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The Effects of Bush's Tax Cuts on Income Distribution and Economic Growth in the United States

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Abstract

President George W. Bush's tax massive cuts have done little to stimulate the economy in the short run, but it has done plenty to help increase the national debt-- from \$5.728 trillion on January 22, 2001, two days after Bush became President, to almost \$7.0 trillion on December 31, 2003. The prevailing view is that while tax cuts stimulated consumption of imported goods, it did little to increase domestic production of goods and services. Thus, there has been no noticeable increase in domestic capital spending and over-all employment outlook. Noted economist, Michael Evans (2003), has hypothesized that the latest round of tax cuts "will have some positive effects on the supply side, not on the demand side, of the economy." The purpose of this research is to provide a timely evaluation of the recent tax cuts with regard to its short-run impact on trade flows and employment conditions and its long-run effects on income distribution in America. Supply side economists have proposed that growth in output should be explained by the growth of labor force and capital stock and productivity enhancing developments in technology. In their assessment of the supply side paradigm, Abel and Bernake (1995, pp.184-185) state that a nation's ability to provide improving standard of living for its population depends crucially on its long-run rate of economic growth. Nevertheless, the authors contend that the process that induces economic growth is not completely understood, and nobody knows the magic formula for inducing economic growth.

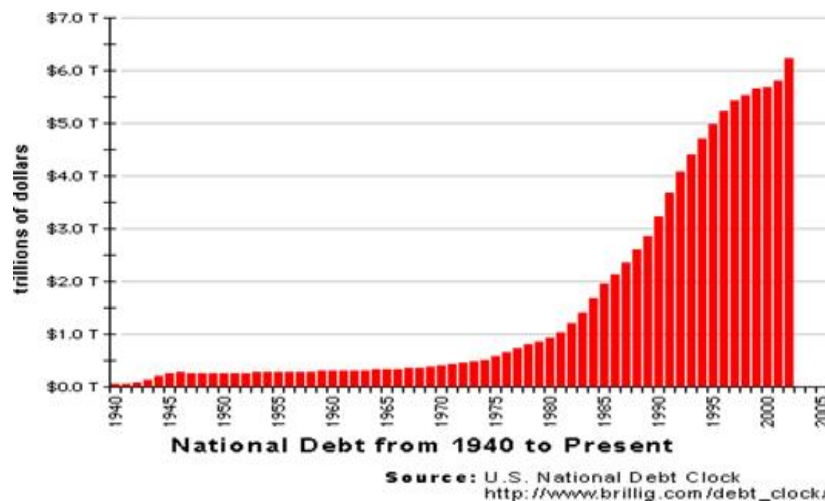


Fig. 1. The U. S. National Debt: 1940-Present

Introduction

On May 28, 2003, President Bush signed into law the third largest tax cut in the history of the United States. The Act was titled "The Jobs and Growth Tax Relief Reconciliation Act of 2003." It will be referred to as the "Act" in this paper. The Act was widely debated and controver-

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sial. Those in favor of the Act, project lost revenue of \$350 billion over a 10-year window. Opponents estimate the loss of revenues as being closer to \$810 billion, claiming the Act will generate large budget deficits, thus making an already serious national debt problem worse. The Act was passed by the Senate by a 51-50 vote, with Vice President Cheney casting the tie breaking vote. One of the widely stated purposes of the Act was to spur economic growth by providing households and businesses with more disposable income. It is anticipated that the tax cuts would benefit more than 131 million taxpayers, reduce the capital gains tax rate from 20 to 15.0% and lower the maximum rate on dividend to 15%. Under the previous tax code, dividend income was treated as regular income and subject to tax rates as high as 38.6%. Most importantly, the Act reduces the maximum income tax rate to 35%. The tax cuts would presumably pay for themselves by stimulating an ailing economy and boosting stock values of publicly traded companies.

