a sustainable rate of growth. By this standard, the growth rates of GDP during the third quarter of 1999 (8.3%) and the second quarter of 2001 (5.7%) were clearly unsustainable even if technological innovations had raised the sustainable rate. For that reason, the Federal Reserve undertook to tighten monetary policy. Between June 30, 1999 and May 16, 2000, the federal funds rate was raised in six steps from 5% to 6 ½%. The tightening of monetary policy may also have been motivated by a fear that symptoms of a “bubble” in the stock market would spill over to the wider economy.



## What Causes Recessions?

What causes recessions? The answer is both complex and simple. It is complex because there is always an element of what John Maynard Keynes referred to as “animal spirits” driving recessions, such as confidence, uncertainty, and pessimism. These animal spirits do not accommodate themselves to objective, quantitative analysis. The psychological impact of events in the 2001 recession such as the September 11 attacks and the bursting of the NASDAQ bubble are good examples of the futility of trying to precisely quantify a recession’s cause. For that reason, our understanding of the causes and cures of recessions will always remain limited. But if events of the animal spirit variety are acknowledged, but then set aside, explaining recessions *ex-post* becomes relatively easy. The primary culprits then boil down to errors in monetary and fiscal policy that destabilize aggregate demand, a variety of shocks to the productive capacity of the economy that are relatively quantifiable, and spillover effects from financial crises. There are many other theories of the business cycle, some related and some contradictory, but this report will focus on those three for the sake of brevity and conceptual coherence.

### Policy Errors

In a sense, most recessions could have been avoided. After the fact, one can identify alternative monetary and fiscal policy choices that, if employed, would have prevented – or at least alleviated – most recessions. Most recessions are caused by declines in aggregate demand – individuals and firms no longer desire to purchase as much as the economy can produce. If prices adjusted quickly, the price of goods and services would fall to the point where aggregate demand would purchase what the economy could produce and recession could be averted. Since prices do not adjust quickly, output must fall in response to the fall in demand.

Although sticky prices make instantaneous market adjustment impossible, it does enable fiscal and monetary policy to manipulate aggregate demand to boost real purchasing power when the economy is in a recession. (See box for an explanation of how fiscal and monetary policy affect the economy.) Because fiscal and monetary policy have wide latitude to manipulate aggregate demand, one can theoretically envision that there would always be a policy stance consistent with a fully-employed economy. Theoretically, any change in the behavior of private actors, positive or negative, that affected aggregate demand could be completely offset by fiscal and monetary policy, allowing for smooth and continuous economic growth. Unfortunately, information is limited and the effects of policy changes are often slow, variable, and uncertain. Thus, in hindsight, “erroneous” policy decisions can be identified that moved the economy away from full employment or prevented the economy from quickly returning to full employment. Policymakers at the time may have made the best decision based on the information available to them, but with the knowledge one has after the fact, one can identify alternative policy decisions that would have prevented or alleviated the recession.

Such policy errors come in two common varieties. First, there are frequently policy errors that lead to the economy growing at an unsustainable pace. To prevent accelerating inflation and other economic imbalances from widening, these errors

must then be reversed, and in the process of reversal the economy often “overshoots” and enters a recession. This is why the boom and bust pattern of business cycles is so typical, and why “hard landings” tend to be the norm and “soft landings” the exception.

Second, there are policy errors that occur because policymakers react to the onset of a recession too slowly, given the lags in policy effectiveness. Instead, the needed stimulus is delivered after the recession has already begun. These errors occur because data become available slowly, are often subject to revision, and may be contradictory. Our knowledge of the economy simply remains – and will probably always remain – too limited to “see the problem coming.”

Most economists remain hopeful that stabilization policy (during both expansions and recessions) will continue to improve, making future recessions, if not avoidable, at least shorter and shallower. Indeed, the past two recessions are the mildest of the post-war period. For them, monetary policy plays the key role in providing stabilization because fiscal policy is more cumbersome and harder to reverse. But there remain a minority of economists who believe that discretionary stabilization policy does more harm than good. In their view, policy errors are too frequent and not always accidental. By increasing uncertainty, these errors lower people’s well-being, erode confidence and policymakers’ reputations, and worsen downturns. It is a fact that recessions will end on their own once prices adjust and resources are reallocated. These economists would rather use economic “rules” to set policy and wait for natural adjustment to take place than risk worsening it through the active use of ill-conceived stabilization policy.<sup>6</sup>

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<sup>6</sup> For more information, see CRS Report RL31050, *Formulation of Monetary Policy by the Federal Reserve: Rules vs. Discretion*, by Marc Labonte.

### **How Do Fiscal and Monetary Policy Affect the Economy?**

Changes in monetary and fiscal policy change aggregate spending in the economy. All else equal, expansionary monetary policy lowers interest rates, boosting investment spending and interest-sensitive consumer spending. Lower interest rates also tend to increase the capitalized value of the nation's financial wealth and this, in turn, tends to increase household consumption. Lower interest rates also lower the international exchange value of the dollar, all else equal, by lowering the inflow of foreign capital. Since capital can only be invested through the purchase of dollars, a smaller net inflow of capital causes the dollar to depreciate. The depreciation then boosts U.S. exports and import-competing goods, increasing economic growth, all else equal. Thus, a recession is typically accompanied by an exchange rate depreciation and improvement in the trade balance. This is an example of the economy's built-in adjustment mechanisms that prevent recessions from persisting. All of these effects take time, however. (For more information, see CRS Report RL30839, *Monetary Policy: Current Policy and Conditions*, by Gail Makinen, and CRS Report RL31204, *Fixed Exchange Rates, Floating Exchange Rates, and Currency Boards: What Have We Learned?*, by Marc Labonte.)

Fiscal policy, or the expansion of a budget deficit, can also boost aggregate spending. If it is undertaken through higher government spending, then this boosts aggregate spending directly. If fiscal policy is undertaken through tax cuts, aggregate spending is boosted to the extent that the tax cuts are spent by their recipients. The effect of fiscal policy on aggregate spending can be partially offset, however, to the extent that it causes higher private interest rates which "crowd out" private investment spending and exports. The closer the economy is to full employment when fiscal expansion is undertaken, the more crowding out can be expected.

Fiscal expansion naturally occurs as the result of the budget's "automatic stabilizers" (declines in revenues and increases in spending that occur without policy change). In addition, it can occur through active policy changes (legislated changes in the level of spending or taxation). A reasonable estimate of whether the former or latter has occurred can be determined by examining the structural deficit, or deficit that would occur if the economy were at full employment, calculated by the Congressional Budget Office. In the former case, the structural deficit remains constant, in the latter it widens. (For more information, see CRS Report RL30839, *Tax Cuts, the Business Cycle, and Economic Growth: A Macroeconomic Analysis*, by Marc Labonte and Gail Makinen,.)

## **Supply Shocks**

In the 1970s, economists acquired a better appreciation that economic fluctuations were not always attributable to changes in aggregate demand, but could also be caused by "shocks" to aggregate supply. Sometimes economic conditions

change in ways that temporarily retard the productive capabilities of the economy. Earthquakes, hurricanes, and other natural disasters are obvious examples of shocks. Other shocks occur when a crucial relative price changes, and resources and other prices cannot be reallocated and adjusted quickly enough to prevent an economic contraction. In small, open economies, events abroad (e.g., Finland suffered a deep recession when the Soviet Union collapsed) or a sharp change in the exchange rate may cause such a shock. The U.S. economy is probably too large and has too little reliance on international trade to succumb to these types of shocks.

