

# BEYOND THE NEW NORMAL

Establishing a Pro-Growth  
Economic Policy Environment

# 4

## Policy Mix Theory and Historical Evidence

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**ADDENDUM**

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APRIL 2017



# **Beyond the New Normal**

**Establishing a Pro-Growth Economic Policy Environment**

## PART IV Addendum Detailed Historical Review



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*Beyond the New Normal*  
Establishing a Pro-Growth Economic Policy Environment  
Part 4 Addendum: Detailed Historical Review

ISBN 978-1-934276-34-1

Download copies of this study at [www.pacificresearch.org](http://www.pacificresearch.org).

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This historical review evaluates the U.S. economic environment by comparing the average growth rate of each distinct growth period identified in Part IV of the *Beyond the New Normal* research program, “Historical Review: Policy Mix Theory and Historical Evidence” to the average growth rate over the entire time series. The data evaluated include inflation adjusted: GDP per worker, aggregate private income received, median family income, economy-wide return on assets, and total household net worth.<sup>1</sup>

The fiscal environment is evaluated based on the effective marginal tax rates (as distinct from the statutory marginal tax rates), the average tax rates, the size of the government sector relative to the private sector, the growth (or decline) in the size of the government sector relative to the private sector, and the size of the government deficits and debt.

The monetary environment is evaluated based on the consistency of the Federal Reserve’s policy with a monetary rule that ensures that the growth in the supply of money is consistent with the growth in demand for money as opposed to the periods where discretionary monetary policy emphasizes goals other than (or in addition to) a neutral monetary policy.

The implications from these historical reviews support the premises of the *Beyond the New Normal* research program: (1) the policy environment is one of the primary determinants of the economy’s growth path; and (2) significantly faster economic growth in the U.S. is possible, even accounting for demographic headwinds, if economic policies adopt a more pro-growth perspective that empowers the private sector to efficiently employ capital, labor, and technology.

It is important to note that, due to space limitations, the historical review focuses on the consistent relationship between the fiscal and monetary policy stances, and the resulting economic outcomes (the impacts from regulatory policy are overviewed briefly when changes in regulatory policy had meaningful impacts, both positively and negatively). This focus should not be interpreted to mean that other factors are not important. Certainly, many other factors such as demographic issues (e.g. baby boomers entering the workforce), geo-political issues (e.g. unrest in the Middle East), and technological changes (e.g. the information technology revolution) matter as well.

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## The Go-Go 1960s

Starting with the fiscal environment, the statutory top marginal personal income tax rate back in 1958 was 91 percent – unquestionably a confiscatory and anti-growth top marginal tax rate. Importantly for the economy, the statutory rate did not accurately reflect the effective marginal tax rate facing most economic decisions.

Of note, the marginal tax rates on the average family and families with above average incomes were lower during this period than in subsequent periods. For example, as documented by the *Congressional Budget Office* (CBO), the effective marginal tax rate facing a family of four earning the median income, and a family of four earning twice the median income, was lower during the 1950s and 1960s than the 1980s through 2009.<sup>2</sup>

The CBO's findings are consistent with a study by Barro and Sahasakul (1983) that found the average marginal tax rate, weighted by income, from 1958 through 1970 was around 23 percent.<sup>3</sup> Importantly, the average marginal tax rate declined following the Kennedy tax cuts of 1964 (pushed through by President Johnson), yet started to rise during the late 1960s and 1970s in part due to rising inflation creating the problem of bracket creep that pushed up average marginal tax rates during the 1970s. Therefore, the marginal tax rates facing median income families and upper income earning families during the 1960s were relatively low in comparison to later years. Additionally, throughout most of the 1958 through 1970 period, the marginal tax rates facing these families were not rising – rates did begin to rise during the latter part of the 1960s.

The deviation between statutory and effective tax rates held for higher income tax brackets as well. Due to numerous loopholes and exemptions, the punitive tax rates on the highest income earners were significantly lower than the statutory tax rates implied, a point noted even by those analysts who argue for higher tax rates today. For example, Piketty and Saez (2007) noted that,

the average individual income tax rate in 1960 reached an average rate of 31 percent at the very top, only slightly above the 25 percent average rate at the very top in 2004. Within the 1960 version of the individual income tax, lower rates on realized capital gains, as well as deductions for interest payments and charitable contributions, reduced dramatically what otherwise looked like an extremely progressive tax schedule, with a top marginal tax rate on individual income of 91 percent.<sup>4</sup>

Confirming the Piketty and Saez findings, Linder (1996) noted that including income from other sources, such as capital gains, that are particularly important for upper income earners the effective top tax rate in the U.S. in 1960 was 31 percent.<sup>5</sup>

Also supportive of the lower marginal tax rates during this period, Shlaes (2013), citing research from Thorndike and Sullivan in *Tax Notes* magazine, noted that “those earning more than \$100,000 paid less than 5 percent of the taxes collected in the U.S., a far smaller share than the wealthiest shoulder today [as of 2013].”<sup>6</sup> Shlaes (2013) also documented that tax rates were headed downward during the 1950s through the mid-1960s, due to either the numerous (and growing) tax loopholes or the Kennedy tax rate reductions in 1964. Furthermore, taxes were generally expected to decline.<sup>7</sup> Along with the actual rates, the direction/expected direction of future tax rates is an important driver/inhibitor of economic growth. Reductions, or expected reductions, in tax rates will encourage economic activity just as increases, or expected increases, in tax rates will discourage economic activity (an obstacle to growth during the 1970s).

The average expenditure burdens and tax rates on the private sector confirm that the period between 1958 and 1970 was generally a period of greater fiscal discipline – with the important caveat that the fiscal discipline began eroding toward the end of this period. Figures 1 through 3 illustrate these trends. Figure 1 presents the government expenditure burden, which is defined as total federal, state, and local government expenditures relative to private income earned at prices paid.<sup>8</sup>

**FIGURE 1. Total Government Expenditures as a Percentage of Private Income**  
1958 through 1970 Compared to Whole Period

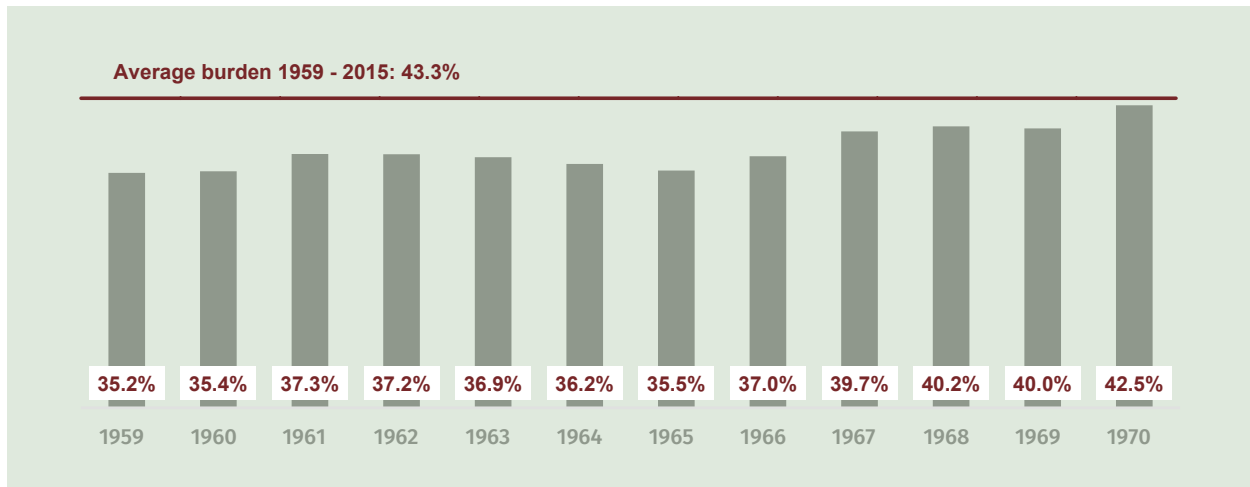
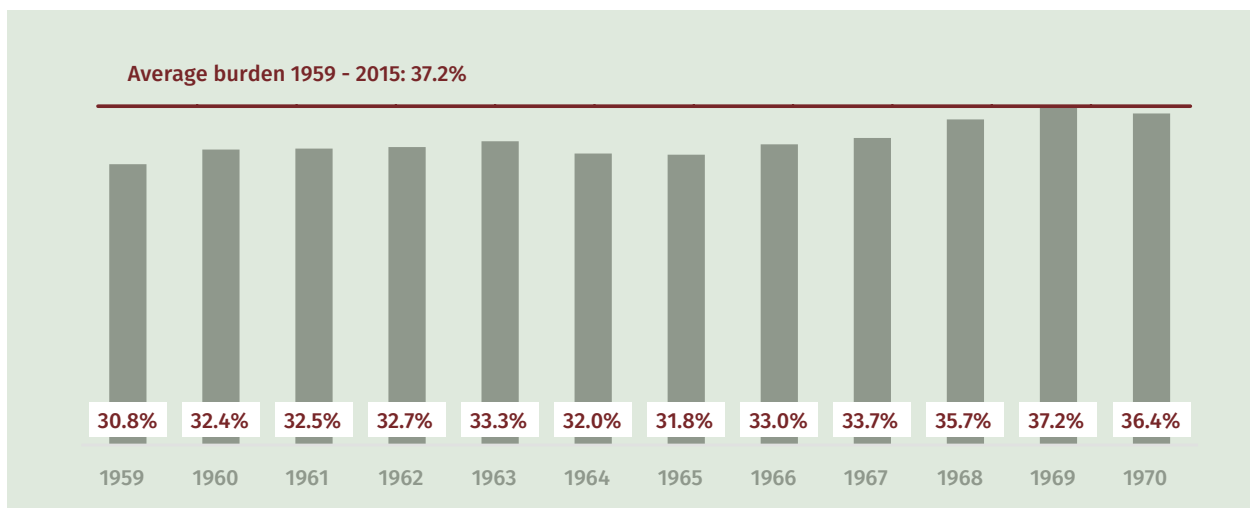