President Bush's massive reductions in taxes may have had no measurable impact on the economy and job-creation in the short run, but it has done plenty to increase the national debt – from \$5.728 trillion on January 22, 2001, two days after Bush became President, to about \$7.0 trillion on December 31, 2003. However, the prevailing view is that while the Act may stimulate consumption of imported goods, it does little to increase domestic production of goods and services. Thus, there may be no measurable improvements in domestic capital spending and the overall employment situation that could be attributed to the Act in the immediate future.

Supply side economists have proposed that growth in output can be explained by the growth of labor force and capital stock and productivity enhancing developments in technology. In their assessment of the supply side paradigm, Abel and Bernake (1995, pp.184-185) state that a nation's ability to provide improving standard of living for its population depends crucially on its long-run rate of economic growth. Nevertheless, the authors contend that the process that induces economic growth is not completely understood, and no one knows the magic formula for inducing economic growth. Another leading economist, Michael Evans (2003), hypothesized that the latest round of tax cuts "will have some positive effects on the supply side and not on the demand side of the economy."

An Open-Ended Question

The association between President's Bush's tax cuts and the much anticipated improvements in the economy remains an open ended question. From a historical perspective, there is scarce evidence of a consistent relationship between income taxes and economic growth. In a widely acknowledged analysis of the Act, Paul Krugman (2001), one of the many noted economists who opposed the tax cuts, has projected that the scheduled reduction in taxes would provide nothing or very little to about 40% of American families while giving 45% of the benefits to families at the top one percent of the income bracket.

The main purpose of our research is to examine the effects of tax cuts on economic growth with regard to its short-run impacts on trade flows and employment conditions and its long-run effects on income distribution in the United States. Section one provides a more detailed overview of the tax plan, while section two attempts to answer some of the questions that have arisen using the lessons learned and the legacies of other tax cuts during the last century.

Summary of the Major Provisions of the Act

Benefits for Individual taxpayers

Reduced marginal tax rates. The Act accelerates the tax rate reductions enacted in 2001 which were scheduled to be phased in by 2006. The rate brackets become 10%, 15%, 25%, 28%, 33%, and a top rate of 35%. The top four brackets were each reduced by 2% with the top bracket of 38.5% receiving an additional 1.5% reduction for a total of 3.5%. The reduced rates were retroactive to January 1, 2003 and are effective through 2010. The 10% bracket was expanded for the years 2003 and 2004 with a return to the original brackets in 2005-2007 and a return to the 2003 brackets in the years 2008-2010. The tax savings from the expansion of the 10% bracket are mini-

mal, about \$50 for single taxpayers and \$100 for married. Taxpayers with substantial income in the highest tax bracket will see the most benefit from these changes.

Reduction in Capital Gains tax rate. The maximum tax on long term capital gains is reduced from 20% to 15% for individuals in the top four brackets (25% through 35%). It is reduced to 5% for those in the 10% and 15% brackets. This change expires (sunset) on December 31, 2008. Short term capital gains will continue to be taxed at ordinary income rates. This provision should encourage investment in equities that will generate long term capital gain. The large disparity between short term and long term capital gains makes the one year holding period crucial.

For example: Assume you have two taxpayers, Louise and Thelma. Each is in the maximum income tax rate bracket (35%). Both earned \$50,000 of capital gain in 2003 from the sale of equities. Louise held her stock for 11 ½ months, Thelma – for 12 ½ months. Tax results are as follows:

Louise (\$50,000 x 35%)	\$17,500 in tax
Thelma (\$50,000 x 15%)	\$ 7,500 in tax

Thus, for a one month difference in the holding period of the stock, Thelma pays additional \$10,000 in tax! A second example can be constructed in which a family unit can save a significant amount of taxes by transferring appreciated stock to children over age of 14 and who have another little income and having them sell the stock. The children would pay a 5% capital gains tax rate while the parents would pay 15%. Also, no gift tax results would occur if the FMV of the stock gifted was below the annual exclusion in the amount of \$11,000 to each child.

