The Heritage Foundation Backgrounder

No. 1078 | The Heritage Foundation 214 Massachusetts Avenue N.E. Washington, D.C. 20002-4999 (202) 546-4400

The Thomas A. Roe Institute for Economic Policy Studies

May 1, 1996

IS THERE A "CLINTON CRUNCH"?: HOW THE 1993 BUDGET PLAN AFFECTED THE ECONOMY

INTRODUCTION

The American economy currently exhibits relatively low levels of inflation, interest rates, and unemployment. Yet millions of workers remain anxious about their economic security. The relatively good economic news, combined with the widespread dissatisfaction among Americans with the nation's economic performance, seems to be a paradox. But an analysis of underlying policies and economic trends suggests an answer to this puzzle.

Using the Washington University Macro Model (WUMM)[1]—a major economic model of the U.S. economy also used by the federal government and many *Fortune* 500 companies—economists at The Heritage Foundation investigated how the economy would likely be performing today had Congress not raised taxes in 1993 as the nation was coming out of the 1990-1991 recession.[2] The results of this analysis shed light on why Americans are so anxious about the economy's performance. According to the Heritage analysis, the 1993 tax hike, championed by the Clinton White House, did indeed produce what some critics have referred to as a "Clinton Crunch"—a larger tax bite for families combined with a stagnation in incomes and an economy performing well below its potential.[3]

1 This study was prepared by The Heritage Foundation using the Washington University Macro Model. The methodologies, assumptions, conclusions, and opinions herein are entirely those of The Heritage Foundation. They have not been endorsed by, nor do they necessarily reflect the views of, the owners of the model.

2 This model is celebrated throughout the economics profession for its excellent forecasting accuracy and rich analytical capabilities. It is widely used in the private sector to guide business plans and in the public sector to estimate the economic implications of policy change. The WUMM team won the Blue Chip Consensus Forecasting Award for 1995.

3 The tax increase was contained in the Omnibus Budget Reconciliation Act of 1993 (OBRA-93).

The Heritage analysis indicates that, compared with how the economy would have performed without the 1993 tax legislation, Clinton's 1993 tax and budget plan will have:

- ✗ **Cost the economy $208 billion in output** from 1993 through 1996,[4] in today's dollars.[5] This lost output is equal to nearly $2,100 for every household in America. Last year, without the 1993 economic package, gross domestic product (GDP) would have grown $66 billion more than it actually did absent the change.

Table 1

Opportunities Lost . . .
The 1993 Budget Plan Cost America:

- 1.2 million additional private sector jobs
- $208 billion in economic output
- 40,600 new business starts
- $112 billion in wages and salaries
- $264 billion in disposable income
- $138 billion in personal savings
- 1.3 million new car and light truck sales
- $42.5 billion in durable goods orders

- ✗ **Cut the number of private jobs created by 1.2 million** between 1993 and the end of 1996. Including the forecast for 1997, the total employment cost of the 1993 tax increase grows to nearly 1.4 million lost job opportunities.[6]
- ✗ **Delivered only 49 percent of the new revenues predicted** by the Congressional Budget Office from the increase in personal and corporate tax rates between FY 1994 and FY 1996. When compared with the 1.2 million lost jobs, the tax hike has depressed potential employment growth by 17,600 jobs for every $1 billion it achieved in deficit reduction.
- ✗ **Cut $112 billion, in today's dollars, out of potential employee wages and salaries** between 1993 and 1996.
- ✗ **Cut the growth in real personal disposable income** of Americans by $264 billion in today's dollars between 1993 and 1996—equal to over $2,600 less disposable income for every household in America.
- ✗ **Cut the potential sale of automobiles by 773,700 and light trucks by 504,000** between 1993 and 1996. Some 1.1 million of the nearly 1.3 million lost vehicle sales would have been produced domestically. In 1996, Heritage calculates that this loss in auto and truck sales will cost a projected 60,100 jobs across all industries.

---

4 All figures in calendar years except for deficits, which are expressed in fiscal years. The 1996 component is based on the WUMM December 1995 forecast of the U.S. economy during 1996.

5 Figures throughout this study are expressed in 1995 constant dollars.

6 See the discussion of these employment results on page 11 of this study.

- ✗ **Cut the value of business investment in durable goods by $42.5 billion** in today's dollars; $15.4 billion of this is lost investment in computers.

Some proponents may argue that even if the economy is not performing up to its potential today, this slow growth period is necessary to reduce federal deficit spending which, in turn, will promote greater future growth. Yet many respected economists maintain that this will not be the case with the 1993 tax increase and budget deal: Increased taxes (and particularly increased marginal tax rates) will permanently decrease economic activity below its potential.[7] Similarly, the Heritage analysis, using the WUMM economic model and forecasts of future economic activity, supports this theory. According to the Heritage analysis, nearly every major economic indicator is projected to be weaker under current law than would have been possible without passage of the 1993 tax increase and budget act between now and 2004. Specifically:

- ✗ **Gross domestic product is projected to be lower in each year.** In 2004 alone, GDP is projected to be $122.5 billion lower in today's dollars than would have been possible without passage of the 1993 tax increase and budget deal.
- ✗ **Real personal disposable income is projected to be lower each year.** In 2004 alone, Americans will see $142 billion less in disposable income than would be possible without the 1993 tax increase and budget deal.

In short, American workers are right to feel that they should be better off today than they are. President Clinton's 1993 economic plan turns out to have deprived Americans of a higher standard of living by cutting the economy's growth potential, leading to a slower rise in employee compensation, household income, industrial output, and most other measures of a prosperous economy.

How Is the Economy Really Performing?

Despite a flow of quite good economic news in recent months, many Americans feel anxious about their economic security, complaining of stagnating family incomes, less money in their paychecks after taxes, and a belief that the economy is performing below its full potential. They simply do not accept that the economy is, as the President claims, the "healthiest it has been in 30 years."

In the latest *Economic Report of the President*, the White House maintains that the general health of the economy is good and credits the creation of 8 million new jobs to the passage of the Omnibus Budget Reconciliation Act of 1993 (OBRA-93), which, the report says, "set the stage for this economic expansion and resurgence, by enacting historic deficit reduction while continuing to invest in technology and education."[8]

By contrast, House Majority Leader Richard Armey (R-TX) cites OBRA-93, which enacted the largest tax increase in history, as the culprit for the anxiety Americans are now

---

7 See, for example, Martin Feldstein and Daniel Feenberg, "The Effect of Increased Tax Rates on Taxable Income and Economic Efficiency: A Preliminary Analysis of the 1993 Tax Rate Increases," National Bureau of Economic Research *Working Paper* 5370, November 1995.

8 *Economic Report of the President* (Washington, D.C.: U.S. Government Printing Office, 1996), p. 3.