Figure 1 illustrates that the total government burden was significantly less than the average of the whole period, particularly between 1959 and 1966. Such an average expenditure level, which equates to a burden relative to GDP (as opposed to relative to private income, which is displayed in Figure 1) of 28 to 29 percent is still above the growth maximizing expenditure burden of 21 to 23 percent of GDP estimated by Scully. It was the closest government expenditures would come to the growth maximizing estimates over this entire period, however. Additionally, as illustrated in Part II of the *Beyond the New Normal* research program, the composition of government expenditures was devoted toward government consumption and investment services as opposed to transfer payments. Therefore, the potential for government activities to divert resources from more productive uses in the private sector toward less productive uses was minimized. It also follows that, due to the smaller expenditure burdens, the necessary financing costs (through taxes or debt) were also less, see Figures 2 and 3.

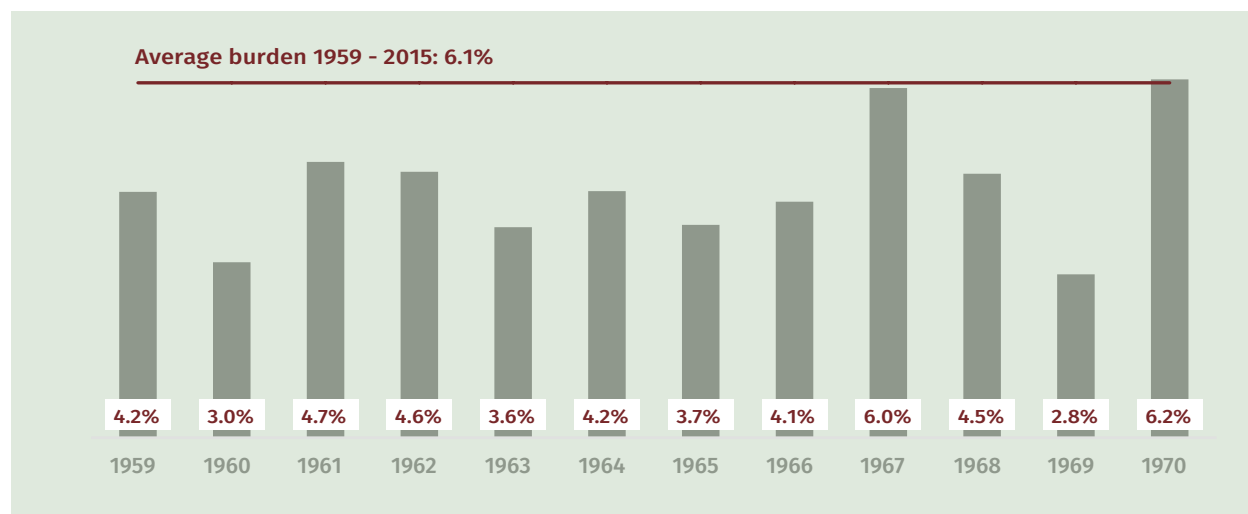
**FIGURE 2. Total Tax Revenues as a Percentage of Private Income**  
1958 through 1970 Compared to Whole Period





### FIGURE 3. Total Government Deficits as a Percentage of Private Income

1958 through 1970 Compared to Whole Period



Figures 2 and 3 illustrate that both the total tax burden and the total deficits (or future tax burden) were below the average burden throughout the 1959 through 1970 period. Taken as a whole, the effective marginal income tax rates during this period were not excessively high (despite the statutorily high rates), the expenditure burden was relatively light and skewed toward public goods and services (as opposed to transfer payments), the average tax burdens were low, and total government deficits were relatively low. Thus, the fiscal environment was supportive of economic growth, on net.

However, Figures 1 through 3 also illustrate how the seeds of a more profligate fiscal policy were established during this period – particularly with Johnson’s Great Society programs of the mid-1960s. The adverse impacts on economic growth that were due to the worsening fiscal environment were realized during the 1970s, which was made worse by monetary policy that interrupted the relatively neutral monetary environment of the late 1950s and early 1960s and set the stage for the unstable discretionary monetary policy environment of the 1970s.

The Federal Reserve-Treasury Accord of 1951, which helped the Federal Reserve establish its current degree of independence, coupled with the formal abandonment of the policy of pegging government bond prices in 1953, helped improve the monetary environment during the late 1950s and early 1960s compared to the monetary policy that immediately followed World War II.<sup>9</sup>

However, it was still commonly believed that monetary policy was of secondary importance, and the Federal Reserve’s major role was to keep interest rates low to help ease the government’s borrowing costs – during this period monetary policy was generally viewed as secondary to fiscal policy.<sup>10</sup> As summarized by Hafer and Wheelock (2003) “the consensus view, both outside and inside the Fed, was that monetary policy should accommodate the needs of fiscal policy, which meant keeping interest rates low. Although nominally constrained by the continuing balance of payment deficits, monetary policy was generally consistent with the Kennedy administration’s desires.”<sup>11</sup>

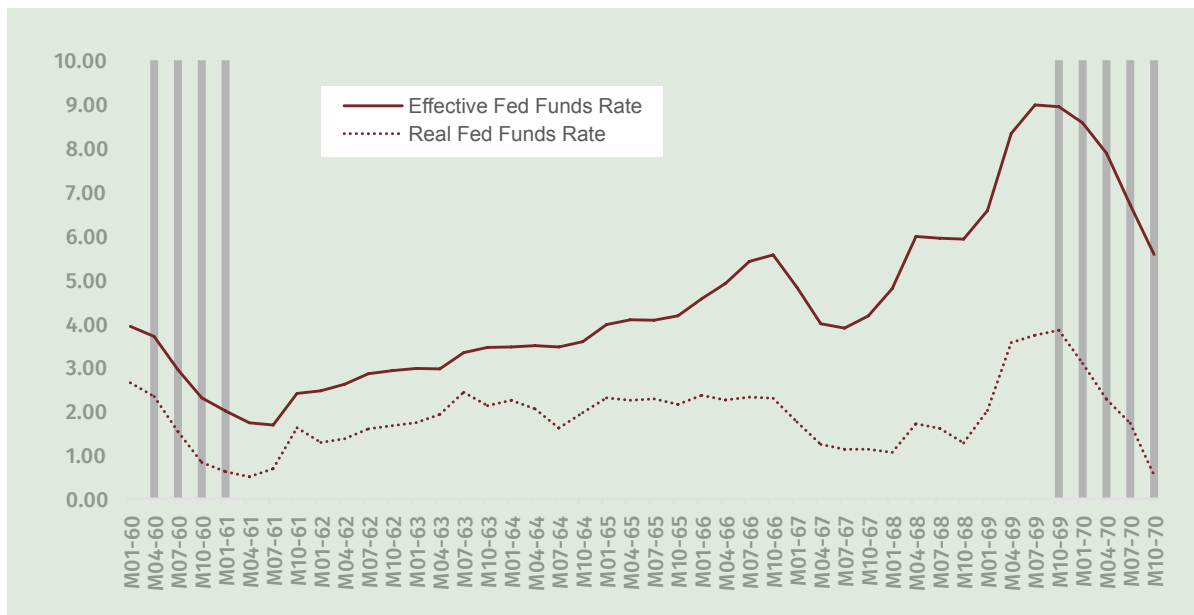
Due to the subservience of monetary policy to fiscal policy, it is important to differentiate the appropriateness of monetary policy during the earlier part of this period, when fiscal policy was less profligate, from monetary policy during the latter part of this period, when fiscal policy was profligate. In other words, due to the prevailing economic theories, the worsening of fiscal policies during the late 1960s and 1970s led to a worsening of monetary policies. Due to the typical lags associated with monetary policies, these impacts became visible during the late 1960s and throughout the 1970s. To account for the cyclical effects, we denote the end of this period as of 1970 Q4 (a trough in the business cycle).