Reduction in Tax rate on Dividends. The Act reduces the tax rate on dividends to that of the new capital gains tax rate. Thus individuals in the top four brackets will pay a tax of 15% on qualifying dividends. Taxpayers in the bottom two brackets will pay 5%. Like the capital gains rate reduction, this provision is scheduled to expire (sunset) on December 31, 2008. The new law defines qualified dividend income as that received from domestic corporations and “qualified foreign corporations.”

This new rate reduction on dividends also applies to business owners who receive dividends from their corporations. Previously, owners of C corporations (regular corporations to which the bain of double taxation applied) tried to avoid the double taxation of earnings by paying money out to themselves and family members in the form of a salary. Reasonable salaries are a deductible expense by the corporation in determining net income. The IRS often audited such firms and reclassified part of the salary paid as dividend income on the basis the salary paid was unreasonable. Assuming this determination is correct, taxpayers would now avoid the income and social security and Medicare tax on that portion of the salary disallowed (which could be as high as 35%) and would only pay 15% on the reclassified dividends. In addition, there would be an adjustment to the corporations tax return for the salary previously deducted. corporation owners may want to consider the strategy of paying a dividend to themselves in lieu of a salary before the dividend tax reduction sunsets. If the corporation is in a low tax bracket, this could be a very efficient and effective tax savings device.

This new provision could also affect business succession planning. Assume Dad and son both have own shares in the business. Dad wants to decrease his ownership interest and eventually pass the business along to the son. Under the old law, if Dad had a partial redemption of his stock done and continued in the business, the transaction would be treated as a dividend and be highly taxed. In order for Dad to receive the favorable capital gains treatment, he would have to dispose of his entire interest and end his involvement in the company. Under the new dividend 15% rate, Dad could go ahead with a partial redemption, reduce his ownership interest, get some money out, and continue to be involved in the business.

Considering both the capital gains rate and dividend rate reduction together, one would surmise that this will encourage individuals to purchase equities as they pay only 15% on the dividends and have the upside of capital gains being taxed at only 15%. Would you rather have money in Treasury Bonds or be invested in Mobil or Exxon?

Additional Child Tax Credit. The Act increases the previous \$600 child tax credit to \$1,000 for 2003 and 2004. Checks in the amount of \$400 were mailed to eligible taxpayers who claimed the credit in 2002. The credit begins to phase out for taxpayers above certain thresholds: \$75,000 for single and \$110,000 for married filing jointly. Unfortunately, the increase to \$1,000

sunsets after 2004. The credit will be reduced to \$700 and again reaching \$1,000 in 2010. The advanced credit was intended to make funds available to boost consumer spending in an effort to stimulate the economy. Unfortunately, because of an earned income requirement, the law precludes approximately 6.5 million low income families from obtaining any benefit. Thus, the parents of one out of every sixth children under the age of 17 are not eligible for the credit and will not receive any payment.

Marriage Penalty Relief. Prior to the Act, certain couples paid higher income taxes if they get married every sixth than if they remained single. Considered a major injustice and certainly not socially desirable, the Act attempts to ameliorate the penalty by expanding the 15% tax bracket so that it is twice the size of that applicable to single taxpayers. In addition, married taxpayers are now allowed 200% of the standard deduction available to single taxpayers. For the year 2003, the maximum standard deduction for a single taxpayer is \$4,750. Thus, the maximum standard deduction for married taxpayers filing a joint return is now 2 x \$4,750 or \$9,500, an increase of \$1,550 over old amounts.

Alternative Minimum Tax. The Act increases the exemption for single taxpayers from \$35,750 to \$40,250 and for married persons from \$49,000 to \$58,000. This provision sunsets in the year 2005. This is a minimal change to an area that is increasingly becoming a problem for middle income and higher taxpayers.

Benefits for Business taxpayers

In addition to the changes discussed above, many of which affect both individuals and business owners, a number of provisions were targeted directly at business taxpayers.

Section 179 Expensing. The Act increases the Section 179 immediate expensing option from \$25,000 to \$100,000. The increase applies to certain business property placed in service in the years 2003 through 2005. The amount at which a phase out of the Section 179 amount begins was doubled, from \$200,000 to \$400,000. This will allow more businesses to qualify for the Section 179 expensing. The provision is aimed directly at the small business sector where the majority of new jobs are expected to occur.