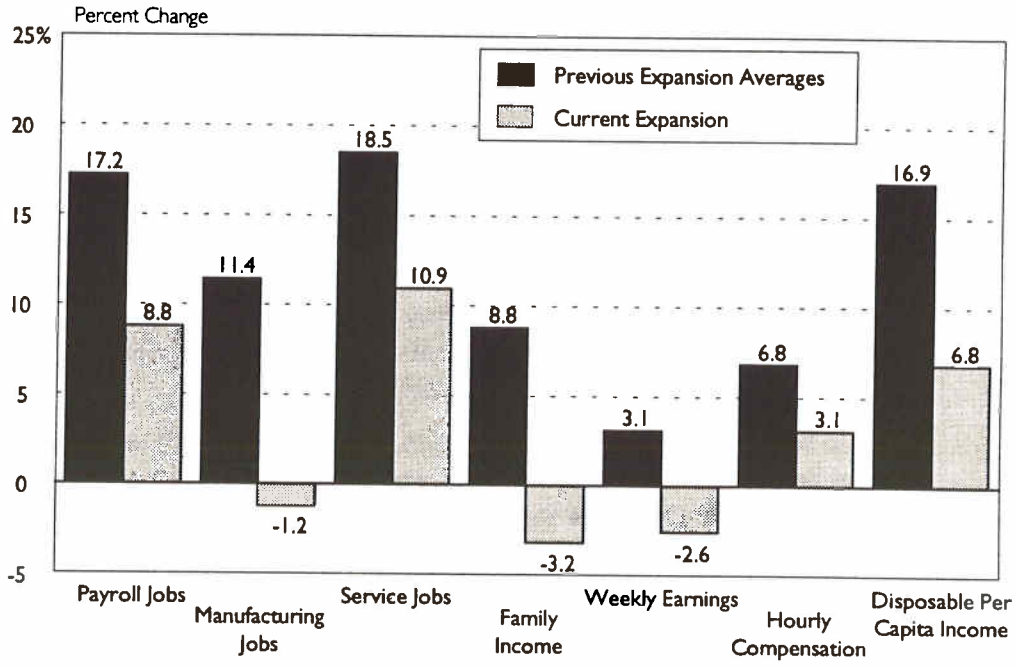
feeling. Calling this condition the "Clinton Crunch,"[9] Armey claims workers are experiencing the dual effect of an actual decline in real wages and higher taxes. With fewer of their own dollars in their pockets to meet the needs of their families, he says, workers understandably have a heightened sensitivity to changing economic conditions, corporate layoffs, and downsizing.

Who is right? Is the economy performing up to its potential, as claimed by the White House? Or are Americans suffering from the "Clinton Crunch," as claimed by Armey?

Americans have good reason to be confused about the direction in which the nation's economy is headed. On the one hand, there is good news in statistics showing continued economic growth, relatively low unemployment, and record highs in the stock market. And as the Clinton Administration points out, the economy has created nearly 8 million jobs over the past three years, 93 percent of them in the private sector. Clinton also claims credit for reducing the federal budget deficit for three consecutive years: According to the *Economic Report of the President*, passage of the 1993 economic plan "put the country solidly on the road to fiscal responsibility."[10]

Chart 1

Employment, Wage, and Compensation Growth
Current Expansion vs. Previous Econonic Expansions



Sources: Bureau of Labor Statistics and Bureau of Economic Analysis.

9 Representative Dick Armey, "A Republican Agenda to Reverse the Clinton Crunch," *Heritage Lecture* No. 556, speech given at The Heritage Foundation on February 27, 1996.

10 *Economic Report of the President,* 1996, p. 3.

But other economic statistics indicate a less rosy picture for Americans in recent years. For example, existing studies and government data indicate:

- ✗ Since 1992, real median family income has stagnated even though more adult women are working than ever before.[11] Since September 1993, both real average hourly earnings and real average weekly earnings have stagnated.[12]
- ✗ Since the third quarter of 1993, the real median weekly earnings for women have decreased 3.0 percent, while men's real earnings have stagnated.[13] Over the same period, real hourly compensation (which includes benefits as well as wages) has not increased significantly.[14]
- ✗ Fifty percent of major U.S. companies eliminated jobs in the twelve months ending June 1995, up from 47 percent the year before.[15]
- ✗ More Americans are working two or more jobs to make ends meet. In March 1996, 7.9 million Americans were working two or more jobs, up 10.2 percent since March 1994.[16]
- ✗ Less than one-third of all workers displaced from full-time jobs found new jobs that pay the same as their old ones.[17] The median weekly earnings of their new jobs averaged 8.2 percent less than their old jobs, and over 14 percent less for workers 45 to 55 years old.[18]
- ✗ From March 1995 to March 1996, 325,000 high-paying manufacturing jobs disappeared.[19]

---

11 Bureau of Census, Internet site *http://www.census.gov/ftp/pub/hhes/www/incpov.html*, and published in "1994 Income and Poverty Estimates," October 1995.

12 Bureau of Labor Statistics, Internet site *http://stats.bls.gov:80/cgi-bin/surveymost?ee*, or as published in "Employment and Earnings," various issues.

13 Bureau of Labor Statistics, "Usual Weekly Earnings of Wage and Salary Workers," various issues.

14 *Economic Report of the President,* 1996, p. 332.

15 American Management Association, "Corporate Downsizing, Job Elimination, and Job Creation," 1995.

16 Bureau of Labor Statistics, "The Employment Situation," BLS Press Release, April 1994 and April 1996.

17 Jennifer M. Gardner, "Worker Displacement: A Decade of Change," Bureau of Labor Statistics *Monthly Labor Review*, April 1995. The BLS definition of displaced workers refers to persons with 3 or more years of job tenure that lost their jobs because their plant or company closed or moved, there was insufficient work for them to do, or their positions or shifts were abolished.

18 Most of the change in earnings can be accounted for by the loss in firm-size wage premiums as workers have moved from larger to smaller firms. All else being equal, larger firms pay 12 to 23 percent more than smaller firms. See Wesley Mellow, "Employer Size and Wages," *Review of Economics and Statistics*, August 1982, and Charles Brown and James L. Medoff, "The employer size-wage effect," Harvard Institute of Economics Research *Discussion Paper* No. 1202, 1986.

19 Bureau of Labor Statistics, Internet site *http://stats.bls.gov:80/cgi-bin/surveymost?ee*, or as published in "Employment and Earnings," various issues.

THE ECONOMY IS LAGGING BEHIND PREVIOUS EXPANSIONS

Thus, while the economy is no longer in a recession, and indeed is experiencing modest growth, many Americans are still having trouble making ends meet and corporate layoffs have many workers thinking twice about the security of their jobs. But is this just part of a typical business cycle? Experience suggests "no." Although total employment has increased in recent years, the current economic expansion—which began in March 1991 and is now some 59 months long—is not progressing as well as it should when compared with the three previous post-World War II expansions lasting longer than 58 months. These expansions occurred from February 1961 to December 1969, from March 1975 to January 1980, and from November 1982 to July 1990.[20] The failure of this economy to perform as well as similar expansions gives a clue as to why many Americans are concerned about their economic future.

It is interesting to compare this expansion with the average of these previous expansions. To be sure, the patterns of each expansion do differ, so data for each expansion are provided in Table 2, as well as the average.

Table 2

Employment, Wage, and Compensation Growth
Current Expansion vs. Previous Economic Expansions

	1961-65 Expansion	1975-79 Expansion	1982-86 Expansion	Previous Expansion* Averages	Current Expansion 3/91 to 2/96
Gross Domestic Product	+32.0%	+22.6%	+22.6%	+25.7%	+12.2%
Industrial Production	+48.6%	+34.0%	+27.6%	+36.7%	+20.8%
Total Employment	+9.9%	+17.2%	+14.3%	+13.8%	+6.8%
Employment Population Ratio**	+1.1 points	+4.0 points	+4.5 points	+3.2 points	+1.1 points
Total Payroll Jobs	+16.6%	+18.7%	+16.2%	+17.2%	+8.8%
Manufacturing Jobs	+13.9%	+14.7%	+5.6%	+11.4%	-1.2%
Service Producing Jobs	+17.4%	+19.2%	+18.9%	+18.5%	+10.9%
Real Median Family Income	+11.7%	+5.1%	+9.6%	+8.8%	-3.2%
Real Median Full-Time Weekly Earnings***	na	na	+3.1%	+3.1%	-2.6%
Real Hourly Compensation	+13.0%	+3.3%	+4.0%	+6.8%	+3.1%
Real Disposable Per Capita Income	+22.4%	+14.3%	+14.1%	+16.9%	+6.9%

Notes: * Average of the three previous post WWII expansions longer than 58 months unless otherwise noted.
** The employment population ratio is the share of the population aged 16+ that is employed.
*** 1980 economic expansion only, data not available prior to 1979 or 1964.
Sources: Bureau of Labor Statistics and Bureau of Economic Analysis.