Figures 4 and 5 illustrate that through 1965, interest rates were relatively stable, growth in the money supply was appropriate, and inflation was both low and stable. The low inflationary environment, when coupled with the pro-growth fiscal policies discussed above, were supportive of broad-based economic growth. The relatively less burdensome regulatory environment further supported economic growth during the first part of this period.

**FIGURE 4. Effective Federal Funds (Fed Funds) Rate, Nominal and Real**

1960 Q1 through 1970 Q4

(gray shaded areas denote economic recessions)



**FIGURE 5. Year-over-Year Percentage Change in Consumer Price Index (CPI) Compared to Year-over-Year Changes in Excess Money Supply**

1960 Q1 through 1970 Q4

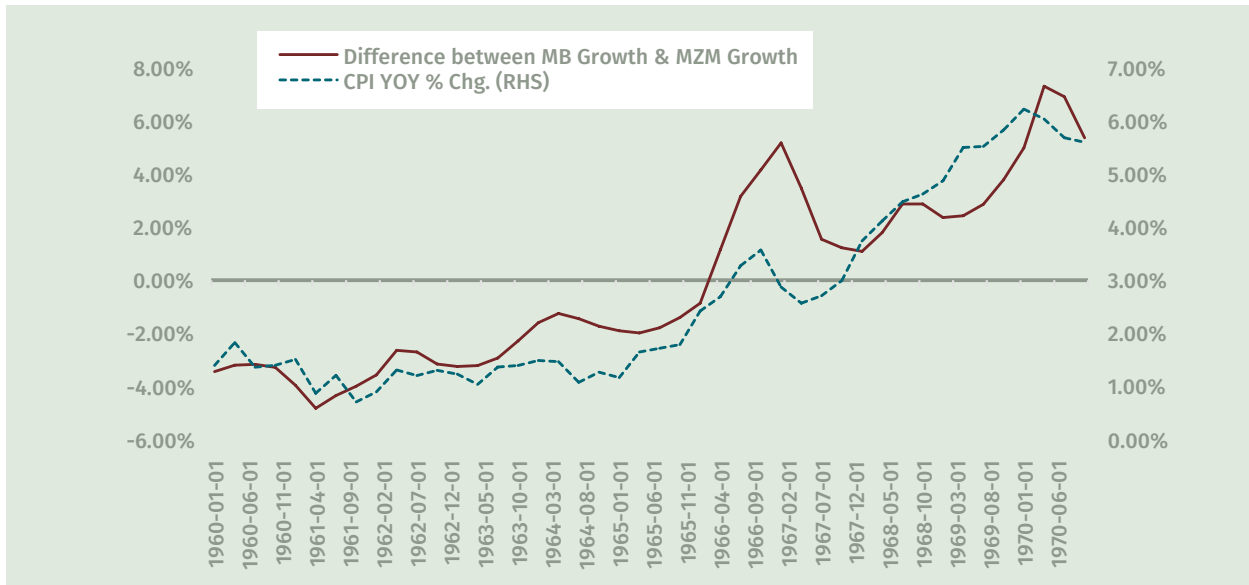
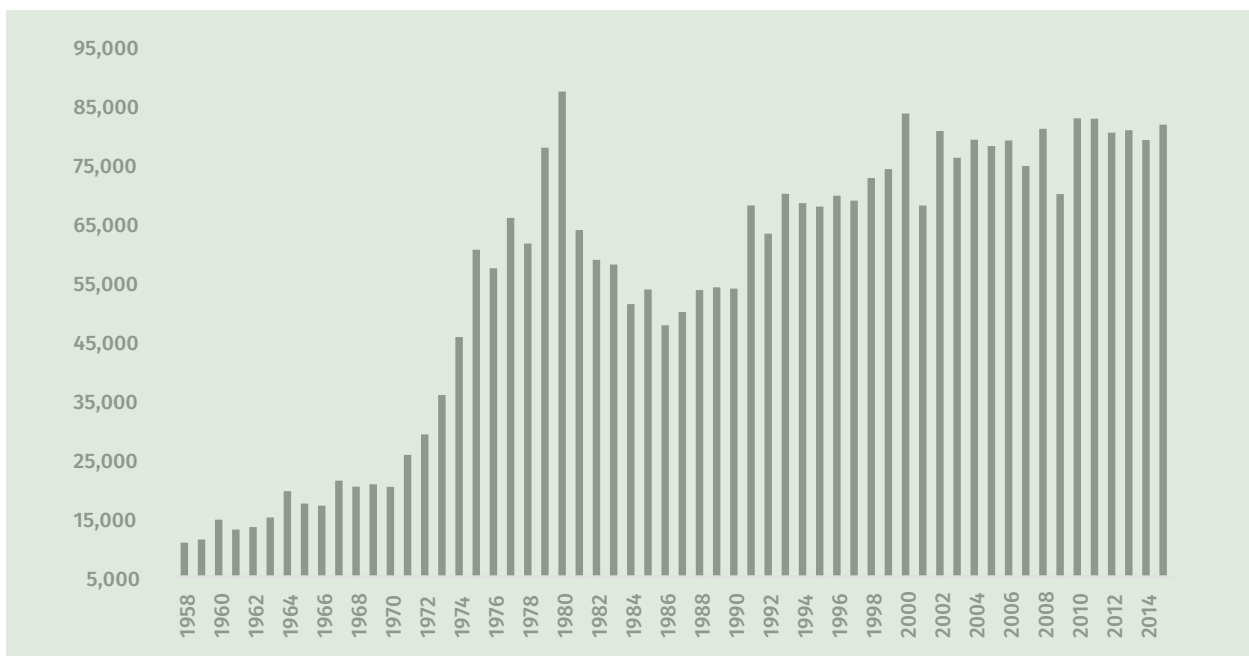


Figure 6 provides perspective on the regulatory environment by presenting the number of pages in the Federal Register, which is a compilation of the proposed and actual federal regulations across the federal agencies. While a simple count of the pages in the Federal Register is a rough approximation of the regulatory burden, it does provide perspective – particularly the stark differences between the 1958 through 1970 period compared to the size of the Federal Register today.

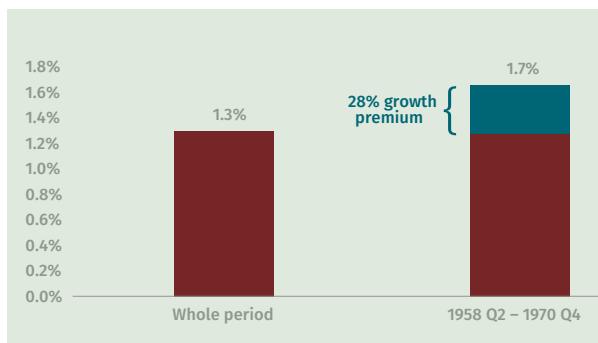
**FIGURE 6. Total Federal Register Pages Published**

1958 through 2015

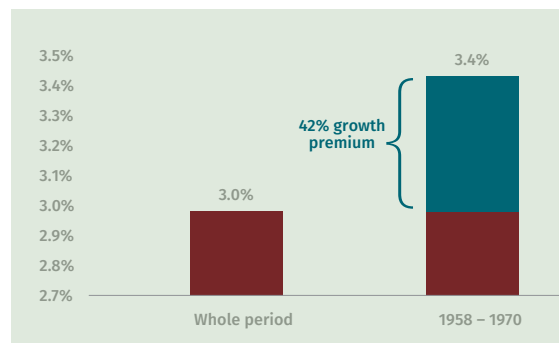


The combination of the pro-growth fiscal, monetary and regulatory policies through 1965 greatly facilitated the above average economic growth performance of this period. The overall economic performance during this period exceeded the average economic growth rates in most periods that followed. The following series of charts illustrate this economic overperformance across a wide range of economic variables. Starting with overall output, or GDP, per worker, which is a measure of how productive workers are, annual average growth in GDP per worker was 28 percent higher during the 1959 to 1970 period compared to the entire 1959 to 2015 period, see Figure 7. However, as with most of the measures examined, the growth premium was driven by the growth between 1959 and 1966.