Increase in Bonus Depreciation. Bonus depreciation was first introduced for the year 2001. It was 30% of the cost of certain property, other than real estate, which was acquired after September 10, 2001 and placed in service before January 1, 2005. It was calculated first and is taken in addition to any other depreciation a taxpayer may be entitled to. The basis of property was reduced by the 30% amount before the computation of other allowable depreciation. It was an election and not required.

The Act increased this amount from 30% to 50% and is applicable to qualified property placed in service after May 5, 2003 and before January 1, 2005. To qualify, property acquired must be new with a MACRS life of 20 years or less. Certain leasehold improvements and computer software also may qualify. The 50% amount is in addition to other allowable depreciation. It does not replace the 30% bonus amount, although a taxpayer cannot elect both the 30% and 50% on the same asset. The election between the 30% and 50% is on a class by class basis.

Example: On July 1, 2003, Louise purchased and placed in service a 5 year class asset. The asset costs \$250,000. What is her maximum total deduction with respect to this asset. Louise is willing to make any election that will minimize her income. Her business income before any cost recovery deduction with respect to this asset is \$500,000.

Section 179 expensing:	\$100,000
50% Bonus Depreciation: (50% x (\$250,000 - \$100,000))	\$ 75,000
MACRS Cost recovery: (20% x (\$250,000 - \$100,000 - \$75,000))	\$ 15,000
TOTAL 2003 DEDUCTION	<u>\$190,000</u>

Before the 2003 Act, her total deduction would have been \$124,000, a difference of \$66,000.

Like the increase in the Section 179 expense amount, the bonus depreciation provision is meant to stimulate immediate capital spending by businesses. One report estimates that approximately 98% of all farmers will be able to deduct their entire investment in new equipment because of the increased Section 179 amount and 50% bonus depreciation.

Another estimate is that over 500,000 businesses will directly benefit from the changes. In any case, the Act uses a number of budget and accounting gimmicks to arrive at the lower figure. The Act makes extensive use of “sunset” provisions to control the amount of lost revenue that must be reported. Sunset provisions expire at the end of a specified period and for the provision to continue, must be reenacted by Congress.

An Anemic Recovery

On July 17, 2003, The National Bureau of Economic Research (NBER) officially declared that the latest recession that began in March 2001 ended in November 2001. The recession which lasted 8 months, was considerably shorter in duration when compared to other recessions in the US economy in recent history¹.

Economists generally agree that access to crucial capital and material resources at steady costs is essential for steady long-run growth of output and employment. There is also broad agreement that changes in fiscal and monetary policy can modify the slope of the long-run aggregate production function. In this context, we should note that the current “expansion” has been stimulated by very low interest rates that were enacted by the US Federal Reserve Board in January 2001². The Federal Reserve Board has hinted repeatedly that its easy money policy would be maintained for the foreseeable future. Apparently, the Fed is afraid that even relatively small increases in interest rates could stifle the debt-financed consumption and constructions spending, which have largely sustained the US economy over the past two years. In comparison, the stimulating effects of the fiscal policy on the pace of the recovery have been muted by very low interest rates. According to the Economic Policy Institute (2002, p.), “the strength of consumer spending rested on tax cuts and mortgage refinancing” with a one time tax cut boosting disposable income by \$100 billion. This meant that after-tax income grew by 7.2%. Before-tax income, however, rose by only 1%, while real wage and salary income, after taking inflation into account, actually fell by 0.1% in the quarter. Under the Bush plan, “most of the big tax cuts come only in the second half of the decade and, therefore, do not put money in the hands of people now, which is when we might want them to spend more” (Krugman, 2001).