20 The data comparisons made in this section refer to similar points in time during these four expansions. For example, average employment growth from March 1991 to the present (59 months) is compared with the average employment growth from February 1961 to December 1965 (59 months), from March 1975 to January 1980, and from November 1982 to October 1987.

During the current expansion:

- ✗ The gross domestic product has increased less than half as much as the average of previous post-war recoveries. Industrial production has increased just over half as much.
- ✗ Total employment has grown only half as much as the average of previous post-war recoveries.
- ✗ The number of high-paying manufacturing jobs has *declined* by 273,000, compared with an average *increase* of almost 2 million at a similar point during previous economic expansions.
- ✗ The number of unemployed Americans has declined by less than half the number during previous economic expansions.
- ✗ Real median family income has *declined* by a total of 3.2 percent during the first four years of this expansion, compared with an average *increase* of 8.8 percent during the first four years of previous expansions.[21]
- ✗ Real median weekly earnings for full-time workers have *declined* by 2.6 percent during the current expansion, compared with an *increase* of 3.1 percent during the 1982 to 1986 expansion.[22]

Thus, despite the Administration's cheerful outlook, the economy is not performing well when compared with similar points during the three previous expansions of similar lengths. The question is "why?" Would the economy have been performing less well today without OBRA-93, as the Clinton Administration claims, or did the tax increase slow down an economy in recovery and put many workers into a wage and job squeeze, as critics claim?

THE 1993 BUDGET DEAL

Virtually all economists agree that Washington can alter the course of the economy to some degree through its tax and spending decisions. This influence is particularly evident when Congress and the President enact tax and spending policies that affect income from work or investment. For example, Washington can reduce employment and workers' take-home pay by increasing tax rates on wages and salaries. Higher rates take money directly out of workers' pockets and make work less attractive. Conversely, lower tax rates increase the incentives for men and women to work, start new businesses, or invest in training and equipment for workers. In short, tax rate changes either lower or raise the cost of labor, depending on the direction of the rate movement. Commonly, lowering labor costs leads to a higher demand for labor. When combined with lower capital costs stemming from lower taxes on capital, greater levels of economic activity are attained.

---

21 U.S. Bureau of the Census, "Income and Poverty 1995," *http:/www.census.gov/ftp/pub/hhes/www/incpov94.html.* These are the most recent data available.

22 Data on median weekly earnings are not available on a consistent basis prior to 1979.

How the Simulation Was Conducted

The Heritage analysis measured the effects of OBRA-93 by performing a computational experiment starting with the question, "What would the U.S. economy have looked like if Clinton's economic program, specifically OBRA-93, had not been enacted?"[1]

Using one of the nation's leading computer models of the U.S. economy, the Washington University Macro Model (WUMM), Heritage economists "backed out" the tax and budget policy changes of OBRA-93 by resetting key tax and spending variables in the model to the levels they would have been without the Act. Only those variables dealing with federal spending and federal tax policy were adjusted. Heritage economists left unaffected all other variables and all of the model's economic policy assumptions, with one exception, the monetary policy of the Federal Reserve Board. In running the simulation, Heritage economists assumed the Fed would be more inclined to offset negative effects of OBRA-93 than has generally been the policy of the Fed in recent years. One controversial assumption of the model Heritage did leave in place was the way in which employment is affected by tax policy (see discussion in Findings section).[2] Minor assumptions also had to be made about the way the government data are entered into the model.

The Washington University Macro Model is ideally suited for this particular experiment: Over the 1993-95 period, its baseline forecasting ability displayed a very high degree of accuracy, meaning that the simulation of economic activity over this period probably would be very close to how the U.S. economy actually would have performed.

The changes in fiscal policy made within the model were based on the detailed information published by the Congressional Budget Office in September 1993. The major revenue changes "backed out" were: increased marginal tax rates on individuals and businesses, an extension and increase of the motor fuels tax, repeal of the cap on earnings subject to the Medicare tax, and an increase in the taxable portion of Social Security benefits. The major expenditure changes "backed out" were: reduced Medicare payments to hospitals, physicians, and other providers, an expansion of the earned income tax credit, and limitations on federal employee retirement and health benefits. The Heritage analysis used the December 1995 baseline version of the Washington University Macro Model. By using this version of the model, Heritage economists employed the most recent updates to historical economic data and budget law available prior to the federal government's making major changes in the methods for measuring price changes.[3]

Running the model with these changes in federal government revenues and outlays produced different levels of GDP, employment, income, and other variables when compared with actual data for the period 1993 through 1995 and when compared to the model's baseline forecast for the period 1996 through 1997. For each of several hundred economic variables in the Washington University Macro Model, the differences between the actual performance of the economy and the simulation without the 1993 tax and budget package were compared and are reported here.

The December version of the WUMM contains baseline forecasts of all major and many minor economic variables through the fourth quarter of 2004. Heritage economists measured the long-term effects of OBRA-93 by comparing this baseline forecast with a forecast of economic activity that does not contain the tax and spending policy changes enacted in 1993. This long-term simulation employed exactly the same methods for backing out policy changes as were employed in the short-term analysis. For the years 1999 through 2004, or during the six-year period for which CBO made no projections of OBRA-93 spending and revenue effects, Heritage economists projected spending changes by their growth rates during the last eight quarters of the short-term simulation and held constant all tax variables at their last short-term level.

1. For a more detailed discussion of the use of computational experiments in policy research, see Finn E. Kydland and Edward C. Prescott, "The Computational Experiment: An Econometric Tool," *Journal of Economic Perspectives*, Vol. 10, No. 1 (Winter 1996), pp. 69-85.

2. The simulation of OBRA-93's economic effects was conducted under the baseline assumption of an accomodative Federal Reserve monetary policy. This monetary assumption means that the Federal Reserve manipulates interest rates in order to create greater economic activity. Had we assumed a more conservative monetary regime, our estimates of OBRA-93's economic effects over the period 1993 through 1997 would have been slightly greater—that is, would have indicated a more negative effect on the economy.

3. The December version of the model contains revisions in data for a number of key economic variables that became available through regular data releases by federal statistical agencies during the months of September, October, and November. The December version also contains spending changes approved by Congress and signed by the President in November and early December. During the first quarter of 1996, the Bureau of Economic Analysis (BEA) recalculated most of the recent historical values for many of the major economic indicators, such as gross domestic product. A revised version of the WUMM model incorporating these major changes became available only in March and only in a preliminary, or "beta," release. In light of these important data revisions and the preliminary release of the model that relies on them, Heritage economists decided to use the last version of WUMM released before the BEA began rebenching its data.

When Congress and the President adopt policies that alter economic life in some significant fashion, there will be a difference between how the economy then performs and how it would have performed had policy not been changed. These differences between actual and potential performance can be estimated statistically using models of the U.S. economy that capture the economic impact of policy changes. Generally speaking, these models allow analysts to "simulate" the impact of tax and spending decisions that could have been made—or not made—by Congress and the President, and then compare the simulation with what actually occurred. This is what the Congressional Budget Office routinely does when Congress is considering tax and spending legislation.