For the U.S., oil shocks have been and continue to be the most dangerous source of supply shocks to the U.S. economy. If anything, this threat has been underrated – sharp spikes in the price of oil have preceded nine of the 10 post-war recessions, including the current one.<sup>7</sup> The following discussion explains in greater detail why oil shocks cause recession. For clarity, the discussion will separate their effects on aggregate demand from those on aggregate supply.<sup>8</sup>

**Oil Shocks: Demand Effects.** When energy prices change they involve an income transfer among producers and consumers. In the case of a price increase, income is likely to be transferred from consumers to producers. Since producers are also consumers, aggregate demand is likely to fall only temporarily as producers adjust their consumption to their now higher incomes. This adjustment is likely to be longer when the income recipients are foreigners than when they are Americans. A second effect on demand can be expected to occur because the rise in energy prices will probably push up the overall price level because other prices do not fall immediately in the face of a decline in demand. The increase in the price level will reduce the real value of the available amount of money in the hands of buyers, and this reduction in the real money stock will also reduce spending. A third effect on demand can occur if the rise in energy prices increases uncertainty and causes buyers to defer purchases. This also is likely to be of a short run nature. The magnitude of all three effects will depend on how much energy prices rise and how long they remain high. The strength of the effects will be temporary if the oil price rise is of short duration.

**Oil Shocks: Supply Effects.** The supply side effects are also multiple in nature. First, the increase in oil prices will increase the cost to produce output. Given the level of demand, aggregate output will fall and unemployment will rise. Second, not all prices will rise proportionately since oil does not enter equally in the production of all goods and services. Some prices will thus rise relative to others. Consumers will tend to divert their purchases toward other goods and services whose prices have not risen in proportion. Thus, labor and capital will become unemployed

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<sup>7</sup> An increase in oil prices can be viewed only as a cause of a recession if it is caused by exogenous events, such as the revolution in Iran and the Persian Gulf Crisis, as opposed to being the consequence of a rise in oil demand caused by previously strong growth. Economist James Hamilton claims that all nine of these oil shocks were caused by exogenous events. James Hamilton, "Oil and the Macroeconomy Since World War II," *Journal of Political Economy*, v. 91, n. 2, 1983.

<sup>8</sup> This discussion draws heavily from Herbert Stein, "U.S. Policy, Oil, and Recession," *The Washington Economist*, American Enterprise Institute, November/December 1990, pp. 8-12.

and have to be shifted from the contracting to the expanding industries.<sup>9</sup> They may not, however, be in the right proportions or the right type. The consequence is that they are likely to remain unemployed or under employed for a considerable period. Overall, the effect of an oil price hike on the supply side is to raise unemployment.

**Oil Shocks: Policy Response.** The argument made above that recessions (caused by changes in aggregate demand) could have been avoided with different policy responses does not apply to oil shocks. Recessions induced by declines in aggregate demand typically cause both output growth and inflation to fall. This gives policymakers plenty of latitude to boost demand without fearing that inflation will be reignited. Oil shocks make for a less favorable policy tradeoff because they are characterized by falling growth and *rising* prices. Policymakers must now choose between a longer recession or higher inflation. The “right” policy response is more ambiguous.

## Financial Crises

Crises in the financial sector are a rarer, but virulent, cause of recession, as is demonstrated by the Great Depression and Japanese experience in the 1990s. A sound financial sector is a uniquely important component of a growing economy because it enables capital to be efficiently directed from savers to borrowers. When this mechanism breaks down, there are spill-over effects to the wider economy as economic production becomes difficult, costly, inefficient, and slow. A non-functioning financial system is one economic problem that cannot be solved solely through traditional monetary and fiscal expansion, although the two can have palliative effects. Concern about financial crisis should not be confused, however, with the expected decline in asset prices that typically accompanies a recession.

## Characteristics of Typical Recessions

**Role of Inventories.** Historically, inventories have played a special role in recessions. When the economy enters a recession, sales fall more quickly than firms had anticipated, and inventory buildup constitutes a significant portion of GDP growth. The buildup inventories then needs to be drawn down, and while this happens, economic recovery is retarded: although sales are recovering, new production is not needed. It is only when excess inventories are “worked off” that economic growth can resume.

There has been much speculation that the development of “just in time” production and the growing computerization of inventory management would make inventories less volatile in recessions. If this were true, recessions might become shallower and shorter. Measured as a percentage of GDP, the decline in inventories in the 1990-1991 was smaller than usual and seemed to support this theory. But there

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<sup>9</sup> The channel through which oil shocks retard economic growth should make it clear that it is the *change* in oil prices, rather than the *level* of oil prices, that affects economic output. Once an economy has adjusted to an increase in oil prices, high oil prices have no effect on its ability to grow from that point forward. The permanent effect for oil consuming nations such as the U.S. is that the nation’s income purchases fewer goods and services henceforth.

was an above average inventory drawdown in the 2001 recession (although a below average preceding inventory buildup).

**Consumption and Investment Patterns.** It has repeatedly been claimed that the 2001 recession is “different” because it was concentrated in the investment sector. Consumption, by contrast, has kept growing during the recession. They conclude that overinvestment during the preceding expansion phase is therefore the unique cause of the 2001 recession. As will be shown below, this claim is unfounded – *investment has declined more sharply than overall growth in every post-war recession. By contrast, growth has declined more sharply than consumption in every post-war recession. In five of the 10 recessions, including 2001, consumption actually remained positive on a cumulative basis over the entire recession.*

Theoretically, this pattern is unsurprising. The life-cycle consumption model suggests that output should fall more than consumption during recessions because people prefer to smooth their consumption patterns over their lifetime. Investment, by contrast, should be highly sensitive to expected rates of return, and short-term rates of return would presumably fall during recessions. Furthermore, monetary policy has been used as a stabilization tool more frequently and actively than fiscal policy. Since monetary policy works primarily through the interest rate channel, and investment is more sensitive to changes in interest rates than consumption, this makes investment more volatile. Because investment has always fallen sharply in recessions, some economists focus on investment cycles as a distinct cause of recessions. But for the reasons outlined in this paragraph, it is difficult to disentangle cause from effect and conclude that investment behavior is a distinct cause of recessions.

Many commentators claimed that inflation remained low in the 2001 recession because it was concentrated in investment. They claim that unlike the previous four recessions, where excessive “consumer demand” pushed up prices, inflation remained low in 2001 because only investment spending was excessive. This is not an accurate description of the theory of aggregate demand. While it is true that theory suggests prices rise when aggregate demand grows excessively, it is not true that only consumption can cause aggregate demand to grow excessively. Consumption is only one component of aggregate demand; investment is another. Excessive growth in the demand for investment goods can be just as inflationary as excessive growth in the demand for consumption goods.

## The Historical Record

The United States has not had much experience with economic contractions. There have been only 10 in the more than 50 years since the end of World War II. Before 2001, the prior contraction occurred more than 10 years ago and ran from July 1990 to March 1991. The previous contraction was 8 years earlier, having run from July 1981 to November 1982. As shown in Table 2, not only has the American experience with contractions been infrequent, but the contractions have not been long

or especially deep.<sup>10</sup> The average contraction has lasted 11 months. Two contractions were long, 1973-75 and 1981-82, with both lasting 16 months.<sup>11</sup> Four of the remaining contractions are closely clustered about the average. The March to November downturn, lasting eight months, ranks below average in length. By way of contrast, the average length of the 10 expansions in the United States in the post-World War II era has been 57 months. Three of these expansions were very long: November 1982-July 1990, 92 months; February 1961-December 1969, 106 months, and March 1991-March 2001, 120 months.