Tax Cuts and Income Distribution

Critics say that the tax plan favors the wealthy. The president responds that the rich do pay most of the taxes in the country and are entitled to a tax break. Bob Herbert (2003), a vocal critic of the tax cuts, has pointed out that during the past two years the number of Americans living in poverty has increased by three million, while the median household income has fallen. The startling increase in the number of poor has been exacerbated by rising unemployment. In a recent article, Jared Bernstein (2003), senior economist at the Economic Policy Institute, states that the decline in the number of hours worked by families, rather than by individuals, was “of a magnitude that’s historically been commensurate with double digit unemployment rates.” Not only there are fewer family members working, the ones who are employed are working less hours.

Myth: Tax cuts spur economic growth

A quick review of the American economic history reveals that periods of high growth in output coincided with rather high taxes. This has been especially true during war years when

¹ A recession is a period of falling economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales. The trough marks the end of the declining phase and the start of the rising phase of the business cycle. Economic activity is typically below normal at the early stages of an expansion, and it sometimes remains so well into the expansion.

² The Federal Reserve began lowering the Fed Fund rate from 6% on January, 3, 2001, to 1.0% in June 2003.

enormous demand for military goods forced the government to invest heavily in manufacturing and raise taxes to pay for most of it. Figure 2 shows economic decline and growth during the latest recession. Preliminary estimates indicate that Gross domestic product (GDP) grew at a 7.2% annual rate in the third quarter following a 3.3% growth in the second quarter in 2003. The burst of GDP growth was led by a 6.6% jump in consumer spending, the fastest pace since the third quarter of 1997. Consumer spending grew at a 3.8% pace in the second quarter. The apparent boost in GDP growth rate has enabled the Bush administration to claim victory for the economic recovery.

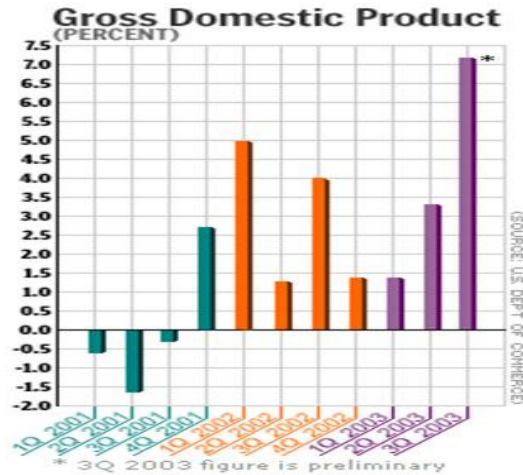


Fig. 2. Gross Domestic Product (GDP) Growth Rate: 2001-2003

Despite the economy's stunning 6 to 8% surge in the third quarter, the staying power of this economic recovery remains a matter of debate. Figure 2 suggests the resumption of a see-saw recovery with some increased business and consumers' spending in recent months. Nevertheless, the irregular pace of the recovery has done little to motivate the private sector to increase its pay roll. The absence of hiring may be because of the uncertainty caused by the on-going crisis in the Middle East and increased acts of international terror. Besides, escalating state and local taxes, considerable increases in user fees and low rates of return on savings continue to erode any tax savings from lower federal income tax rates. In a comment published on October 24, Morgan Stanley's chief global economist, Stephen Roach noted that "by our calculations, over the first 21 months of this recovery, real wage and salary disbursements – the dominant component of personal income – are running about \$320 billion below the path that would have been generated in a normal recovery." According to his figures, some 22 months after the recession that supposedly ended in November 2001, private sector hiring in the US economy was running 4.3 million workers below the norm of the past six recoveries. Roach hypothesizes that the remarkable productivity growth of America in the last quarter is the result of downsizing and longer working hours by managerial and professional employees who have kept their jobs. Presently, this class of employees which constitute about 35% of the total work force in America is the fastest growing sector of the economy.

To-date there are no credible evidence that would unequivocally establish a valid connection between GDP growth and lower taxes. During both world wars, when taxes soared to record heights, the US economy produced high growth for decades afterwards. The Bush Administration has made growth a major economic goal, and tax cuts as the best way to achieve it. So, it is appropriate to examine past changes in income tax rates for their efficacy in spurring GDP growth. The prevailing view is that there is no clear correlation between the rise, or fall, of the income tax rates and the pace of economic growth. Figure 3 below tracks US real GDP growth rate and the tax rates in recent decades.