There have been two major tax and spending plans enacted in recent years. These were in 1990 and 1993. American taxpayers were told that large tax increases in each of these plans would lead to a significant reduction in federal deficits and spur long-term economic growth. In this study, Heritage analysts used the WUMM model to investigate the effects of the 1993 budget deal. There were two reasons for the decision to focus on the 1993 agreement: First, by 1993, the economy was largely in recovery from the 1990-1991 recession, so the impact on the expansion of the 1993 plan could be isolated more easily. And, second, focusing on the 1993 economic plan allowed analysts to test the Clinton thesis that the plan has produced "the healthiest economy in three decades."[23]

The 1993 budget plan (OBRA-93) raised taxes $241 billion over five years and called for $77 billion in entitlement program savings and $69 billion in discretionary program savings by 1998.[24] The tax law changes included two new personal tax brackets (36 and 39.6 percent) and an extension of the Medicare payroll tax to cover all wages. The motor fuel tax was increased 4.3 cents per gallon, and the tax on Social Security recipients' income from personal savings was increased. Congress and the President agreed to raise the corporation income tax to 35 percent and to restrict business meal and entertainment deductions.

The small entitlement savings came mostly from reductions in Medicare payments to doctors and hospitals and increased charges to Medicare beneficiaries. OBRA-93 delayed cost of living adjustments for military and civil service retirees and limited Medicaid payments to the states. Small reductions also were made in veterans benefits, farm programs, and student loans.

---

23 There are limits to the historical changes economists can make in structural macroeconomic models. Clearly the major limitation is the time period. While economies rarely experience major changes in the span of a few years, structural stability is far less likely over longer time periods. The six years of changes in variables in the WUMM model needed to measure the 1990 tax increase would have stretched prudent econometric practice to its limits. A number of prominent macroeconomists have written on the deleterious effects of the 1990 budget deal. For a summary of these viewpoints, see Daniel J. Mitchell, "The Impact of Higher Taxes: More Spending, Economic Stagnation, Fewer Jobs, and Higher Deficits," Heritage Foundation *Backgrounder* No. 925, February 10, 1993, and Daniel J. Mitchell, "Why Higher Tax Rates on Income Will Slow Growth, Cost Jobs," Heritage Foundation *Backgrounder* No. 942, May 25, 1993.

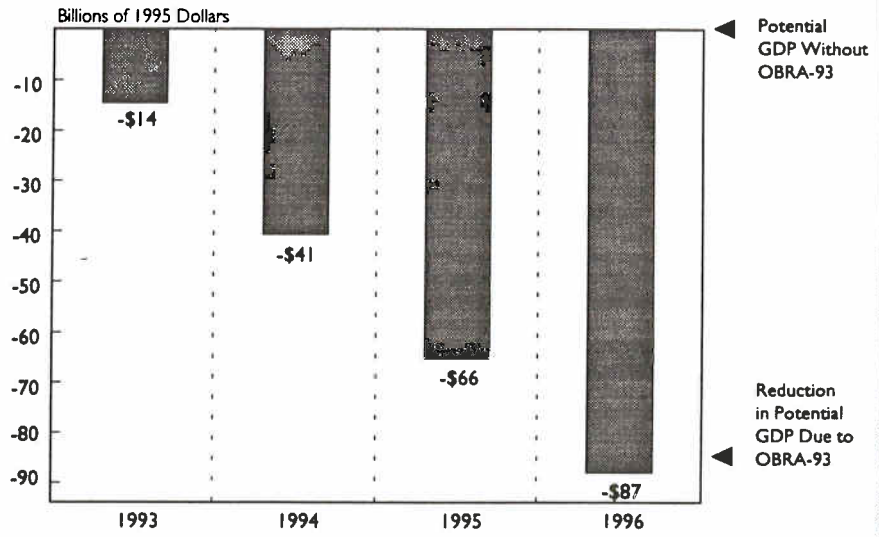
24 Congressional Budget Office, *The Economic and Budget Outlook: An Update* (Washington, D.C.: U.S. Government Printing Office, 1993), Table 2-2, p. 29.

THE FINDINGS

The comparison of the real and simulated economies suggests that OBRA-93 was not as beneficial to the economy as the White House claims. Indeed, it damaged the economy and living standards in several ways. Specifically, the Heritage analysis finds that:

Chart 2

$208 Billion in Potential Gross Domestic Product Lost between 1993 and 1996 due to OBRA-93



Source: Heritage estimates, using the Washington University Macro Model.

1) Economic growth has been slowed.

The economy would have grown significantly faster without the Clinton tax increases and spending reductions of 1993. These policy changes will have cost the economy $208 billion in today's dollars in output from 1993 through 1996, equivalent to nearly $2,100 in lost GDP for every household in America. In 1995, GDP would have grown by nearly 0.90 percent more, or $66 billion in today's dollars, than it actually did. The model forecasts that GDP in 1997 will be 1.0 percent lower than it could be without the 1993 tax hike, or about $95.5 billion in today's dollars.

2) The pace of business formation has been slowed.

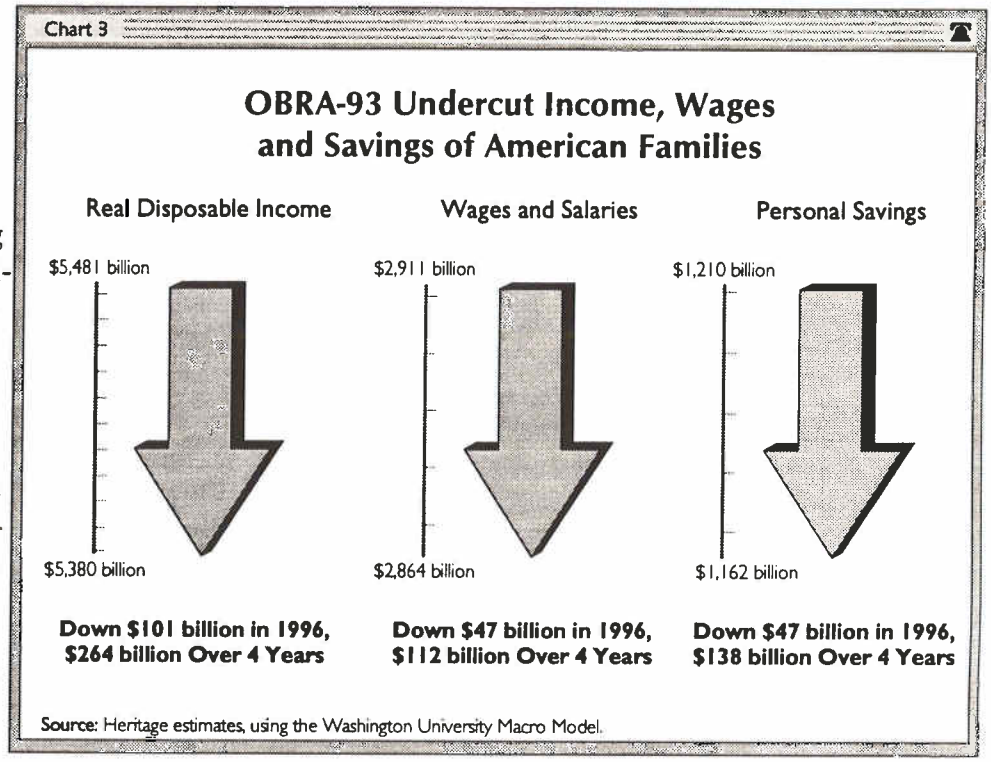
Heritage analysis shows more new businesses would have been incorporated without Clinton's 1993 package. This is due to the relationship between gross domestic product and new business incorporation. In general, for every $1 billion in GDP, about 195 new businesses are incorporated. Thus, the $208 billion fall in GDP due to the 1993 legislation will have prevented the formation of 40,600 new businesses between 1993 and the end of 1996.[25]

25 This estimate is derived from a statistical analysis of the relationship between the number of new business incorporations and real GDP over the period 1959-1994. Overall a decrease in GDP of $1 billion was found to be associated with a decrease in the number of new business incorporations by an average of 194.957 over this period. (The estimate had an R-squared of .92748, a standard error of 9.35, and a t-statistic of 20.852.) Multiplying this figure by the $208 billion lost from GDP over 1993-96 (as a result of the Clinton tax increase) gave an estimate of 40,600 fewer new businesses. Figures for GDP and business formation came from the 1995 and the 1996 *Economic Report of the President* (Washington, D.C.:

What This Means: The loss of new businesses means not only a loss of valuable entrepreneurs, but also the loss of many new jobs. The Small Business Administration (SBA) estimates that five new jobs are created with each new business establishment. Using the SBA estimate, the loss of 40,600 new businesses between 1993 and 1996 will have meant the loss of 203,000 new jobs.