**Table 2: Previous Economic Contractions in the Post-World War II Era**

Period of Contraction	Months of Contraction	Contraction of GDP	Maximum Unemployment Rate
November 1948-October 1949	8	1.7%	7.9%
July 1953-May 1954	10	2.7	6.1
August 1957-April 1958	8	3.7	7.5
April 1960-February 1961	10	1.6	7.1
December 1969-November 1970	11	0.6	6.1
November 1973-March 1975	16	3.0	9.0
January 1980-July 1980	6	2.2	7.8
July 1981-November 1982	16	2.9	10.8
July 1990-March 1991	9	1.5	7.8

Source: National Bureau of Economic Research and National Income and Product Accounts.

The deepest recession in this period was the “double dip” recession from January-July 1980 and July 1981-November 1982. The second deepest was the recession from November 1973-March 1975. This report takes a closer look at these two recessions, as well as the 1990 recession. Lessons from these three recessions are most likely to be relevant today since these recessions were the most recent and the only to occur under a flexible exchange rate regime. It then gives a brief overview of the other recessions of the post-war period. It outlines the important

<sup>10</sup> The percentage declines in GDP listed in the table do not correspond precisely to the NBER periods of contraction. In some cases the GDP declines began prior to the quarter which the NBER designates as the beginning of the contraction and the declines in GDP frequently reach a trough prior to the trough designated by the NBER. The same caveat applies to the maximum unemployment rate reached during the contraction. In one instance, the 1990-1991 contraction, the maximum unemployment rate was reached 15 months after the trough designated by the NBER.

<sup>11</sup> By way of contrast, one contraction was very short. The contraction of January 1980 to July 1980 lasted only 6 months. However, since the ensuing expansion was only 12 months long, many economists lump this recession and the 1981-1982 recession together, as this report does below.

characteristics of the recessions and the monetary and fiscal response to each.<sup>12</sup> Finally, it briefly examines the Great Depression and recessions of the 19<sup>th</sup> century to judge their comparability to the 2001 contraction.

## The Recession of 1990-1991

The recession of 1990-1991, like most recessions, was not particularly deep or long. It lasted for three-quarters of a year, and GDP fell by a total of 1.5% (quarterly figures in Table 3 are larger because they have been annualized). Unemployment rose from 5.2% in March 1990 to 7.8% in June 1992 – 15 months after the recession had ended. Compared to the increase in most other post-war recessions, however, the rise in unemployment was relatively mild. The continued increase in unemployment once recovery was underway highlights an unusual feature of this recession: the subsequent recovery was sluggish at first.

Several explanations, which are not mutually exclusive, have been given for the recession of 1990-1991. First, the Federal Reserve (Fed) tightened monetary policy between February 1988 and May 1989, with the target for the federal funds rate rising from approximately 6.5% to 9.75%.<sup>13</sup> Although some of this increase had been reversed by the time of the recession, the lag in monetary policy effectiveness eventually took its toll on the economy. The Fed undertook this policy to counter a rising inflation rate, which rose from 2.2% in 1986 to 3.9% in 1990.<sup>14</sup>

Second, a month *after* the contraction began, Iraq invaded Kuwait and the U.S. economy was hit by a major oil price shock. Crude oil prices rose from an average of \$15 a barrel in June 1990 to \$33 a barrel in October 1990. Prices declined considerably by February 1991, however, raising the question of whether the price spike lasted long enough to have a significant effect on economic activity. Some analysts believed that uncertainty surrounding the crisis also played a significant role in undermining business and consumer confidence, and this in turn led to the curtailment of aggregate spending until the crisis was resolved.

Third, there were serious solvency problems among thrift institutions during this time. Since efficient financial intermediation is a key component of economic growth, this disruption could have been quite harmful to the economy. The Savings and Loan (S&L) Crisis led to the liquidation of many thrift institutions. The savings and loan industry, however, may have represented too small a portion of the nation's financial sector to cause serious disruption on a national level, although it could have

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<sup>12</sup> For a history of labor policy responses, see CRS Report RL31138, *Counter-Cyclical Job Creation Programs of the Post-World War II Era*, by Linda Levine,.

<sup>13</sup> All interest rates cited in this report are approximate and calculated in nominal terms (i.e., not adjusted for inflation), unless otherwise noted.

<sup>14</sup> This report measures inflation using the GDP price deflator. These data are reported only quarterly. Measurement by this process typically yields a lower inflation rate than the Consumer Price Index (CPI), a more closely watched rate. For example, between 1986 and 1990, inflation as measured by the CPI rose from 1.9% in 1986 to 5.4% in 1990. Measured on a monthly basis, inflation was even higher, reaching annualized rates of 10% to 13%.



led to localized economic disruptions.<sup>15</sup> The S&L Crisis was brought to an end after Congress passed the Financial Institutions Reform, Recovery, and Enforcement Act in August 1989, which used general revenues to create the Resolution Trust Corporation (RTC) to resolve failed thrifts still in operation. Between 1989 and 1993, the RTC took control of 743 institutions at a cost of approximately \$150 billion.<sup>16</sup>

**Table 3: Economic Indicators During the 1990-1991 Recession**

Quarter	GDP Growth	Consumption Growth	Investment Growth	Inflation Rate (GDP Deflator)	Unemployment Rate
1990:Q3	-0.7%	1.5%	-3.7%	3.9%	5.7%
1990:Q4	-3.2%	-3.3%	-13.1%	3.5%	6.1%
1991:Q1	-2.0%	-1.8%	-13.5%	4.7%	6.6%
Cumulative:	-1.5%	-0.9%	-7.4%		High: 7.8%

**Note:** Data presented in annualized form except for the cumulative total; investment growth excludes changes in inventories.

**Source:** Bureau of Economic Analysis, *National Income and Product Accounts*; Bureau of Labor Statistics.

While the banking industry did not experience a crisis as the S&L industry did, the industry did undergo stress during this period, which may have added to the general economic dislocation. Many financial analysts claimed the banking sector experienced a “credit crunch,” in which banks with deteriorating balance sheets rationed credit to credit-worthy firms. If this were true, then those firms would be unable to invest as much as they desired, reducing aggregate spending in the short run. By contrast, in the conventional model, banks would still offer loans to firms during economic downturns, but at higher interest rates because of rising riskiness. In this case, aggregate demand also declines because firms make fewer investments at the new higher interest rates.<sup>17</sup>

Claims of credit crunches are frequently heard during recessions. But it is difficult to determine if the rationing of credit to worthy borrowers truly occurs. The data show that during downturns banks shift their portfolios in favor of safe assets such as government bonds. This may result from a heightened preference for safety or a lack of other creditworthy lending opportunities. Also, the credit-worthiness of

<sup>15</sup> The total assets of savings banks were reported to be \$426 billion in December 1988, compared with total assets of \$3,048 billion for commercial banks. Source: *Federal Reserve Bulletin*, December 1989, Tables 1.25 and 1.37.

<sup>16</sup> CRS Issue Brief IB91070, *The Savings and Loan Cleanup: Background and Progress*, by Barbara Miles and Thomas Woodward.

<sup>17</sup> See, CRS Report 93-518E, *A Credit Crunch? Bank Lending and National Credit Patterns 1989-1992*, by William Jackson and Gail Makinen, ;and CRS Report 96-877, *The Monetary Transmission Mechanism: What Is the Role of Commercial Banks?*, by Gail Makinen and Eric Leach,

established borrowers may deteriorate as the economy moves from expansion to recession. The borrowers may fail to see this deterioration and claim that banks are rationing credit. In any case, the perceived credit crunch ended when robust economic growth returned.