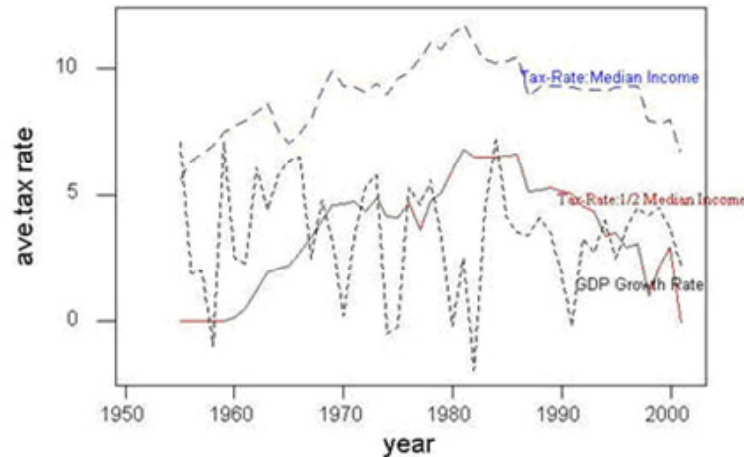


Fig. 3. Real GDP Growth, Ave. Tax Rates (1/2 Median and Median Income) 1955-2001

Basic correlation analysis supports the initial claim by Krugman (2001) and others (Etebari, 2003) that no clear correlation exists between income tax rates and rate of real GDP growth. Etebari reports a correlation coefficient between the two variables of nearly 0.03 for the period of 1961-2000. He submits that if taxes were significantly correlated with GDP, the correlation coefficient should be closer to -1. This author also examines the relationship between growth rate in income, wages, and employment with the top tax rates and finds no evidence of significant correlations between these variables and tax rates. His analysis reflects a review of the recent economic literature on the topic. John J. Seater, (1993) states that "...the effects of government debt and deficits on the economy are not obvious from either economic theory or statistical evidence."

In our analysis of the association between GDP growth rates and various tax rates, we found that the empirical linkage between taxes rates and GDP growth rates is quite weak. Our results are summarized in Table 1.

Table 1

Correlation of Average and Marginal Tax Rates. With Real GDP Growth Rates 1955-2001

Income Level	Tax Rate	Correlate Coefficient	P-Value
One-Half Median Income	Average Tax Rate	-0.130	0.384
Median Income	Average Tax Rate	-0.174	0.242
Twice Median Income	Average Tax Rate	-0.206	0.164
Median Income	Marginal Tax Rate	-0.096	0.522
Twice Median Income	Marginal Tax Rate	-0.157	0.293

The results indicate a negative correlation between income tax rates and real GDP growth rates. Nevertheless, judging by the P-values, none of the reported correlation coefficients are statistically significant. As can be seen, our findings are not supportive of using income tax policy as a mechanism to fine tune or grow the economy. The complexities and loop-holes which are found within the US tax code have led to distortions in savings and investment decisions by individuals and corporations alike. Hence, President Bush's tax cuts are unlikely to quicken the pace of the GDP growth in the short-run.

Conclusion

This paper has evaluated the association between the income tax rates and economic growth. The tax bill passed by the Congress and signed into law by President Bush which significantly reduced tax rates for the richest Americans was proclaimed to spur major growth in the economy and improve the employment outlook for the working class. Using historical data and correlation analysis, this paper has highlighted the fact that cutting tax rates do not automatically and concurrently trigger economic growth. Although there exists some evidence that lower taxes do increase disposable median income, there is little connection between higher median income and investment spending in the economy. The estimated correlation coefficients reported in Table I are negative indicating higher growth rates to be associated with lower taxes. But the reported results are not statistically significant. Moreover, the tax cuts have had no measurable impact on the extent of job growth in the economy. Last, but not least, state and local taxes have been steadily rising in recent decades. As a result, recent cuts in Federal taxes have been more than offset by steadily rising taxes and user fees imposed by state and local governments.