3) Job growth has been slowed.

The economy produced 1.2 million fewer private sector jobs between 1993 and 1996 than it would have without the tax increase and budget changes of 1993. President Clinton claims credit for more than eight million new jobs during his Administration, so far, with roughly seven million of these in the private sector. But the Heritage analysis indicates that 1.2 million *additional* Americans could have been working without his policy changes. If the forecast for 1997 is added to these figures, the total private employment cost of the tax increase grows to nearly 1.4 million.[26]



It must be noted that the loss of potential civilian employment is one of the more remarkable findings of the analysis, based on the model's design. It is also one of the more controversial. While it is the Heritage Foundation's policy to accept the model's macroeconomic results and assumptions (other than the action of the Fed—see box, page 8) and not make adjustments in these results through statistical work performed outside the model, this particular effect of OBRA-93 deserves a brief explanation. The

U.S. Government Printing Office, 1996), Tables B-2 and B-92, respectively, pp. 282, 385.

26 The estimate of lost potential employment results from increases in taxes on the wages and salaries of upper income Americans, on the income of corporations, and on capital, an effect that stems from lengthening the period of depreciation on capital goods as well as taxing interest, dividends, and capital gains at higher rates. Such tax increases reduce capital formation and promote consumption. By increasing both the cost of capital and the cost of additional labor, the rate of business expansion and formation falls below potential which, in turn, reduces the potential growth of employment.

model's measurement of how much employment will change when taxes change (the so-called tax elasticity of employment) sits roughly in the middle of the professionally accepted range for such measurements: The model contains a factor of .29 percent change for every one percent change in labor income, and the standard range among economists goes from .12 to .37 percent. These elasticities mean that a 10 percent increase in take-home pay leads to an increase in the labor supply of between 1.2 and 3.7 percent.

The designers of the WUMM model caution users regarding the output of the model's employment equations. However, Heritage economists decided to accept the model's results because further investigations and calculations using other data bases gave general support to the conclusions in this Heritage study. If the rate changes associated with OBRA-93's increases in payroll and income taxes are applied only to the incomes of those with more than $70,000 in income, we calculate that potential employment was at least 350,000. Of course, the increase in tax rates also negatively affected investment decisions, which resulted in slower growth of job-creating new businesses and business expansion. For example, Heritage calculates that the loss in potential capital stock may account for an additional decrease of 470,000 jobs. When these and other capital effects are combined with the direct and minimal employment effects, the calculation derived from the model of 1.2 million in 1996 between actual and potential employment appears reasonable.[27] Even

CASE STUDY #1: HOUSING AND CONSTRUCTION JOBS

Construction jobs are another casualty of the 1993 budget deal. In 1996 alone, the Heritage analysis indicates a $1.4 billion drop in the value of residential housing construction and a $9.8 billion reduction, both in today's dollars, in the value of fixed, non-residential structures due to the 1993 legislation. Using the Bureau of Labor Statistics (BLS) Input-Output Model, Heritage estimates such a reduction in the amount spent on construction means an estimated 193,300 fewer jobs this year. Of these, some 95,700 new construction jobs would have been created from the growth in construction demand that would have developed without OBRA-93. This new activity in the construction sector in turn would have stimulated job growth in manufacturing, particularly in wood products, fabricated structural metal products, and concrete, gypsum, and plaster products. Altogether, total manufacturing employment related to greater construction activity would have been 32,600 jobs higher had it not been for the legislation. The effect on construction also depressed job growth in services, insurance, finance, and real estate sectors by a total of 29,600 jobs.

27 Most labor economists view tax increases as being equivalent to wage decreases, but they hold sharply divergent views about the degree of change in employment that results from a change in the tax rate on labor income. See Mark Killingsworth, *Labor Supply* (New York: Cambridge University Press, 1983), Chapter 6, esp. pp. 356-360. This variation in the amount of labor that is supplied as the wage level changes is called the "wage or income supply elasticity of labor." More specifically, the supply elasticity of labor is a measurement of the percentage change in the amount of labor that is supplied from a one percent change in the compensation of labor. The professional literature contains estimates of the labor

using lower elasticities favored by some economists would mean an employment effect of at least 400,000 lost jobs.

What This Means: Heritage calculates approximately 203,000 of the potential lost jobs between 1993 and the end of 1996 were a result of new businesses that were not formed. The remainder of lost potential jobs, some 1 million, most probably results from existing businesses that hired fewer employees than they otherwise would have or expanded less.

4) The growth in household income and savings has been cut.

When the job losses are combined with higher taxes on working families, a disturbing picture of lost household income growth emerges.

✗ **The growth in wages and salaries has been cut.** The 1993 legislation will have cut $112 billion, in today's dollars, out of employee wages and salaries between 1993 and 1996, when compared with the pattern that otherwise would have occurred. Extending the analysis to 1997 would mean $162 billion in total lost wages and salaries, again in today's dollars.

What This Means: In 1996 alone, the Heritage analysis shows that the Clinton program depressed the growth in wages and salaries by $46.5 billion in today's dollars, roughly $465 for every household in America. The loss of potential income means that families spent less than they could have spent on food, clothing, transportation, medical care, and other necessities for their families. Indeed, in a typical month, the average household spends $251 on groceries, $160 on medical costs, and $40 on education.[28] The addition of $465 in purchasing power for the typical household means an average of 1.8 months of groceries, or 2.9 months of medical bills, or 12 months of educational expenses in a typical year.

✗ **The growth in personal disposable income has been cut.** The 1993 budget deal raised taxes on millions of American households and will have cut overall real personal disposable income by $264 billion in today's dollars from 1993 through 1996—equal to over $2,600 less disposable income for every household in America. In 1996, households will have nearly 2 percent, or $101 billion, less money to spend on education, food, medical care, and other items than they would have had without the 1993 legislation.

What This Means: Total personal disposable income measures both wage income and non-wage income from such things as investments. Besides lost future wages, the Heritage analysis shows that the Clinton tax increase and budget plan will have cost

---

supply elasticity that range from. 12 to. 37 percent for every one percent change in total labor income (which become negatively signed when analyzing the effect of taxes on labor supply). See Killingsworth, *Labor Supply,* pp. 119-125, Table 3.2 to 3.5. Also see comparable variation in the demand elasticities for labor in Daniel S. Hamermesh, *Labor Demand* (Princeton, N. J.: Princeton University Press, 1993), Table 7.5. The elasticity of labor supply used in the Washington University Macro Model is 0.29 percent and lies within the midrange of the estimates contained in this literature.

28 U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditures in 1993*, Report 885, December 1994, Table 4. The figures are an average of all consumer units and have been adjusted to 1995 dollars.

CASE STUDY #2: AUTOMOBILE INDUSTRY

The Heritage analysis suggests that because of the 1993 tax increase, 368,000 fewer domestic automobiles and light trucks will be sold in 1996 alone. This translates into a loss of about $4.8 billion in today's dollars in revenue to U.S. carmakers and workers in 1996. Moreover, this loss means not only fewer high-paying auto jobs, but also fewer jobs in other industries supporting the production, distribution, and sale of cars.