The recession ended when the economy responded to monetary easing and the subsequent decline in oil prices. From a high of approximately 9.75% in May 1989 (a year before the recession began), the target for the federal funds rate was lowered over the next 2 ½ years to approximately 3% by the end of 1992. Typically, private long-term interest rates fell as well, but not by nearly as much: during that period, AAA corporate bonds fell by about 1 ¾ percentage points, and BAA corporate bonds fell by about two percentage points. This experience highlights the typical lags in monetary policy effectiveness – a monetary easing that began before the recession began did not feed through to private credit markets quickly enough to prevent the recession from occurring. In spite of the downturn, the Standard & Poor's (S&P) 500 Equity Index rose in nominal terms by 3.6% in 1990 (less than the rate of inflation) and 12.4% in 1991.

Nevertheless, the economy eventually responded to the lower interest rates and monetary creation, despite the claimed presence of a credit crunch. There was scant use of fiscal policy to end the recession, aside from the use of “automatic stabilizers,” which raised the actual budget deficit from 2.8% in 1989 to 3.9% in 1990 and 4.5% in 1991 as a percentage of GDP, but resulted in structural deficits of 2.1% in 1989 and 1990 and 2.5% in 1991. In fact, efforts were made to reduce the deficit (which was already large when the recession began), such as the Omnibus Budget Reconciliation Act of 1990, which was estimated to *raise* tax revenues by 0.3% of GDP in 1991 and reduce planned outlays. Changes to excise taxes, payroll taxes, and individual income taxes accounted for the bulk of the tax increases.

Additional traits of the 1990-1991 recession were typical of other recessions. Private investment declined significantly more than consumption. Large inventory drawdowns by business were also a key component in the decline of GDP. As a percentage of GDP, however, the change in inventories was significantly smaller than in past recessions, and, therefore, played a smaller role in the downturn. The dollar depreciated by 7.3% in inflation-adjusted terms over the next year after peaking in March 1990. The trade balance improved slightly, and this helped alleviate the decline in GDP. The trade deficit was small even before the recession, however, and the improvement during the recession was not significant; the trade deficit declined from 0.9% of GDP in the second quarter of 1990 to 0.3% of GDP in the first quarter of 1991. The trade deficit and dollar were able to decline in part because of the state of the world economy. Although the United Kingdom was in the midst of a recession at this time, growth in Western Europe and Japan was moderate to strong, and growth was also fairly strong in the developing world.

## **The “Double Dip” Recession of the 1980s**

The “double dip” recession of the early 1980s was actually two separate recessions interrupted by a very short (two quarter) expansion. Since the expansion was so short and the causes of both recessions were the same, most analyses combine these two recessions, as does this report. Taken together, the double dip recession

represents the deepest and longest recession in the post-war period. Economic growth fell by more than 2% in each recession and the unemployment rate rose from 6.3% in the first quarter of 1980 to 10.8% at the end of 1982 (one quarter after the recession had ended). This is the only time that the unemployment rate has reached double digits since the Great Depression.

It is widely acknowledged that the major factor driving the economy into its deep recession in the early 1980s was the desire by the Federal Reserve to reduce the inflation rate to a more acceptable level. Inflation reached 11.1% on an annualized basis in the fourth quarter of 1980. The problem was not going to go away on its own – since the oil shock of 1973, there had not been a single quarter when inflation had been below 4%. Under the recently appointed Chairman Paul Volcker, the Fed chose to act decisively to reduce inflation, even if it led to a reduction in economic activity in the short term. Beginning with Volcker's appointment in August 1979, the Fed increased the federal funds rate from approximately 10.5% to 17.5% in April 1980.<sup>18</sup> The federal funds rate was then lowered until it reached approximately 9.5% in August 1980, but when inflation remained persistent, a new round of rate increases brought the rate to 19% in July 1981. These increases are even more significant when adjusted for inflation because the inflation rate fell by around five percentage points during this time. Thus, the real federal funds rate rose about from about 0% in August 1980 to 11 ½% in July 1981. The nominal federal funds rate remained above 10% until October 1982, just after the second recession had ended.

Long-term interest rates followed a similar pattern, although the changes were not as great. From August 1979 to April 1980, nominal interest rates on AAA corporate bonds rose by approximately three percentage points, and BAA bond rates rose by almost four percentage points. From August 1980 to July 1981, both AAA and BAA bond rates rose by another three percentage points and continued to rise until the first quarter of 1982. The S&P Index rose by 15.3% in 1980 and 7.8% in 1981 (less than the rate of inflation), but fell by 6.5% in 1982.

Oil shocks again reared their ugly head, contributing to this recession. Following the revolution in Iran, the oil price rose from \$13/barrel at the beginning of 1979 to \$37/barrel in March 1981. In 2000 prices, the average oil price peaked in 1980 at around \$60/barrel, more than twice as high as the average price in 2000. Oil prices remained high until 1986.

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<sup>18</sup> The sharp rise in overnight rates actually began during the short term of Volcker's predecessor, G. William Miller. During Miller's tenure, overnight interest rates rose from approximately 6.75% in March 1978 to 10.5% in July 1979.

**Table 4: Economic Indicators During the 1980-1982 Recession**

Quarter	GDP Growth	Consumption Growth	Investment Growth	Inflation Rate (GDP Deflator)	Unemployment Rate
1980:Q2	-7.9%	-9.1%	-35.7%	9.5%	7.3%
1980:Q3	-0.6%	4.1%	3.1%	9.4%	7.7%
1980:Q4	7.3%	4.8%	17.8%	11.1%	7.4%
1981:Q1	8.0%	1.7%	1.9%	10.6%	7.4%
1981:Q2	-2.8%	0.3%	-0.2%	7.3%	7.4%
1981:Q3	4.9%	1.9%	1.4%	8.0%	7.4%
1981:Q4	-4.6%	-3.1%	-1.4%	7.5%	8.2%
1982:Q1	-6.5%	2.4%	-11.8%	5.8%	8.8%
1982:Q2	1.7%	2.6%	-14.2%	5.3%	9.4%
1982:Q3	-1.9%	6.4%	-12.1%	5.6%	9.9%
Cumulative: First Recession	-2.2%	-1.3%	-8.2%		High: 7.4%
Cumulative: Second Recession	-2.9%	0.7%	-9.5%		High: 10.8%

**Note:** Data presented in annualized form except for the cumulative total; investment growth excludes changes in inventories.

**Source:** Bureau of Economic Analysis, *National Income and Product Accounts*; Bureau of Labor Statistics.

Consumption, investment, and inventories followed their typical patterns in this recession. Consumption fell less than overall growth during both recessions and actually grew in all but two quarters. Investment fell by more than overall growth. Its pattern during the first recession was somewhat unusual, with a very large decrease in the first quarter of the recession (-35.7% in annualized terms). Inventory reductions also played a large role in reducing GDP.

The trade deficit played a negligible role as it showed little change over the recessions – there was a surplus or deficit of less than 1% of GDP throughout the period. The real exchange rate value of the dollar fell throughout the first recession, but began appreciating during the brief interim expansion, returning the exchange rate to its pre-recession value. Interestingly, it continued to appreciate during the second recession by 18% as part of an upward trend that continued until 1985. Many economists attribute this appreciation to the high interest rates caused by the combination of an expansionary fiscal policy and tight monetary policy. World economic growth was below average in these years in both the developing world and the industrial countries, but West Germany and the United Kingdom were the only other large economies to experience recession.