What we have attempted to show is that growth is not strongly correlated with taxes. The roots and the catalyst for economic growth are many-sided and complex. Nobel laureate Robert Lucas, who has spent a life-time researching the foundations of economic growth, has been unable to establish a set of universal criteria. Paul Krugman (2001), has stated that the mystery of growth is deep and poorly understood. He says that people who claim that tax rates affect growth are not serious economists.

Considering the US economy as a whole, the latest growth figures do nothing to lessen concerns among economists over the growing structural imbalances – in particular, the widening balance of payments deficit and the growing budget deficit, which both stand at more than half a trillion dollars. Nick Beams (WSWS, 2003) warns that “If you add up America’s trade deficit and its federal budget deficit, and state and local deficits, you reach a ratio of debt to income which puts us in a category where the World Bank and the IMF would rate us as dangerous, if we weren’t the strongest country in the world but just an average country,” he said. “Dangers spring from these twin deficits that will end up putting upward pressure on interest rates.”

References

1. Abel, A. and B. Bernanke, 1995. “Business Cycles,” Chapter 9 in *Macroeconomics*, Addison-Wesley, 289-315.
2. Abel, A. and B. Bernanke, 1995. “Classical Business Cycle Analysis: Market Clearing Models,” Chapter 11 in *Macroeconomics*, Addison-Wesley, 354-369.
3. Beams, Nick, 2003. “US growth rate climbs, but economic problems remain”, <http://www.wsws.org/eb.shtml>.
4. Bernstein, Jared, 2003. “The Jobless Recovery: Suffering from the Recession’s After-shocks, Labor Market Conditions Continue to Worsen,” EPI Issue Brief, No. 186.
5. Casburn, Steve, 1997. “Historical Table 2.1, Budget for FY 1997,” U.S. Office of Management and Budget. Chart derived by Steve Casburn.
6. Etebari, Mehrun, 2003. “United for a Fair Economy,” Boston, MA.
7. Evans, Michael. “Evans On The Economy -- How Bush's Tax Cut Will Really Work”, Industry Weekcom, August 2003.
8. Drazen, A., 2000. “The Political Business Cycle after 25 Years,” NBER Macroeconomics Annual, 75-117.
9. Gartner, M., 2000. “Political Macroeconomics: A Survey of Recent Developments,” *Journal of Economic Surveys* 14:5, 527-561.
10. Gordon, R.J., 1990. “What is New-Keynesian Economics? *Journal of Economic Literature* 28:3, 1115-1171.
11. Krugman, Paul, 2001. “Fuzzy Math: The Essential Guide to the Bush Tax Plan.”, W.W. Norton & Company.

12. Krugman, Paul, 2003. *The Great Unraveling: Losing Our Way in the New Century* W.W. Norton & Company; 1st edition.
13. Kydland, F. and E. and Prescott, 1990. "Business Cycles: Real Facts and a Monetary Myth," *Quarterly Review*, Federal Reserve Bank of Minneapolis, Spring, 3-18.
14. Lucas, Robert E., 2002. "Lectures on Economic Growth," Cambridge, Harvard University Press.
15. Mankiw, N.G., 1990. "A Quick Refresher Course in Macroeconomics," *Journal of Economic Literature* 28:4, 1645-1660.
16. Mankiw, N.G., 1989. "Real Business Cycles: A New Keynesian Perspective," *Journal of Economic Perspectives* 3:3, 79-90.
17. Mankiw, N.G., 1990. "A Quick Refresher Course in Macroeconomics," *Journal of Economic Literature* 28:4, 1645-1660.
18. Mankiw, N.G., 1997. "Recent Developments in the Theory of Economic Fluctuations," Chapter 14 in *Macroeconomics*, Worth, 385-400.
19. Office of Management and Budget, "Budget of the United States Government, Fiscal Year 1997, Historical Table 15.1."
20. Organization for Economic Cooperation and Development, 1991, "Revenue Statistics of OECD Member Countries", Paris, France.
21. Plosser, C., 1989, "Understanding Real Business Cycles," *Journal of Economic Perspectives* 3:3, 51-77.
22. Roach, Stephen S., 2003. "The Index of Missing Economic Indicators; The Productivity Paradox," *New York Times*.
23. Romer, D., 1993, "The New Keynesian Synthesis," *Journal of Economic Perspectives* 7:1, 5-22.
24. Stadler, G., 1994, "Real Business Cycles," *Journal of Economic Literature* XXXII, 1750-1783.
25. Temin, Peter, 1998. "The Causes of American Business Cycles: An Essay in Economic Historiography," in *Beyond Shocks: What Causes Business Cycles*, ed. by Jeffrey Fuhrer, 37-59.
26. Wolff, Michael, Peter Rutten, Albert Bayers III, eds., and the World Rand Research Team, 1992, "Where We Stand," New York: Bantam Books, p. 143.