**FIGURE 7. Average Annualized Quarterly Change in real GDP per Worker**  
1958 Q2–Q4 Compared to Whole Period



**FIGURE 8. Average Annual Change in Private Income Earned**  
1958–1970 Compared to Whole Period

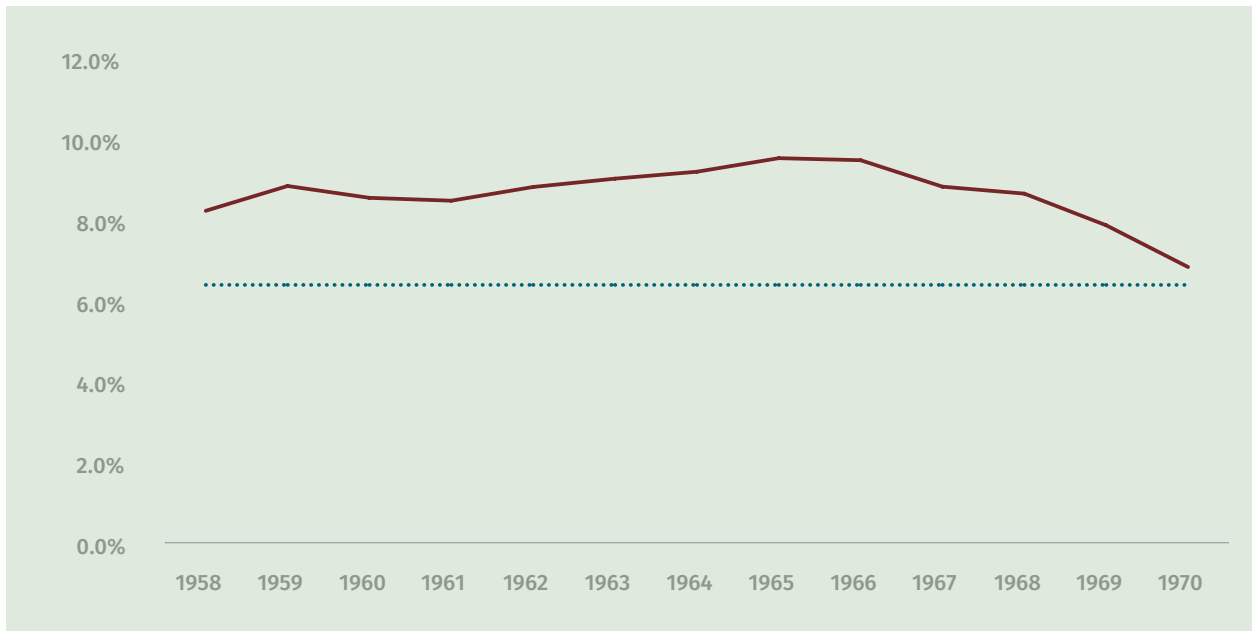


Private income earned, a measure of the growth in the private sector followed a similar pattern, see Figure 8. Overall private income earned grew 42 percent faster during this sub-period compared to the entire period.

Figures 9 through 11 illustrate that this growth premium was broadly felt, improving the economy-wide return on assets, (Figure 9); average family incomes, which experienced a 180 percent growth premium (Figure 10); and household net wealth, which experienced a 5 percent growth premium (Figure 11).

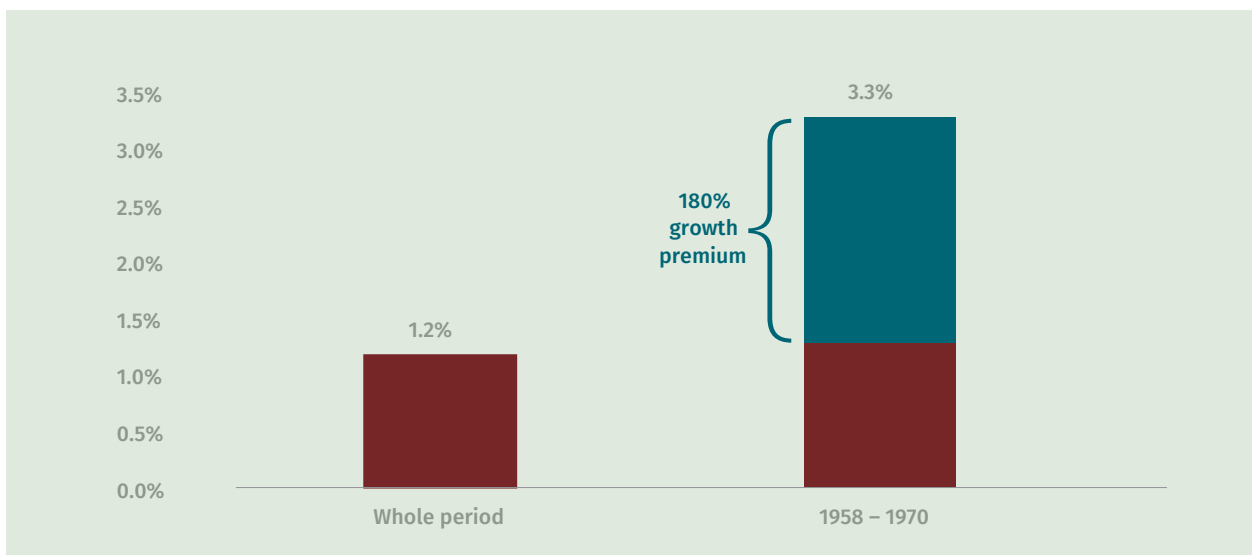
### FIGURE 9. Return on Assets (ROA)

1958 through 1970 Compared to Average ROA for Whole Period

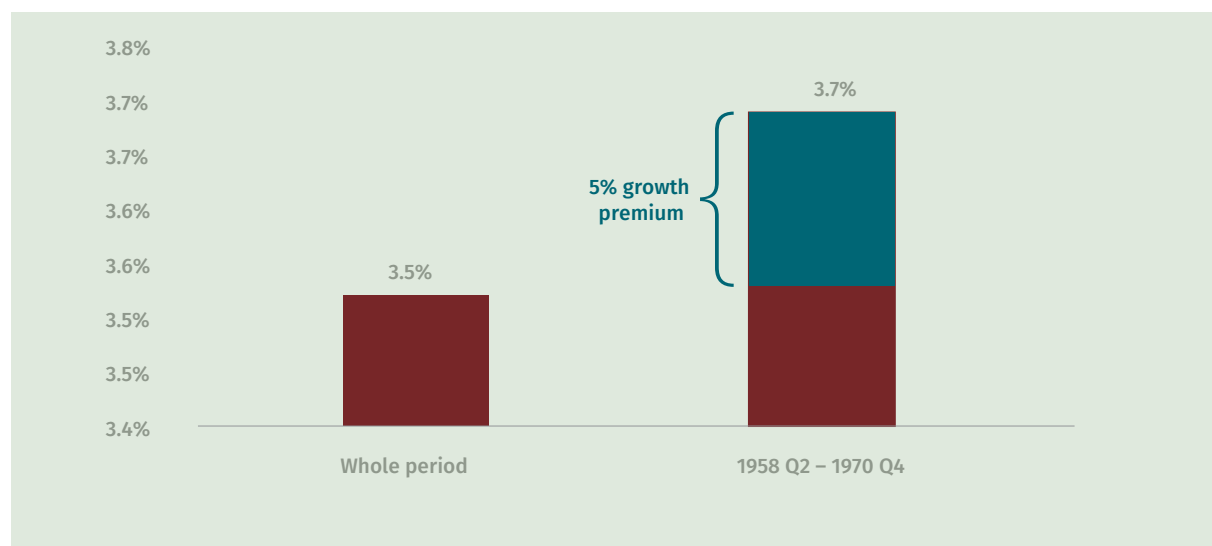


### FIGURE 10. Average Annual Change in Real Family Income

1958 through 1970 Compared to Whole Period



**FIGURE 11. Average Annualized Quarterly Change in U.S. Households Net Worth**  
1958 Q2 through 1970 Q4 Compared to Whole Period