In 1982, real interest rates and oil prices fell, but remained significantly higher than their pre-recession levels. Nevertheless, the recession eventually ended and gave way to a strong recovery. The large tax cuts in 1981 and ensuing budget deficits undoubtedly played a role in stimulating the economy in 1982, although this was partially offset by their contribution to the high interest rates of the period which “crowded out” private investment. Likewise, the high exchange rate crowded out exports and import-competing goods. As a percentage of GDP, the actual budget deficit rose from 2.6% of GDP in 1981 to 4.0% of GDP in 1982 and the structural deficit rose from 0.5% of GDP to 1.5% of GDP. The major provisions of the Economic Recovery Tax Act of 1981 were reductions in marginal income tax rates, individual saving incentives, and more favorable capital depreciation rates. Some economists argue that the Fed could have deflated the economy more slowly and less severely, but it did accomplish its goal of permanently lowering the inflation rate, which has not exceeded 5% since.

## **The “Stagflation” Recession of the 1970s**

The 1973-1975 recession was a long and deep recession that is remembered primarily for its simultaneous rise in both the inflation rate and the unemployment rate – typically these two measures are expected to move in opposite directions. Blame for the 1973-1975 recession is usually placed on the 1973 oil shock, when oil prices unexpectedly rose from \$2.60/barrel in 1973 to \$11/barrel in 1975 in nominal terms. After accounting for the rise in inflation, the increase in real terms was smaller – prices tripled rather than quadrupled. There was a tightening of monetary policy immediately preceding the recession as well, however. The federal funds rate increased from 5% in late 1972 to 10% in mid-1973. This tightening of monetary policy is less impressive when adjusted for inflation. Real interest rates rose from below zero in 1972 to 2-3% in 1973 – a tightening of policy, but from a base that was unsustainably low.

While the oil shock undoubtedly played a large part in the poor economic performance of the 1970s, many economists believed it has been assigned an exaggerated amount of blame for the decade’s poor economic performance. A famous predictor of recessions, the inversion of the yield curve, had occurred before the oil shock, suggesting that recession might have been unavoidable even if the oil shock had never occurred.<sup>19</sup> Inflation was rising unsustainably long before the oil shock, and the consensus among economists is that general wage and price control policies implemented in 1971 to mask inflation pressures exacerbated economic weakness before and after the oil shock by preventing the economy from adjusting to market forces. Most notably, economists believe that regulatory attempts to suppress the oil price increases led to shortages that were even more economically costly than if prices had been allowed to rise. Likewise, while the sharp rise in oil prices undoubtedly caused the sharp spike in inflation in 1973-1974, it cannot be

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<sup>19</sup> The inversion of the yield curve refers to a situation where the yield on short-term government securities is higher than the yield on long-term government securities. This phenomenon has occurred before six of the last seven recessions. For a detailed explanation of yield curve inversion, see CRS Report RS20705, *The Pattern of Interest Rates in 2000: Does It Signal An Impending Recession?*, by Gail Makinen..

blamed for the persistence of high inflation for the rest of the 1970s. In the long run, inflation can only be a monetary phenomenon – a decision by the Fed to choose an interest rate below equilibrium, resulting in excessive money growth. The decision to keep monetary policy relatively easy probably caused the recession to end earlier than it otherwise would have, but this effect was achieved at the cost of continuing the high inflation set off by the oil shock. Finally, the recession coincided with a secular decline in productivity growth that lasted for 20 years. Economists have not reached a consensus as to why this decline occurred, but its duration clearly rules out the possibility that it can be blamed on the oil shock. Whatever its cause, it most likely created significant economic dislocation while workers and businesses adjusted their expectations.

**Table 5: Economic Indicators During the 1973-1975 Recession**

Quarter	GDP Growth	Consumption Growth	Investment Growth	Inflation Rate (GDP Deflator)	Unemployment Rate
1973:Q3	-1.6%	1.6%	0.6%	7.9%	4.8%
1973:Q4	3.4%	-1.0%	-3.9%	7.0%	4.8%
1974:Q1	-3.0%	-3.5%	-8.5%	8.4%	5.1%
1974:Q2	1.1%	1.4%	-7.8%	9.2%	5.2%
1974:Q3	-4.4%	1.5%	-8.0%	12.8%	5.6%
1974:Q4	-2.2%	-6.6%	-16.1%	12.7%	6.6%
1975:Q1	-5.0%	3.1%	-36.2%	9.6%	8.3%
Cumulative:	-3.0%	-0.8%	-15.3%		High: 8.9%

**Note:** Data presented in annualized form except for the cumulative total; investment growth excludes changes in inventories.

**Source:** Bureau of Economic Analysis, *National Income and Product Accounts*; Bureau of Labor Statistics.

Once the recession got underway, the authorities turned to expansionary monetary and fiscal policy. There were two rounds of monetary easing. First, the federal funds rate was lowered from approximately 10 3/4% in September 1973 to 9% in February 1974. After a short round of tightening, the rate was lowered from 13% in July 1974 to 5 1/4% in May 1975, after the recession had ended. This large nominal decline in the federal funds rate was not accompanied by a similar decline in long-term private rates. In nominal terms, private corporate bond rates rose during the recession. But because the inflation rate rose more quickly during the recession, private bond rates actually fell in inflation-adjusted terms.<sup>20</sup> The S&P Index fell by

<sup>20</sup> This increase in inflation may not have been anticipated. If this was the case, then market participants at the time may not have viewed long term private rates to be falling. Thus, it is difficult to say whether or not the stimulus was offset by the crowding out of private investment. Investment as a percentage of GDP did fall in 1975 and 1976, suggesting that crowding out may have occurred.

1.6% in 1973 and 22.9% in 1974, and rose by 4.0% in 1975 (less than the rate of inflation).

Fiscal policy was tightened in 1974, with the budget deficit decreasing from 1.1% of GDP in 1973 to 0.4% of GDP in 1974, and the structural budget moving from a 1.6% deficit in 1973 to a 0.1% surplus in 1974. Fiscal policy became explicitly expansionary in 1975 when the Tax Reduction Act was passed, which was estimated to lower revenues by 1.4% of GDP in 1975. Its largest provision was a tax rebate, which was sent out in the second quarter of 1975. The act also expanded or created several individual income tax credits and deductions, increased the investment tax credit, and reduced corporate taxes.<sup>21</sup> Expenditures were simultaneously increased beyond those provided by automatic stabilizers. As a result, the actual budget deficit increased to 3.4% of GDP in 1975, and the structural deficit increased to 0.2% of GDP. Fiscal policy was eased further in 1976, when many elements of the 1975 Act took effect or were expanded.

But was the expansionary policy response the correct one? The 1973 oil shock presented policymakers with an unfamiliar scenario: a contraction in output that coincided with a rise in prices. By choosing to stimulate the economy, high inflation was locked in for the rest of the decade, until the Fed deflated the economy in the early 1980s, a move that brought on the worst recession of the post-war period. The alternative choice would have been to allow the recession to worsen until inflation had subsided.

In sum, the 1970s are an unfortunate textbook example of the limits of macroeconomic stabilization policy. When the economy is hit by adverse supply shocks such as the oil shock and the decline in productivity, the instruments available to the government are too blunt to entirely insulate the economy from the negative consequences. Furthermore, if stabilization policy is dedicated to unrealistic and contradictory goals, it worsens macroeconomic outcomes. The decision to keep fiscal and monetary policy too easy after the recession had ended left the inflation rate uncomfortably high throughout the 1970s, without ever reducing the unemployment rate to the unattainably low level authorities had presumably designed those policies to achieve.