Chart 5

1.28 Million Cars and Light Trucks Were Not Sold Between 1993 and 1996 due to OBRA-93

Lined End-to-End, That Many Vehicles Would Stretch 4,030 Miles

Source: Heritage estimates, using the Washington University Macro Model.

The Bureau of Labor Statistics (BLS) maintains an Input-Output Model of the U.S. economy that can be used to estimate employment effects across industries for any given change in vehicle sales. It examines not only the obvious industries that might be affected (such as steel and glass), but other industries in the production chain. According to the BLS model, $4.8 billion in lost car and light truck sales means 60,100 fewer jobs across all industries. Of these, 37,800 are manufacturing jobs (including 16,600 in the high-paying motor vehicle and parts industry), and 4,800 are in the glass, primary metals, tires, rubber, and plastics industries. The employment losses in other industries affected by auto sales include 8,500 jobs in the trucking and wholesale trade and 4,800 jobs in the service sector.

The impact of reduced car sales goes well beyond the loss of jobs and manufacturing potential. When consumers purchase new vehicles, and thus trade in old vehicles for ones that are safer and cleaner for the environment, benefits accrue to society that do not show up in economic statistics. Studies have shown that as much as 88 percent of the air pollution emitted by automobiles is produced by as little as 20 percent of all cars on the road.[1] Thus, the total loss of 1.3 million potential new car and truck sales resulting from the 1993 legislation could mean that as many as 1.3 million additional older, dirtier vehicles remain on the roads.

1. Daniel B. Klein and Pia Maria Koskenoja, "The Smog-Reduction Road: Remote Sensing Vs. The Clean Air Act," Cato Institute *Policy Analysis* No. 249, February 7, 1996, p. 2.

households $152 billion in non-wage income, in today's dollars, between 1993 and the end of 1996. This is equal to $1,500 for every American household. In 1996 alone, the average household will realize $550 less in non-wage disposable income, nearly double the amount the Bureau of Labor Statistics estimates the average household spends on appliances each year.[29] Many households use income from non-wage sources to make large purchases such as the down payment on a new car, a washing machine, and other appliances. Alternatively, families may use this income to finance extraordinary events such as weddings, college education, or vacations.

✗ **The growth in personal savings has been cut.** Between 1993 and the end of 1996, the 1993 budget plan will have reduced personal savings by roughly $138 billion in today's dollars. This cut in family savings means that future consumption of the things for which families save, principally housing and education, will be lower than it would have been. If 1997 is included, savings will have been cut by a total of $192 billion, in today's dollars.

What This Means: The three things households save for most are education, housing, and retirement. To illustrate the impact of these lost savings, Heritage analysts distributed the $138 billion in lost savings to families with children, young families saving to purchase a home, and those saving for retirement, based upon age and population. We then assumed that this amount would grow at an everyday interest rate of 5 percent, to see what important purchases these three groups could make in the future with their respective accumulated savings. Each of the following amounts is what could be purchased with the future value of each group's portion of the $138 billion in lost savings:[30]

✗ $432 billion for higher education expenses; and

✗ $335 billion for buying homes; and

✗ $3.6 trillion for retirement.

Had the portion of this $138 billion we allocated to families with children been allowed to earn interest for the average number of years available for savings in the under-18 age group, then the cumulative amount could have purchased a four-year college education for 7 million students at $14,000. Had the foregone savings we allocated to young families saving to purchase a home (the age group 18 to 35), been allowed to grow for 18 years, the total sum could have resulted in 17 million future home sales where a $20,000 down payment is required. And had the portion of this $138 billion allocated to people above the age of 35—those saving for retirement—been allowed to grow for the average number of years before this cohort retires, the fu-

29 Bureau of Labor Statistics, *Consumer Expenditure Survey, 1992-93,* September 1995, p 27. Figures have been adjusted for inflation.

30 See Technical Notes for a full description of how these figures were calculated. It should be noted here, however, that the foregone savings is distributed to three different age groupings that each save for only one of the three purchases. Allowing only one purchase for each group significantly simplified an otherwise complicated problem. The group that is saving for education (those people under age 18) is not saving for a home purchase. The group that is saving for a home purchase (aged 18 through 35) is not saving for retirement. And the group saving for retirement (age 35 and above) is saving only for retirement.

ture value could have resulted in 6.4 million 15-year retirement annuities paying $37,500 per year.

✗ **The growth of household wealth has been cut.** The 1993 legislation will have reduced the growth of household net wealth by $111 billion from between 1993 and 1996. The WUMM model defines net household wealth as a sum of personal savings, the purchase of automobiles and other durables, the existing household stock of durable goods and personal capital gains.

5) The reduction in the deficit attributable to the 1993 plan has been small.

The President maintains that taxes had to be raised in 1993 to reduce mounting federal debt.[31] He now points to a fall in the deficit as justification for the 1993 legislation. But the Heritage analysis indicates that the weak economy produced by the tax hike will have generated far less new revenue, and thus less deficit reduction, than the Congressional Budget Office (CBO) had predicted for FY 1994 through the end of FY 1996. On the other hand, the analysis indicates that the modest amount of savings predicted from the spending cuts will materialize. These findings suggest that if OBRA-93 had enacted few or no tax increases to slow the economy, but more spending cuts, the deficit would be far less today than it is.

In 1993, CBO predicted that OBRA-93 would lower the cumulative deficits between FY 1994 and FY 1996 by $171 billion. Some $50 billion of these savings—29 percent of the total—was to come from spending cuts, including $17 billion in net interest savings and asset sale proceeds. The remaining $121 billion in deficit reduction —70 percent of the total—was to come from the new revenues generated by the increase in tax rates.

The Heritage analysis indicates that OBRA-93 will have produced just 74 percent of the deficit reduction CBO had estimated, or a total of $127 billion.[32] This, however, does not tell the whole story. While the spending cuts will have produced slightly more savings than CBO predicted, $52 billion (excluding asset sale proceeds), accounting for 41 percent of the overall deficit reduction achieved,[33] the tax increase accounts for roughly 54 percent of the total, having delivered far less new revenue than was promised.

✗ The Heritage analysis shows that the tax increase will have produced just $68 billion in actual deficit reduction between FY 1994 and the end of FY 1996, just 56 cents of actual deficit reduction for every new dollar CBO predicted would be generated.

✗ However, excluding the roughly $16 billion in new revenues generated by the increase in the motor fuels tax, the analysis shows that the increase in personal and

---

31 "...because the deficit has increased so much beyond my earlier estimates and beyond even the worst official government estimates from last year. We just have to face the fact that to make the changes our country needs, more Americans must contribute today...." President Clinton, "Address to the Nation," February 15, 1993.

32 The FY 1996 forecast does include some spending cuts enacted by the 104th Congress and signed by the President. Heritage analysts, however, are unable to estimate these effects at this time.

33 A disproportionate share of the savings from spending cuts, $33 billion or 63 percent, are achieved in FY 1996.

corporate tax rates produced only 49 percent of the new revenues CBO predicted would be generated.

- ✗ Thus, comparing the actual amount of deficit reduction produced by the 1993 tax hike between 1994 and 1996, with the 1.2 million potential new jobs lost, it can be said that the 1993 tax increase will have meant the loss of over 17,600 new jobs for every $1 billion it achieved in deficit reduction.