## The Stagnant 1970s

The flaw in the then prevailing monetary theory (that monetary policy was less important and should be used to support the government’s fiscal policies) ultimately led to a worsening of the overall policy environment. As Orphanides (2014) argued, “understanding that ‘price stability is essential to sustainable growth’ was key to the success of the 1950s. Unfortunately, since the primacy of price stability was not mandated by Congress, no assurance could be provided that this interpretation would persist. Indeed, price stability was not properly defended and things changed for the worse in the late 1960s and the 1970s.”<sup>12</sup>

The “lack of defense” for price stability grew from the belief that monetary policy should accommodate fiscal policy. As a consequence, when government expenditures started growing in 1966 following the implementation of the Great Society programs and the rising expenditures associated with the escalating Vietnam War, monetary policy accommodated these rising expenditures with declining real interest rates. Figures 3 and 4 illustrate these trends as real interest rates were declining during an economic expansion but coinciding with increases in the government deficits (particularly 1967 and 1970).

The declining interest rates were enabled through excessive expansions in the money supply, which can be visualized in Figure 5.<sup>13</sup> Figure 5 also compares the excessive growth in the money supply to the pick-up in inflation. As noted by Hafer and Wheelock (2003) “money growth and inflation

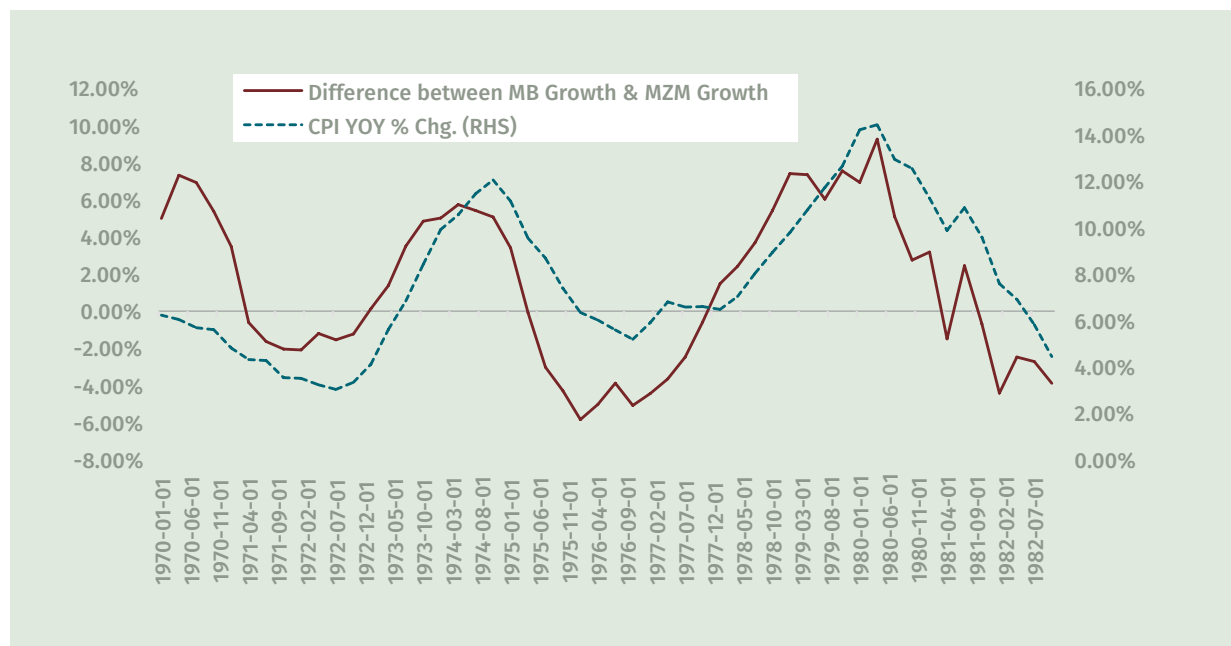
moved inversely in the short run, reflecting the Fed’s attempts to tighten policy in response to higher inflation. Over the longer term, however, the upward trend in the rate of inflation was associated with a similar trend in money stock growth.”<sup>14</sup>

Starting around 1966, an upward trend in nominal interest rates is apparent, which was a consequence of the rising inflationary pressures. These rising interest rates were reflective of a worsening of monetary policy whose consequences were ultimately manifested during the late 1960s and throughout the 1970s. Importantly, the growth premium illustrated in Figures 7 through 11 corresponded with the period of a more pro-growth fiscal and monetary policies. As these policy environments weakened, so did the economic mix performance. These negative fiscal and monetary policies carried forward into the 1970s and were partly responsible for the subpar economic performance experienced between 1970 and 1982.

The deterioration of the fiscal and monetary environments that began during the late 1960s accelerated during the 1970s. Much of this deterioration had its genesis in a worsening monetary policy that shifted away from a rules-based policy (the Bretton Woods system) toward a more discretionary monetary policy. In fact, when President Nixon officially broke the link between the dollar and gold (at \$35 per ounce of gold) his justifications were, in part, to enable discretionary monetary policy such that economic performance could be improved.<sup>15</sup> As illustrated in Figure 12, following the demise of the Bretton Woods monetary system, greater monetary volatility ensured, which helped precipitate the surges of inflation that plagued the 1970s.

**FIGURE 12. Year-over-Year Percentage Change in CPI**

Compared to Year-over-Year Changes in Excess Money Supply  
1970 Q1 through 1982 Q4



As Goodfriend (1997) explains, "...beginning in the mid-1960s there were two decades of unprecedented peacetime inflation that tripled the general price level by the early 1980s."<sup>16</sup> As Figure 12 illustrates, the 1970s were characterized by surges in the money supply growth, which were followed by surges in inflation. These surges were due to the Federal Reserve's discretionary monetary policy that "...was, in good part, a consequence of the Fed's inclination to be responsive to shifting balance of public concerns between inflation and unemployment."<sup>17</sup> In other words, the attempts by the Federal Reserve to use discretionary monetary policy to improve economic performance helped create the inflationary problems of the 1970s. Economic growth suffered as well, but before reviewing these trends it is beneficial to examine the impact from other economic policies.

Perhaps the largest impact from monetary policy on fiscal policy was the impact on marginal tax rates.

The worsening monetary policy environment had a direct impact on fiscal policy. Perhaps the largest impact from monetary policy on fiscal policy was the impact on marginal tax rates. Marginal tax rates were rising during the 1970s, even without explicit marginal tax rate increases, because in a highly inflationary environment the growth rate of nominal incomes (incomes denoted in dollars) rises. Inflation erodes the purchasing power of that income, however. Therefore, even though nominal incomes were rising quickly, real incomes (the purchasing power of those incomes relative to goods and services) were growing more slowly. The tax code did not account for this differentiation. Therefore, as families' nominal incomes grew, they moved into higher marginal tax brackets even though their real incomes were not growing robustly. These rising marginal tax rates were another impediment to growth.