The 1970s recession followed the pattern of most recessions in several ways. Consumption growth was mostly positive throughout the recession, while investment shrank more quickly than the economy. Changes in inventories fluctuated in 1973 and 1974, but fell steeply in 1975, contributing to the downturn. The dollar depreciated until May 1975, when monetary policy was tightened, falling by 4.9% in inflation-adjusted terms between May and the start of the recession. Despite the fact that expenditures on imported oil rose, the trade deficit did not grow after the recession began, and cannot be thought of as having placed a “drag” on the aggregate demand. World growth was mixed in the 1970s recession. In general, many oil importing countries suffered recessions similar to the United States, and many oil exporting countries boomed – for the latter, the oil shock was a positive one. Japan,

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<sup>21</sup> CRS Report 92-90E, *Tax Cuts and Rebates for Economic Stimulus: The Historical Record*, by Donald Kiefer,.

France, West Germany, and the United Kingdom all experienced recession at some point between 1973 and 1975. The developing world also boomed as “petro-dollars” were invested in their economies. The result was an overall world growth rate lower than average, but higher than in the 1980s recession.

## **Other Post-War Recessions**

The recessions that occurred before the 1970s were more similar to the 1990-1991 experience than the episodes of the 1970s and 1980s. First, they were all brief, varying in length between eight and 11 months. Second, the fall in output in three was very shallow, while in the 1953-1954 and 1957-1958 recessions, output dropped sharply in a short period of time. Third, the government did not explicitly undertake expansionary fiscal policy, with the exception of the 1969-1970 recession. In two of the other episodes, 1949 and 1957-1958, automatic stabilizers were allowed to operate and unrelated policy changes were supportive of a fiscal loosening. In the other two episodes, 1953-1954 and 1960, fiscal policy was actually tightened. These episodes demonstrate that there are circumstances in which the U.S. economy is quite capable of escaping a recession quickly and with little damage without turning to a fiscal expansion.

In a number of other ways, they were quite different from the three recessions that have been examined so far. First, inflation was low preceding all but the 1949 and 1969-1970 recession. The other three recessions were not characterized by a need to quell growing inflationary pressures. (In the 1949 recession, prices adjusted extremely rapidly: inflation fell from 4% in 1948 to -1.6% in 1949.) These three recessions contradict the claim that the low inflation of the 2001 recession is a unique experience. Second, the U.S. maintained a fixed nominal exchange rate through the Bretton Woods regime during all of these recessions so there was little exchange rate adjustment to help or hinder recovery. There was also less international economic interdependence in the past, and so there was less recessionary “spill over” to other countries. International capital flows were controlled and limited, and exports and import-competing goods were a smaller fraction of output.

But in other ways, many of these recessions were quite similar to the last three recessions, as well as the 2001 recession. First, in each case, investment declined by a greater amount than overall output. Consumption, by contrast, did not fall as greatly as output; in fact in three of these five episodes consumption grew during the recession. Second, all five recessions were marked by a significant increase in the unemployment rate, which in all but the first case continued after the recession had ended (in these four cases, Table 6 lists the post-recession high). In fact, this is one of the primary criteria that the NBER uses to determine whether the economy is in a recession. Third, inventory drawdowns played an important role in every recession except the 1969-1970 episode. Fourth, all of the recessions considered in this paper except the 1969-1970 episode and 1990-1991 episode were followed by strong recoveries. Unsurprisingly, the two exceptions were the two shallowest recessions considered. Thus, the ensuing recovery did not have as low of a base from which to begin. Fifth, stock prices, as measured by the S&P 500 Index, fell in nominal terms in all of the recessions except the 1953-1954 recession. Sixth, there was a sharp spike in oil prices shortly before four out of five of these recessions, the exception being the recession of 1960.



**Table 6: Economic Indicators During Other Post-War Recessions**

Duration	GDP Growth	Consumption Growth	Investment Growth	Average Inflation Rate (GDP Deflator)	Unemployment Rate (Pre-recession to High)
1949.1-1949.4	-1.7%	3.3%	-8.5%	-1.6%	3.8% to 7.0%
1953.3-1954.1	-2.7%	-0.5%	-3.2%	1.6%	2.6% to 6.0%
1957.4-1958.1	-3.7%	-1.3%	-8.4%	2.9%	4.2% to 7.4%
1960.2-1960.4	-1.6%	0.9%	-5.7%	1.8%	5.1% to 7.0%
1969.4-1970.1	-0.6%	1.4%	-2.7%	5.5%	3.6% to 6.0%

**Note:** GDP data presented is the cumulative total for the entire recession; only inflation data has been annualized; investment growth excludes changes in inventories.

**Source:** Bureau of Economic Analysis, *National Income and Product Accounts*; Bureau of Labor Statistics.

**Policy Responses.** As will be seen, the use of fiscal policy in the first four of these recessions was limited, as they occurred before the heyday of Keynesian fiscal policy. Despite being given less prominence in these recessions than it is today, monetary policy was eased in each case. In all of these episodes, monetary policy can be characterized in hindsight as following a pattern of too much tightening of policy before the recession, followed by an easing of policy during the recession. The over-tightening of monetary policy is clearest in the three cases (1953-1954, 1957-1958, 1960) where inflation was already low. The fixed exchange rate regime in place during these five recessions did not place as much of a constraint on monetary policy as theory would imply because of widespread international capital controls. Two lessons can be drawn from the limited use of stabilization policy in these episodes. First, it explains why recessions were more frequent in the past. Second, it underlines the fact that the economy is capable of timely adjustment in the absence of policy response based on natural market adjustment.

**1949.** The 1949 recession was met with little explicit fiscal policy response. There was an income tax cut passed in 1948 without offsetting revenue reduction, but at the time of passage there was no belief that the economy would soon enter recession and the tax cut was not promoted on counter-cyclical grounds. Before the recession began President Truman had called for a significant expansion in government spending through a series of new programs (known as the “Fair Deal”) that were to be financed through an increase in taxes. As these proposals made their way through Congress and recession ensued, some of the spending increases and none of the tax increases – or subsequently proposed tax cuts – were enacted. The 1948 tax cut and 1949 expenditure increases, coupled with the system’s automatic stabilizers, resulted in an unintended fiscal stimulus, with the budget moving from

a surplus of 4.6% of GDP in FY1948 to 0.2% of GDP in FY1949 to a deficit of 1.1% of GDP in FY1950.<sup>22 23</sup> Monetary policy was tightened before the recession began, and then loosened after the recession began.<sup>24</sup>

**1953-1954.** The 1953-1954 recession accompanied the winding down of the Korean War. The stated aim of the government was to offset reductions in military expenditures with reductions in taxes by letting wartime tax increases expire. If this could be done on a 1-to-1 basis, it would have no effect on the budget balance and would constitute a relatively neutral fiscal policy (it would be slightly contractionary since individuals would save some of their tax cuts). In fact, military and non-military spending was reduced more quickly than taxes, and the budget deficit actually shrank from 1.7% of GDP in FY1953 to 0.3% of GDP in FY1954. Thus, fiscal policy can be characterized as contractionary during the 1953-1954 recession since the budget's automatic stabilizers would have made the deficit *rise* in the absence of policy changes. Monetary policy was eased right before the recession began, after becoming contractionary in early 1953 to counter what the Fed saw as the emergence of "a bubble on top of a boom."<sup>25</sup> After that point, Milton Friedman and Anna Schwartz characterize monetary policy during and after the recession as remaining relatively neutral.<sup>26</sup>