The Heritage analysis of the near-term consequences of the 1993 tax increase largely confirms the results of a recent study by noted Harvard University economist Martin Feldstein and Daniel Feenberg, an economist at the National Bureau of Economic Research. Their analysis of the impact of the 1993 tax increase on individual behavior shows that the higher tax rates placed on upper-income taxpayers encouraged these individuals to change their economic behavior and, thus, report lower taxable income. As a result, in the first year it took effect, the 1993 tax rate increase raised just 45 percent of the "revenue that would have been collected if taxpayers had not changed their behavior."[34]

CASE STUDY #3: IMPACT ON LOCAL GOVERNMENT FINANCES

The Heritage analysis indicates that the 1993 legislation not only was a detriment to private finances, but also hurt state and local government finances because of the slower growth in the tax base as a result of lower private economic activity. Between 1993 and the end of 1996, total state and local tax receipts will have been reduced by a net $13.6 billion compared with the amount that would have been collected without the 1993 federal legislation. For example, the growth of state and local personal tax collections will have been cut by $3.4 billion, corporate profit tax collections by $2.2 billion, indirect business tax collections by $3.6 billion, and other receipts by $7 billion. Only local property taxes increased by $3.4 billion. When these lower tax collections are added to the $15.4 billion reduction in federal grants-in-aid, the total reduction in state and local receipts grows to $24.6 billion.

Interestingly, state and local governments do not appear to have altered their spending patterns or to have raised taxes to accommodate this lost income. State and local government purchases of goods and services, as well as social transfer spending, rose by only $0.7 billion without the legislation, according to the simulation. These governments made up for the lost income by dipping into their surpluses or "rainy-day" funds. Between 1993 and 1996, state government surpluses will have fallen by $23.9 billion, corresponding to the drop in total receipts.

Moreover, Feldstein and Feenberg discovered that the 1993 tax hike caused considerable inefficiencies in the economy, what economists call "deadweight losses." "This means that for every dollar of additional revenue collected by the government as a result of the higher tax rates, taxpayers experience a decline in their well-being equivalent to three dollars as a result

34 Feldstein and Feenberg, "The Effect of Increased Tax Rates on Taxable Income and Economic Efficiency: A Preliminary Analysis of the 1993 Tax Rate Increases."

of the induced changes in work, in the form of compensation, and in tax deductible expenditures."[35] In other words, conclude Feldstein and Feenberg, "the structure of the 1993 tax increase thus made it a very inefficient way of increasing revenue."[36]

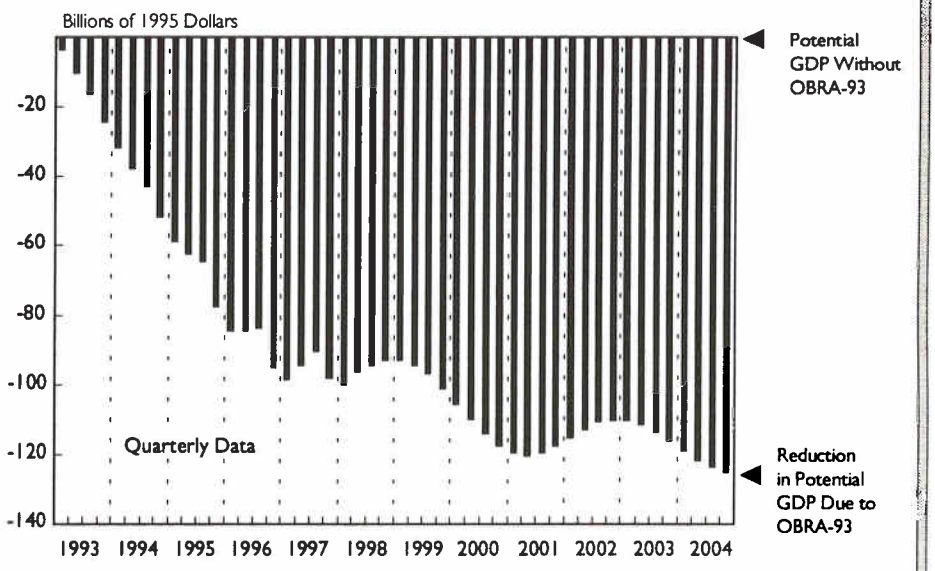
This analysis so far has examined what might be called the short-term effects of the 1993 package. The current debate is about these short term effects, with the White House claiming benefits to today's economy. But for there to be a complete verdict on the 1993 tax and budget plan, one needs to project into the future, to explore whether the short-term effects analyzed above are merely a prelude to future growth.

THE LONG-TERM PICTURE

To estimate the longer-run future effects of the 1993 plan, Heritage analysts used the WUMM model to extend the simulation of potential economic performance without passage of the 1993 tax increase and budget deal through 2004. The results of this simulation were then compared with the baseline economic projections —under current law and including the 1993 tax increase and budget deal —produced by the owners of the WUMM model in December 1995. The comparison shows that nearly every major economic indicator is projected to be weaker under current law than would have been possible without passage of the 1993 tax increase and budget act between now and 2004. Specifically, the Heritage analysis concludes:

Chart 4

Long-Term Economic Effect of OBRA-93: Lost Potential Gross Domestic Product



Source: Heritage estimates, using the Washington University Macro Model.

✗ Gross domestic product is projected to be lower in each year. In 2004 alone,

35 *Ibid.* p. 3.
36 *Ibid.* p. 21.

GDP is projected to be $122.5 billion lower in today's dollars than would have been possible without passage of the 1993 tax increase and budget deal.

- ✗ Real personal disposable income is projected to be lower each year. In 2004 alone, Americans will see $142 billion less in disposable income than would be possible without the 1993 tax increase and budget deal.
- ✗ Employment is projected to be less in every year. By 2004, 1.5 million fewer jobs will be created because of the 1993 tax increase and budget deal.

CONCLUSION

While there is good news in the economy, such as low interest rates, low inflation, 8 million new jobs, and lower federal deficits, many workers and their families feel that the recovery is anemic as far as they are concerned. The Clinton Administration is taking credit for good economic news and asserts that the news is a justification of its economic policies; specifically, the 1993 budget deal, which included the largest tax increase in history.

The evidence does not support the Administration's claim that the 1993 budget plan triggered stronger economic growth. On the contrary, the critics of the 1993 legislation appear to be correct that because of it Americans are caught in what some refer to as the "Clinton Crunch," the dual effect of declining real wages combined with higher taxes. The analysis by Heritage Foundation economists, using the WUMM model, indicates that OBRA-93 has had a damaging impact on the nation's economy. Removing the effects of OBRA-93 in an econometric simulation shows that the economy would have been performing better today had Congress not enacted the legislation.

Thus, President Clinton is right to point to the 1993 budget deal as creating today's economic climate. But rather than create a better climate, the legislation has cast a dark shadow over the economy.

Scott A. Hodge
Grover M. Hermann Fellow
in Federal Bugetary Affairs

William W. Beach
Visting Fellow, Tax Analysis

John S. Barry
Policy Analyst

Mark Wilson
Rebecca Lukens Fellow
in Labor Policy

Joe Cobb
John M. Olin Fellow
in Political Economy

With contributions from Gareth Davis

Economic Impact of the Omnibus Budget Reconciliation Act of 1993 (OBRA-93)