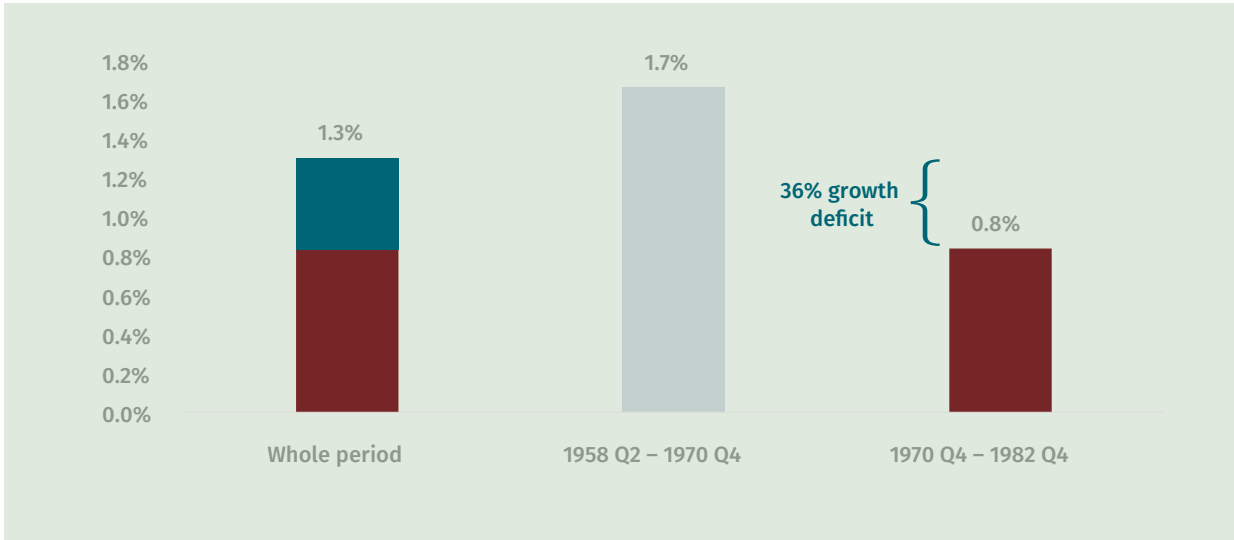
Inflation also impacted the efficiency of the capital structure. As summarized by Fink (1982) "just as distorted prices cause a misallocation of resources in various markets, distorted interest rates cause a misallocation of resources over time. Past monetary policies have affected interest rates in a systematic fashion and therefore have had systematic effects in the capital goods markets."<sup>18</sup> Similarly, Hetzel (2009) emphasizes that "what is relevant for macroeconomic equilibrium is not only the real funds rate but also the entire term structure of real interest rates."<sup>19</sup>

The alteration of the relative return on investment projects throughout the 1970s encouraged businesses and entrepreneurs to devote scarce resources toward inflation hedges, rather than productivity enhancing investments. It also distorts the types of capital investment toward less sustainable production structures. These impacts of lower productivity and greater economic volatility due to capital misallocation were rife throughout the 1970s.

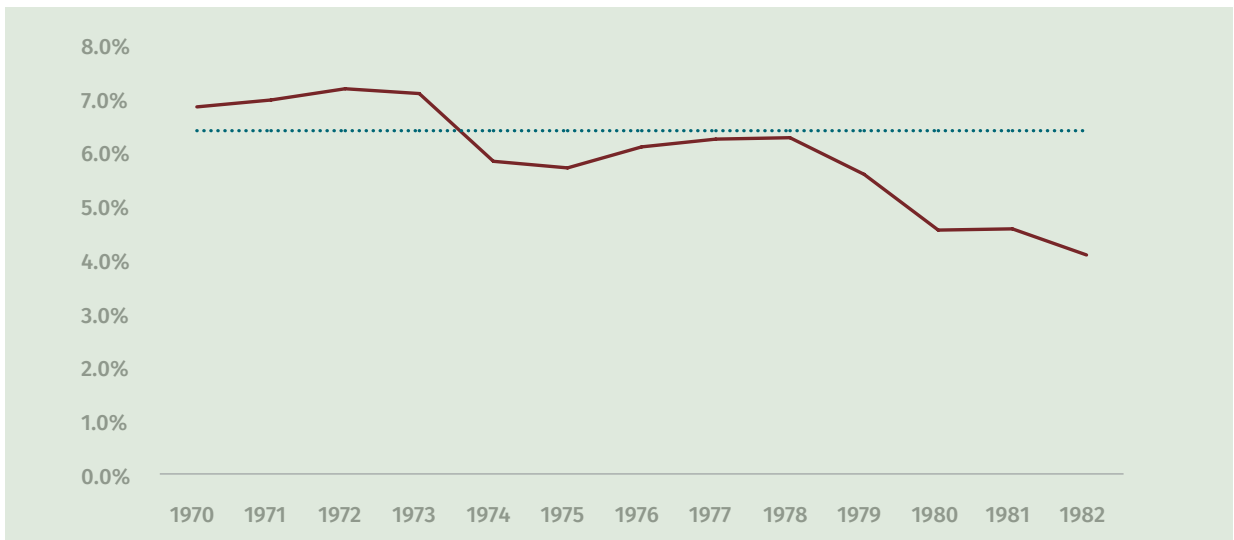
These adverse impacts were manifested in a 36 percent growth deficit in real output per worker during this period, see Figure 13; as well as the overall decline in capital's return, as measured by the economy-wide return on assets, see Figure 14.



**FIGURE 13. Average Annualized Quarterly Change in real GDP per Worker  
1970 Q4 through 1982 Q4 Compared to Whole Period**



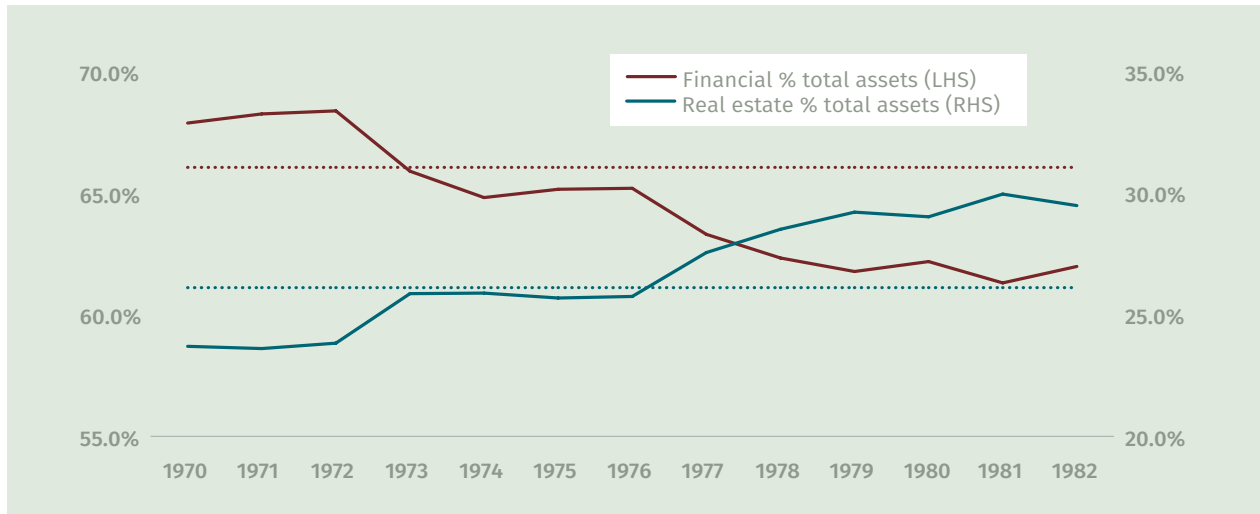
**FIGURE 14. Return on Assets (ROA)  
1970 through 1982 Compared to Average ROA for Whole Period**



The declining returns on assets was due, in part, to the changed economic incentives that the rising inflationary environment created. One manifestation from these changing incentives was the changing asset base of the U.S. economy. As Figure 15 illustrates, throughout this high/volatile inflationary period investors altered the composition of their assets overweighting in hard assets (the example of real estate share of assets is illustrated in Figure 15) and underweighting in financial assets. While such a strategy is prudent from an individual investor’s perspective, there are consequences for overall economic growth in terms of declining asset efficiency. A less efficient asset base reduces the economy’s structural growth path – as evidenced in Figure 13 above, and Figures 16 through 18 below.