**1957-1958.** Two years of tightening monetary policy was followed by an easing of policy at the end of 1957, after the 1957-1958 recession had begun.<sup>27</sup> Fiscal policy was eased somewhat through higher government spending, but tax reductions were rejected on the basis that they would lead to unacceptably large budget deficits. The budget balance moved from a budget surplus of 0.8% of GDP in 1957 to a budget deficit of 0.6% of GDP in 1958 and 2.6% of GDP in 1959. But this easing did not exceed the amount provided by automatic stabilizers: the structural surplus was virtually constant from 1956 to 1958.<sup>28</sup>

**1960.** A tightening of monetary policy in 1959 and the first half of 1960 was followed by an easing of policy in the second half of 1960.<sup>29</sup> There was no fiscal stimulus undertaken. In fact, fiscal policy was tightened at the time, negating the

<sup>22</sup> The structural deficit is a better measure of the stance of fiscal policy than the actual deficit. Unfortunately, there are no estimates of the structural deficit available before 1956; for these cases, the actual deficit is used instead.

<sup>23</sup> A.E. Holmans, *United States Fiscal Policy 1945-1959*, Oxford University Press, (Oxford: 1961), Ch. VII.

<sup>24</sup> The federal funds rate was not a target of monetary policy at this time. The stance of monetary policy, therefore, must be deduced from looking at several measures. This report follows the analysis found in Milton Friedman and Anna Schwartz, *A Monetary History of the United States*, Princeton University Press, (Princeton: 1963), pp. 606-610.

<sup>25</sup> Holmans, *op cit*, p.207.

<sup>26</sup> Friedman and Schwartz, *op cit*, pp. 612-615.

<sup>27</sup> *Ibid*, pp. 614-620.

<sup>28</sup> Holmans, *op cit*, Ch.XIII.

<sup>29</sup> Friedman and Schwartz, *op cit*, pp. 612-615.

system's automatic stabilizers and exacerbating the recession. An actual budget deficit of 2.6% of GDP in 1959 became a 0.1% surplus in 1960, and the structural deficit of 0.8% became in 1959 became a structural surplus of 1.6% in 1960. The fiscal stance remained approximately constant from 1960 to 1961. Nevertheless, the economy recovered quickly.

**1969-1970.** The 1969-1970 recession was preceded by a period of unsustainable growth that led to accelerating inflation, which rose from 3.1% in 1967 to 4.3% in 1968, 4.9% in 1969, and 5.3% in 1970. Many contemporary observers attributed this boom and bust pattern to the fiscal policy stance of the time. As a percentage of GDP, the actual budget deficit rose from 1.1% in 1967 to 2.9% in 1968, and the structural budget deficit rose from 2.6% to 3.5%. During a period of full employment, this increase in the deficit is likely to be highly inflationary. Many argued that the easing of fiscal policy was spurred by growing American military involvement in Vietnam and the government's purported unwillingness to raise taxes to finance it. In retrospect, however, monetary policy and a spike in oil prices might have played a larger role in the cause of the recession than they were assigned by contemporaries. The federal funds rate was increased from about 5% in March 1968 to about 9 1/4% in August 1969.

A belated effort was made to reduce the budget deficit, which reduced aggregate spending. In 1968 and 1969, temporary 10% surcharges were applied to individual income and corporate taxes, ostensibly to curb inflation. Later, the Tax Reform Act of 1969 was passed. It was advertised as a measure to reform the tax code and close certain loopholes, but also had the effect of raising revenue by 0.2% of GDP in 1970. Its major provisions were the repeal of the investment tax credit (revenue raising), the restriction of the tax exempt status of foundations (revenue raising), a broadening of the individual income tax base (revenue raising), and an increase in the income tax's standard deduction and personal exemption (revenue reducing). In addition, the Act extended the temporary surcharges for the first six months of 1970 at a rate of 5% (reduced from the previous 10%), raising tax revenues an additional 0.4% of GDP.<sup>30</sup> The result of these efforts, along with a reduction in military outlays, produced an actual surplus of 0.3% of GDP in 1969 – the last surplus until 1998. This still represented a structural budget deficit of 1.1% of GDP, however. The drop-off in economic activity in 1970 returned the budget to a deficit equivalent to 0.3% of GDP. In structural terms, however, fiscal policy was in fact slightly tighter than in 1969: the structural deficit was reduced to 0.8% of GDP.

An easing of monetary and fiscal policy aided economic recovery in 1970. Monetary policy was eased dramatically from August 1969 to February 1971, as the federal funds rate were lowered from 9 1/4% to 3 3/4%. In the second half of 1970, the temporary tax surcharge expired. The 1971 Revenue Act reduced taxes with the aim of further increasing aggregate demand to the already recovering economy. The Act restored the investment tax credit, accelerated planned tax reductions, and

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<sup>30</sup> Robert Willan, *Income Taxes: Concise History and Primer* (Baton Rouge: Clairtor's Publishing Division, 1994); John Witte, *The Politics and Development of the Federal Income Tax* (Madison: University of Wisconsin Press, 1985).

increased the standard deduction. The tax reductions contributed to larger budget deficits in the following years.

## **Was A Repeat of the “Great Depression” A Possibility in 2001?**

Prior to 2001, the United States has not experienced an economic downturn in 10 years. This means that for many Americans their formative working years have been spent only during a period of economic expansion. There was a temptation on the part of the press to exploit this situation with lurid headlines about how the 2001 downturn could rival the great downturn of 1929-1933. Stories along these lines usually tried to draw comparisons between the 1929-33 episode and conditions in 2001. And, indeed, any two historical periods are bound to share some common experiences. They may also be fundamentally different.

Between 1929 and 1933, real GDP fell by nearly 27%, the unemployment rate rose to 25%, and the price level as measured by the implicit price deflator for GDP fell by nearly 26%. The distinguishing characteristic of the 1929-1933 episode was that an economic contraction probably set in motion by the Federal Reserve was compounded by a financial panic as the banking system was allowed to collapse. On March 4, 1933, the day Franklin Roosevelt was inaugurated as President, not a single bank in the United States was open for business. From 1929 to 1933, 9755 commercial banks in the United States suspended operation. This was approximately 1/3 of all commercial banks. An important reason for the collapse of the banking system was the absence of deposit insurance and a failure on the part of the Federal Reserve to prevent it. In addition, the United States was linked to other countries through fixed exchange rates embodied in the gold standard, which severely limited the Fed's ability to respond. There is now a growing body of research that links the severity and world-wide character of the Great Depression to the gold standard.

Finally, generally accepted economic theory at the time was used to rationalize and accept as inevitable what happened. Economic theory is much more advanced today on “what not to let happen” and government has taken responsibility for the economic health of the nation. This includes a commitment to keep the money supply and the banking system intact, and the United States has not had a financial panic since 1929-33. Given such changes as the institution of deposit insurance, the legislative commitment of the government to maintain high employment, and the use of flexible exchange rates, it was hard to make a case that the downturn now faced by the United States would develop into anything remotely similar to the economic contraction of 1929-1933.