	1993	1994	1995	Forecasts 1996	1997
Gross Domestic Product (Billions of 1995 Dollars)					
Simulation - without OBRA-93	$6,799	$7,102	$7,357	$7,573	$7,777
Actual - with OBRA-93	$6,785	$7,061	$7,291	$7,486	$7,681
Difference	-$14	-$41	-$66	-$87	-$95
Employment, Private Non-farm Business (Thousands of Workers)					
Simulation - without OBRA-93	93,479	96,539	98,967	100,746	102,148
Actual - with OBRA-93	93,463	96,107	98,101	99,538	100,781
Difference	-16	-432	-867	-1,208	-1,367
Real Personal Disposable Income (Billions of 1995 Dollars)					
Simulation - without OBRA-93	$4,921	$5,123	$5,329	$5,481	$5,595
Actual - with OBRA-93	$4,894	$5,068	$5,248	$5,380	$5,485
Difference	-$27	-$55	-$81	-$101	-$110
Real Wages and Salaries (Billions of 1995 Dollars)					
Simulation - without OBRA-93	$2,618	$2,730	$2,815	$2,911	$2,986
Actual - with OBRA-93	$2,611	$2,708	$2,779	$2,864	$2,936
Difference	-$6	-$23	-$37	-$47	-$50
Gross Private Savings (Billions of 1995 Dollars)					
Simulation - without OBRA-93	$1,044	$1,109	$1,165	$1,210	$1,236
Actual - with OBRA-93	$1,025	$1,076	$1,126	$1,162	$1,182
Difference	-$19	-$33	-$39	-$47	-$54
Household Net Worth (Billions of 1995 Dollars)					
Simulation - without OBRA-93	$23,711	$24,682	$26,459	$27,957	$29,054
Actual - with OBRA-93	$23,664	$24,612	$26,370	$27,846	$28,957
Difference	-$46	-$70	-$89	-$111	-$97
Non-Residential Fixed Investment, Producer Durables (Billions of 1995 Dollars)					
Simulation - without OBRA-93	$589	$698	$816	$881	$943
Actual - with OBRA-93	$587	$690	$801	$864	$925
Difference	-$2	-$8	-$14	-$18	-$18
Non-Residential Fixed Investment, Computers (Billions of 1995 Dollars)					
Simulation - without OBRA-93	$140	$181	$241	$287	$331
Actual - with OBRA-93	$139	$178	$236	$280	$323
Difference	$0	-$3	-$5	-$7	-$8
Sales of All Cars and Light Trucks (Thousands of units)					
Simulation - without OBRA-93	14,049	15,373	15,106	15,400	15,160
Actual - with OBRA-93	13,893	15,065	14,710	14,981	14,815
Difference	-156	-308	-396	-419	-345
Consumer Price Index (Annual % Change)					
Simulation - without OBRA-93	2.56%	2.37%	2.51%	2.63%	2.65%
Actual - with OBRA-93	2.74%	2.62%	2.73%	2.74%	2.72%
Difference	0.18%	0.25%	0.22%	0.11%	0.07%

Source: Heritage estimates, using the Washington University Macro Model.

APPENDIX: TECHNICAL NOTES

Notes on the Simulation

The simulation of the Omnibus Budget Reconciliation Act of 1993 (OBRA-93) was developed using the Washington University Macroeconomic Model of the United States economy. The baseline is that produced by the model in December 1995. Only those variables in the model that reflect federal tax and spending policies were modified to create the simulation. Both the baseline case and the simulation incorporated the model's Federal Reserve reaction function. Specifically, Heritage economists made the following decisions regarding tax and spending data inputted into the model for the simulation:[37]

✔ **Tax Changes**—Most changes in tax policy were initiated in the first quarter of 1993 to account for the retroactive nature of the tax increases included in OBRA-93.

1. The maximum federal corporate tax rate was restored to its "pre-OBRA-93" level to account for the one percentage point rate increase included in OBRA-93.
2. The statutory depreciation period for nonresidential structures was restored to its "pre-OBRA-93" level of 31.5 years. The corporate capital consumption allowance, as a percentage of total capital consumption allowance, was increased to accommodate the shorter depreciation periods within the simulation.
3. The federal statutory income-weighted marginal tax rates on wages, dividends, and interest were restored to their "pre-OBRA-93" levels.
4. The average federal personal tax rate was adjusted to account for lower marginal tax rates within the simulation compared to actual levels.
5. The federal statutory income-weighted marginal Social Security tax rate on wages and salaries was re-set to its "pre-OBRA-93" level.
6. Federal collections from social insurance taxes were adjusted to account for the repeal of the cap on earnings subject to the Medicare tax.
7. Federal collections from indirect business taxes were adjusted for the extension and increase of the motor fuels tax account.
8. Federal collections from business taxes were adjusted to account for non-rate changes in the business income tax code.

✔ **Mandatory Spending Changes**

1. The actual spending level for **Medicare** was increased for each fiscal year by the amount the Congressional Budget Office estimated in September 1993 that OBRA-93 changes would save—a total of $55.8 billion between 1994 and 1998.
2. The actual spending level for **Medicaid** transfers was increased for each fiscal year by the amount the Congressional Budget Office estimated in September 1993 that OBRA-93 changes would save—a total of $7.1 billion between 1994 and 1998.

---

37 For further information or clarification, please contact the authors.

3. The actual spending level for personal transfers was adjusted for each fiscal year by the amount the Congressional Budget Office estimated in September 1993 that OBRA-93 changes in **federal employee retirement and health benefits, veteran benefits**, and the **Earned Income Tax Credit** would create—a net total of $6.7 billion of increased spending between 1994 and 1998. The increased spending for the Earned Income Tax Credit more than offset the savings from reforming federal employee retirement and health benefits, and veterans benefits. Therefore, the simulation actually calls for less spending on personal transfers than actually occurred during the past three years.

4. The actual spending level for other grants-in-aid was adjusted for each fiscal year by the amount the Congressional Budget Office estimated in September 1993 that OBRA-93 changes in **federal farm programs**, the **food stamp program**, and **"other" mandatory programs** would save—a net total of $7.2 billion between 1994 and 1998.

5. The proceeds from FCC electromagnetic spectrum auctions and the savings from changes in federal family education loans were added to the unified deficit but not included in the NIPA-based spending accounts.

✔ **Discretionary Spending Changes —** The actual spending levels for **non-defense purchases, defense purchases, and federal grants** to state and local governments were adjusted for each fiscal year by the amount the Congressional Budget Office estimated in September 1993 that OBRA-93 changes in discretionary spending would save—a total of $68.5 billion between 1994 and 1998. This was evenly distributed among the three separate accounts.

✔ **Spending Projections FY 1999 - FY 2004 —** CBO September 1993 estimates extended through FY 1998. For fiscal years 1999 through 2004, the underlying growth rates were assumed.

Other Technical Notes

✔ **Personal Savings —** The Heritage analysis concludes, among other things, that the tax policy changes of 1993 undercut personal savings by $138 billion. The estimates of long-term consumption effects were calculated as follows. The foregone personal savings were distributed across an array of seven age groupings by the percentage of people that fall in each grouping. This array consists of population estimates made by the U.S. Bureau of the Census for 1995.[38]

- For those people 18 years old or less, the distributed personal savings were allowed to grow until their 18th year at a compounded rate of 5 percent. The sum of this compounding ($432 billion) was divided by $14,000 to arrive at the estimate of 7 million people who could pay for four years of state university education.

---

38 See U.S. Government Printing Office, *Economic Report of the President Together with the Annual Report of the Council of Economic Advisors* (Washington, 1996), Table B-30, p. 315.

- For those people between the ages of 18 and 35, the distributed personal savings were allowed to grow at a compounded annual rate of 5 percent until their 35th birthday. The sum of this compounding ($335 billion) was divided by $20,000 to arrive at the estimate of 17 million home sales that might be effected by potential home purchasers having $20,000 for a down payment and other home-buying costs.

- For those people between the ages of 35 and 65, the distributed savings were allowed to grow at a compounded annual rate of 5 percent until their 65th birthday. The sum of this compounding was $3.6 trillion. To this sum was added the amount of distributed personal savings for people above age 65. It was assumed that this amount is consumed as it is received. Therefore, the total amount available for retirement was $3.6 trillion. This $3.6 trillion estimate was divided by $37,500 (an estimate of annual living costs at retirement for the cohort aged 35 and above) to arrive at the estimate of 6.4 million 15-year retirement annuities.