**FIGURE 15. Financial Assets and Real Estate Assets as a Percentage of Total Assets**

Compared to Average for Whole Period  
1970 through 1982

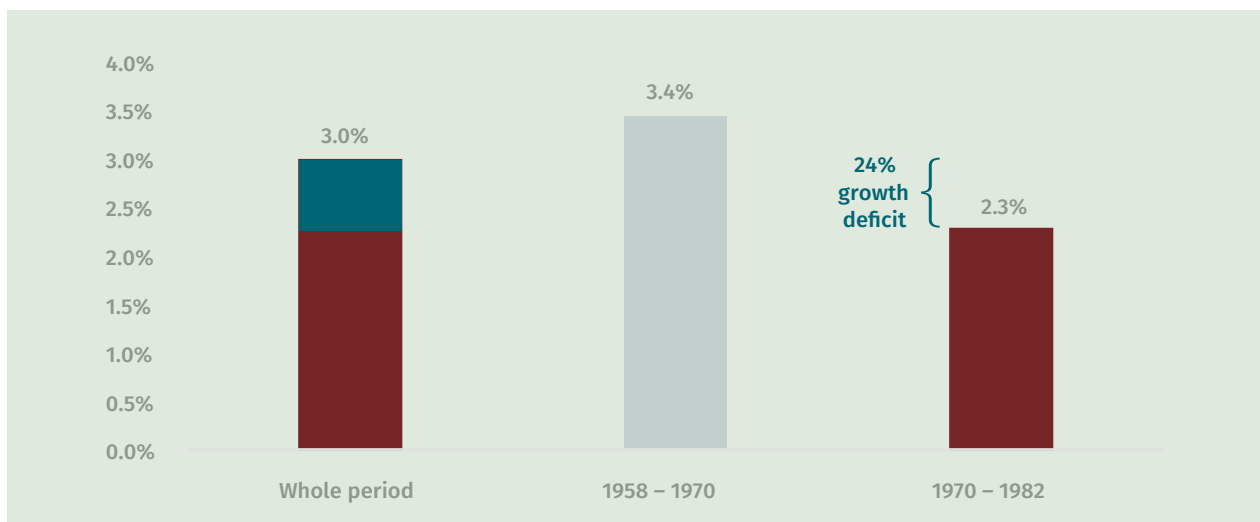


Worsening the overall policy environment were ill-advised regulatory actions such as wage and price controls (implemented in a vain attempt to control inflation) and rising overall regulatory burdens that increased costs on businesses and reduced overall economic vibrancy. Referring back to Figure 6, the number of pages in the Federal Register peaked in 1980, which was over 250 percent larger than the size of the Federal Register back in 1970.

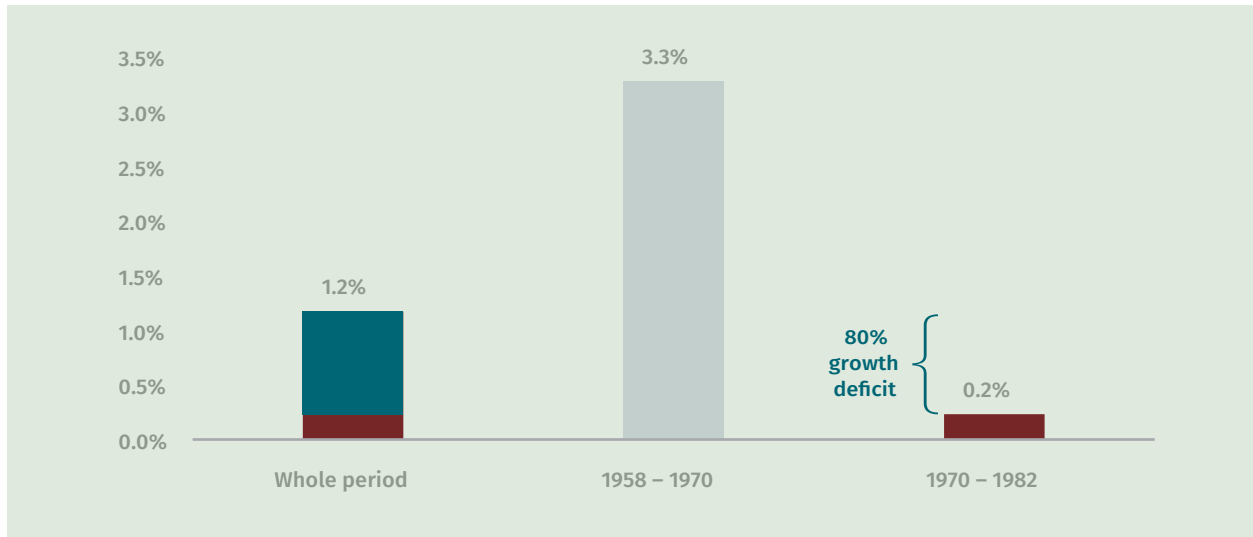
The adverse consequences from the worsening policy environment for the remaining productive factors were also noticeable. Growth in the reward to work slowed (see Figure 16), the income of U.S. families stagnated (see Figure 17), and growth in the net worth of U.S. households slowed (see Figure 18).

**FIGURE 16. Average Annual Change in Private Income Received**

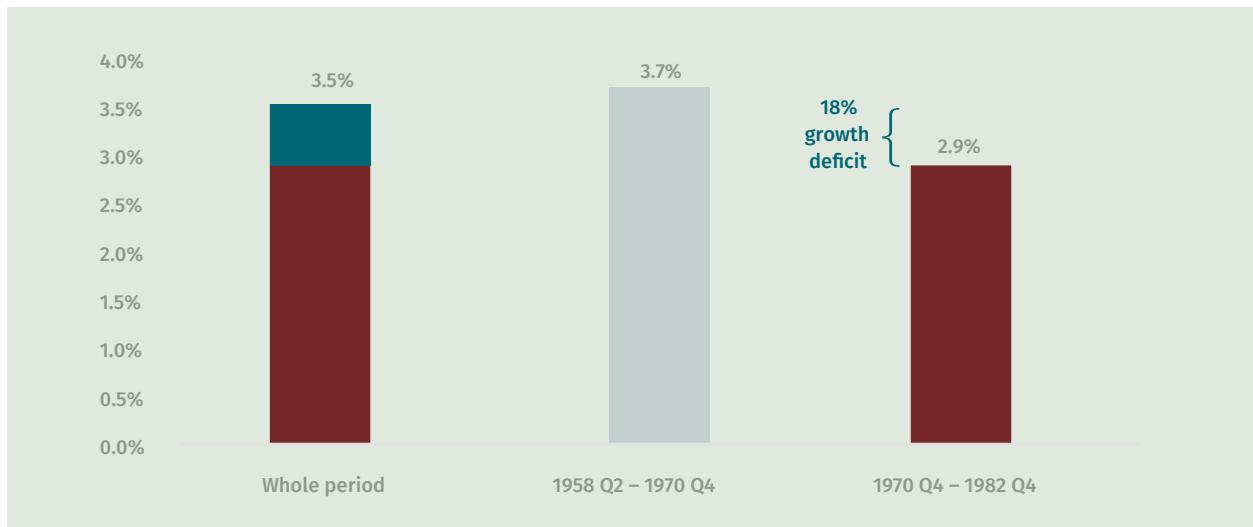
1970 through 1982 Compared to Whole Period



**FIGURE 17. Average Annual Change in Real Family Income**  
1970 through 1982 Compared to Whole Period



**FIGURE 18. Average Annualized Quarterly Change in U.S. Households Net Worth**  
1970 Q4 through 1982 Q4 Compared to Whole Period



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# The 1980s through 2001 – Prosperity Returns

In discussing the economic slowdown of the early 1970s, Mundell (1971) noted that a return to a more vibrant economy required “a change in the American policy mix. The current policy mix leads to more inflation and unemployment. The correct policy mix will save billions of dollars in output. In introducing the correct policy mix and getting back to full employment the United States will prevent the tears of the deficit from flooding the rest of the world with too much liquidity.”<sup>20</sup>

The first part of the correct policy mix, according to Mundell, was a more restrictive monetary policy to control inflation. Paul Volker, former Chairman of the Federal Reserve during the late 1970s through the mid-1980s, also concurred that monetary policy’s focus should be on price stability noting (as cited in Orphanides, 2014) that:

...it is fashionable to talk about a “dual mandate” [for the Federal Reserve]— that policy should be directed toward the two objectives of price stability and full employment. Fashionable or not, I find that mandate both operationally confusing and ultimately illusory: . . . The Federal Reserve, after all, has only one basic instrument so far as economic management is concerned—managing the supply of money liquidity. Asked to do too much—for instance to accommodate misguided fiscal policies, to deal with structural imbalances, or to square continuously the hypothetical circles of stability, growth and full employment—it will inevitably fall short. If in the process of trying it loses sight of its basic responsibility for price stability, a matter which is within its range of influence, then those other goals will be beyond reach.<sup>21</sup>

The other half of the Mundell policy mix was reductions in the marginal tax rates in order to encourage greater economic growth. Additionally, greater control over government expenditures (ideally much closer to Scully’s growth maximizing level around 21 percent to 23 percent of GDP) would have improved the overall growth environment, however such spending restraint was not consistently implemented until the late 1990s, and then the fiscal control was only short lived.