The cause of the Great Depression has often been attributed to the stock market crash in October 1929. This explanation has not stood the test of time. First, it occurred two months after the Great Depression officially began. Second, in October 1987 a stock market crash of similar percentage magnitude occurred without causing an economic downturn. In fact, the economic expansion then in progress continued for nearly three more years. While the 1929 crash may have worsened the beginning of the downturn, there is no credible evidence that it could have set off the next 10 years of calamity and hardship.

Nevertheless, there were journalists who made a great deal of the fact that the 2001 downturn in the United States was coincident with economic contractions in two other major economies, Germany and Japan, as well as substantial slowdowns in the economies of the United Kingdom and Canada. While the world-wide character of the 1929-33 contraction is accurate, it is not the only time that major countries have simultaneously experienced an economic contraction. The economies of the United States, Germany, Japan and the United Kingdom simultaneously contracted during some part of 1974-75. The data in Table 2 reveal that this was one of two long contractions in the post-World War II era (16 months), it had the largest contraction of GDP (3%), and the second highest rate of unemployment (9%). However, its close rival, the contraction of 1981-82, was also as long, had nearly the same contraction in GDP (2.9%), had a higher unemployment rate (10.8%) and was joined in contraction by Germany and the United Kingdom, but not by Japan and the rest of Western Europe. Alternatively, Japan has been mired in slow growth and contraction for more than a decade without much of an effect on the United States. While several alternative conclusions can be drawn from this comparison, economic theory suggests that when other major economies experience a downturn with the United States, monetary policy may take longer to revive and expand demand in the United States because one expansion channel that works through U.S. interest rates falling relative to rates abroad is unlikely to be operative.

## **Was The 2001 Recession More Similar to the Recessions of the 19<sup>th</sup> Century?**

Because the 2001 recession was characterized by falling investment and low inflation, some commentators have concluded that it was more similar to recessions of the 19<sup>th</sup> century than recessions of the post-World War II era. This comparison is presumably based on the fact that many recessions of the 19<sup>th</sup> century were characterized by deflation and financial panics. (Why these commentators believe that deflation is comparable to low inflation and a financial panic is comparable to a decline in investment is unclear.) What caused deflation (falling prices) and financial panics in the 19<sup>th</sup> century? Although it has not happened to date, could the same phenomena develop today?

Deflation in the second half of 19<sup>th</sup> century was caused by the country's adherence to a true gold standard. Under a true gold standard, every note of currency in circulation must be backed by an equivalent amount of gold. Under such an arrangement, the inflation rate is determined by the growth rate of the supply of gold, the non-monetary demand for gold, the demand for currency, and the turnover rate of currency. In the second half of the 19<sup>th</sup> century, the supply of gold did not grow as quickly as the demand for money balances. With too few dollars chasing too many goods, the price level fell and the country experienced deflation. Since today growth in the money supply is no longer constrained by the supply of gold and can now be determined by the Federal Reserve, the Federal Reserve has discretion to target a desired inflation rate and there is little reason to expect deflation. Thus, a comparison to the 19<sup>th</sup> century on these grounds is invalid.

Banking panics in the 19<sup>th</sup> century are widely believed to be the result of the dearth of banking regulation, the lack of deposit insurance, and the lack of a lender of last resort (i.e., a central bank). Without these tools, information about financial institutions was poor and banks were vulnerable to runs. Investors and depositors could not distinguish between solvent and insolvent banks and so they withdrew their funds when in doubt. Since banks cannot liquidate assets quickly enough to pay off depositors during a run, even solvent banks would fail and panic would become widespread. Our banking system has not experienced a run since deposit insurance was created during the Great Depression. Hence, there is little validity to a comparison between financial panics of the 19<sup>th</sup> century and recent conditions.

## **Conclusion: Is The 2001 Recession Different From the Past?**

A closer look at the historical record reveals that many of the purported differences between the 2001 recession and other recessions turn out to be not so different after all.

**Investment.** In every post-war recession, investment has declined more than output. The investment downturn in the 2001 recession was not unique. The 4.5% decline in investment from the fourth quarter of 2000 to the third quarter of 2001, which closely corresponds to the dates of the recession, has been lower than the post-war recession average.

**Consumption.** In every post-war recession, output has declined more than consumption. In five of the 10 recessions, including the 2001 recession, growth in consumption has remained positive on a cumulative basis over the entire recession.

**Inflation.** A significant acceleration in the inflation rate has been present in the run-up to the previous four recessions (1969-1970, 1973-1975, 1980-1982, 1990-1991). But inflation was very low and showed no significant increase in three of the first four recessions of the post-war period, the exception being the recession of 1949. There is no theoretical or empirical evidence that excessive consumption growth is the only cause of accelerating inflation.

**Oil Prices.** In nine of the last 10 recession, oil prices have spiked significantly soon before the recession began. The 2001 recession is no exception. This is an important commonality that, if anything, has been overlooked and under-emphasized. At the onset of the 1999-2000 oil price spike, many commentators predicted it would not cause a recession because the economy is now “stronger” and less reliant on oil than it used to be. There is compelling evidence that if an oil price spike is exogenous, it can cause the economy significant harm.

**Equity Prices.** The stock market has declined in nominal terms in seven out of 10 of the last recessions, including 2001. The exceptions are the recessions of 1953-1954, 1980 (but not 1981-1982), and 1990-1991. Thus, any negative “wealth effect” affecting consumption in 2001 was not unique, although the magnitude of the recent decline was above average.

***Inventories.*** Despite the creation of just-in-time inventory management, the 2001 recession experienced the typical inventory drawdown as firms cut production. In fact, the decline in inventories in 2001 was greater than usual, as a percentage of GDP. A typical inventory buildup did not precede the drawdown, however.

***World Economy.*** In the past, most U.S. recessions have not been synchronized with world recessions, as measured by the overall world growth rate or by the growth rates of major economic partners. Worldwide growth in the two largest recessions of the post-war period was somewhat different. In 1973-1975, overall growth was below average and many major foreign economies, who were also oil importers, experienced a recession along with the United States. In 1980-1982, overall world growth was sluggish, but only a few major foreign economies experienced a decline in output on a yearly basis.

The global nature of the recent economic slowdown was unusual, but not unique. World growth was also below average at the trough of the 1973-1975 or 1980-1982 recessions. Economic growth in the advanced economies was below average in 2001 (0.9%) and 2002 (1.8%), but did not contract. Only Japan and Germany experienced recessions among the major foreign economies.

***Policy Response.*** Monetary and fiscal policy have been significantly expansive since the beginning of 2001. The Federal Reserve has responded to every post-war recession by easing monetary policy. Historically, fiscal policy has not been used as actively. In most recessions, automatic stabilizers have been allowed to operate. But an explicit change in fiscal policy to boost demand (i.e., a tax cut or boost in government spending that widens the structural budget deficit) was used only in 1969-1970, 1973-1975, 1980-1982, and the 2001 recession. There is no indication that the absence of a fiscal expansion prolonged the other five recessions. In fact, if fiscal expansion was essential to economic recovery, one would expect that recessions in which fiscal expansion was used would be shorter and shallower. Yet fiscal expansion was undertaken in the two deepest and longest recessions of the post-war period. In the absence of fiscal expansion, expansionary monetary policy and natural market adjustments have proven capable of returning the economy to renewed expansion.

***Depth and Duration.*** The 1973-1975 and 1980-1982 recession stand out for their depth and duration. They also stand out for their distinctive causes. Sharp and long lasting oil shocks characterized both recessions. The 1980-1982 experience is also unique for its sharp tightening of monetary policy that persisted well into the downturn. Neither of these factors was present in 2001, making the eight months of recession more similar to the smaller post-war recessions.