Appendix

Table 2

Key Economic Indicators: 1999-2003

National Economic Institute	1999	2000 ¹⁾	2001 ¹⁾	2002 ²⁾	2003 ²⁾
Key Economic Indicators					
Population	277,184	281,154	284.600	286,877	289,172
Population growth (%)	1.2	1.4	1.2	0.8	1.0
GDP, billion USD	8.487	8.462	7.676	8.410	8.828
GDP per capita USD, current exchange rate	30,617	30,099	26,972	29,316	30,528
GDP growth (% change from previous year)	3.6	5.6	3.0	-0.8	2.4
GDP by Sectors (%)					
Agriculture	1.7	1.6	1.6	1.5	-
Fisheries and Fish Processing	12.6	11.5	11.3	12.1	-
Manufacturing, Construction and Utilities	19.4	18.6	20.0	20.8	-
Private Services	43.9	46.0	44.5	43.0	-
Public Services	22.4	22.3	22.7	22.6	-
Inflation, (% change in CPI)	3.4	5.0	6.7	5.0	2.7
Unemployment ³⁾	2.0	2.3	2.3	-	-
Youth unemployment ⁴⁾	4.4	4.7	4.8	-	-
Wages, (% change in Wage Index)	6.8	6.6	8.9	6.9	4.5
Current Account Balance (Billion USD)	-0.6	-0.9	-0.3	-0.1	-0.1
Current Account Balance (% of GDP)	-6.9	-10.2	-4.3	-1.0	-1.4
Main Exports Categories (%)					
Marine Products	45.9	40.8	40.1	-	-
Energy Intensive Products	12.1	13.6	14.6	-	-
Tourist Revenues	12.9	13.1	12.4	-	-
Other	29.1	32.5	32.9	-	-
Export Shares (%)					
United States of America	14.7	12.2	10.4	-	-
European Economic Area (EEA)	68.9	71.9	73.6	-	-
Other	16.4	15.9	16.0	-	-
Import Shares (%)					
United States of America	10.9	11.0	11.1	-	-
European Economic Area (EEA)	66.3	65.2	62.7	-	-
Other	22.8	23.8	26.2	-	-
Public Sector Balance (% of GDP)	2.4	2.4	-0.1	-0.5	-
Central Government Financial Balance (% of GDP)	2.5	2.4	-0.2	-0.5	-
Short Term Interest Rates (3-Months Treasury Bills)	9.8	11.8	10.0	-	-
Long Term Interest Rates (5-years Treasury Notes)	9.6	12.0	9.1	-	-
Effective Exchange Rate of the Krona (% Change)	-0.2	0.1	20.1	-2.2	-1.8
Exchange Rates					
USD	72.42	78.87	97.71	-	-
DEM	77.17	72.61	87.49	-	-
GBP	117.14	119.14	140.71	-	-
JPY	0.6396	0.7317	0.8046	-	-
1) Estimate.					
2) Forecast, June 2002.					
3) Labour Force Survey					
4) 16-24 years					