While noting the need for this more pro-growth policy mix in 1971, it was not until the 1980s that a policy mix was implemented that combined a more rules based monetary policy (focused on price stability) with a fiscal policy that lowered marginal tax rates. Following the implementation of a policy mix where monetary policy promotes price stability and fiscal policies incited economic growth, economic growth was revitalized.

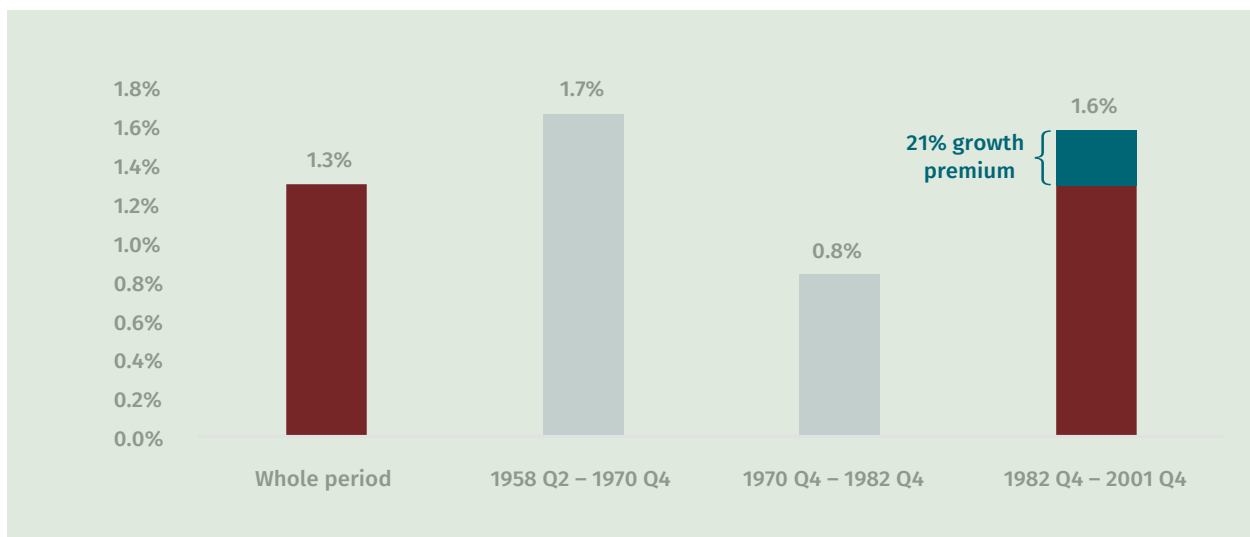
In stark contrast to the 1970s, prosperity flourished during the sub-period between the fourth quarter of 1982 and the fourth quarter of 2001. Based on the measures tracked during the previous two sub-periods:

- The average annual growth rate in inflation adjusted total output produced by workers nearly regained its robust pace of the 1960s experiencing a 21 percent growth premium (see Figure 19);
- The average annual growth rate in inflation adjusted total income received grew faster than any other sub-period, experiencing a 31 percent growth premium (see Figure 20); and
- The average annual growth rate in inflation adjusted household net worth also grew faster than any other sub-period experiencing a 35 percent growth premium (see Figure 21).

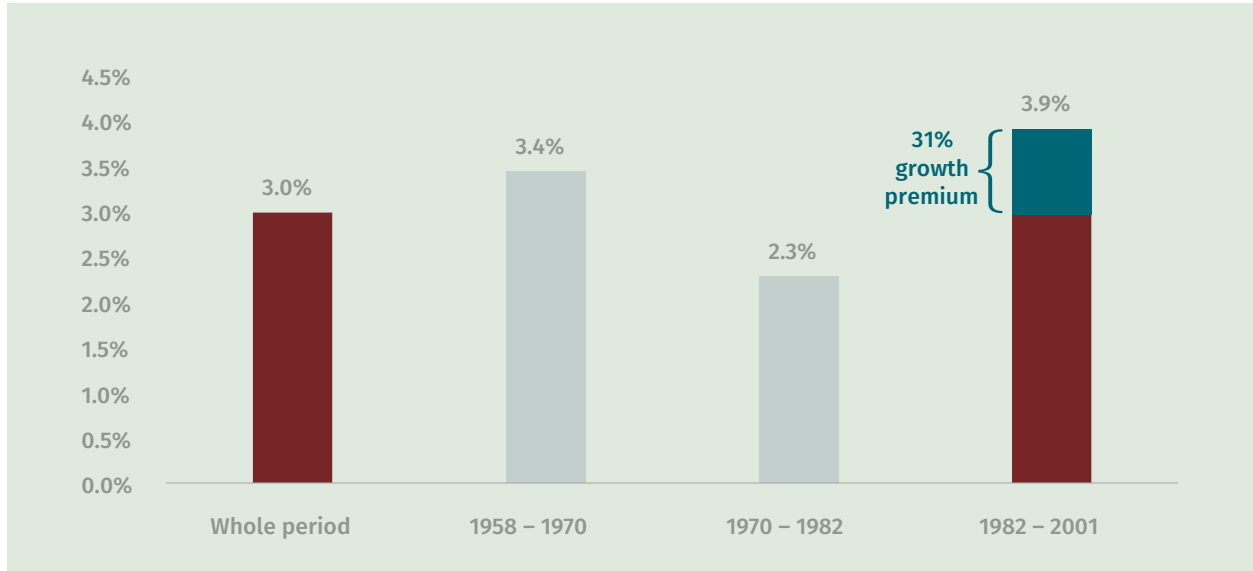
In contrast to these data where growth during the 1980s and 1990s outperformed the average growth rate over the entire period, average family incomes only grew about as fast as average during this sub-period, but significantly faster than the 1970s, see Figure 22. Overall, these data illustrate that the 1980s and 1990s were a period of strong economic growth whose benefits were widely shared.

**FIGURE 19. Average Annualized Quarterly Change in real GDP per Worker**

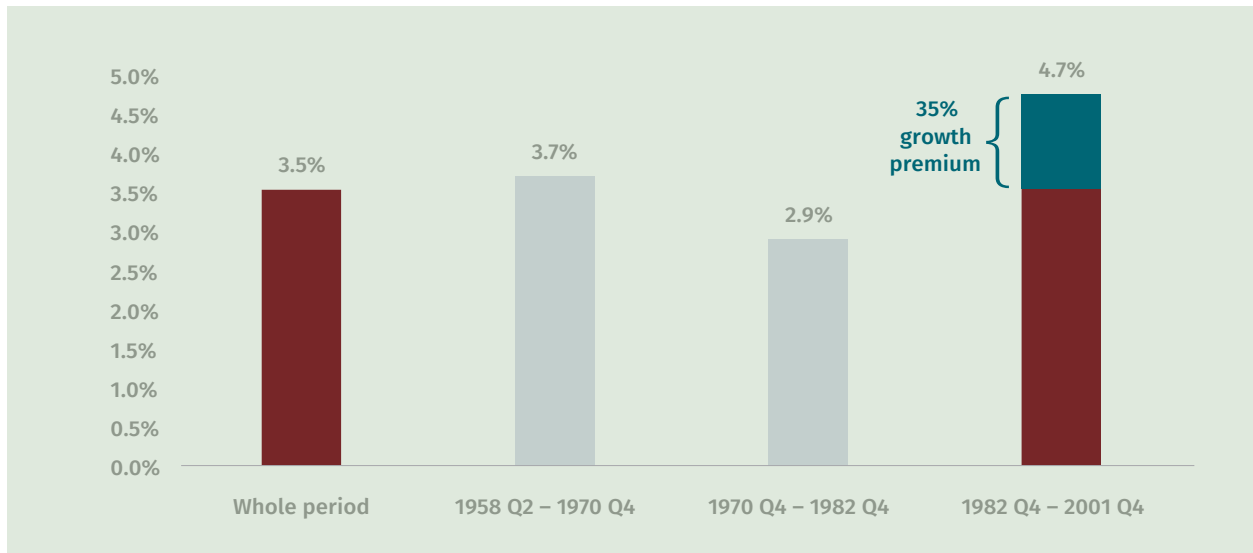
1982 Q4 through 2001 Q4 Compared to Whole Period



**FIGURE 20. Average Annual Change in Real Private Income Received**  
1982 through 2001 Compared to Whole Period

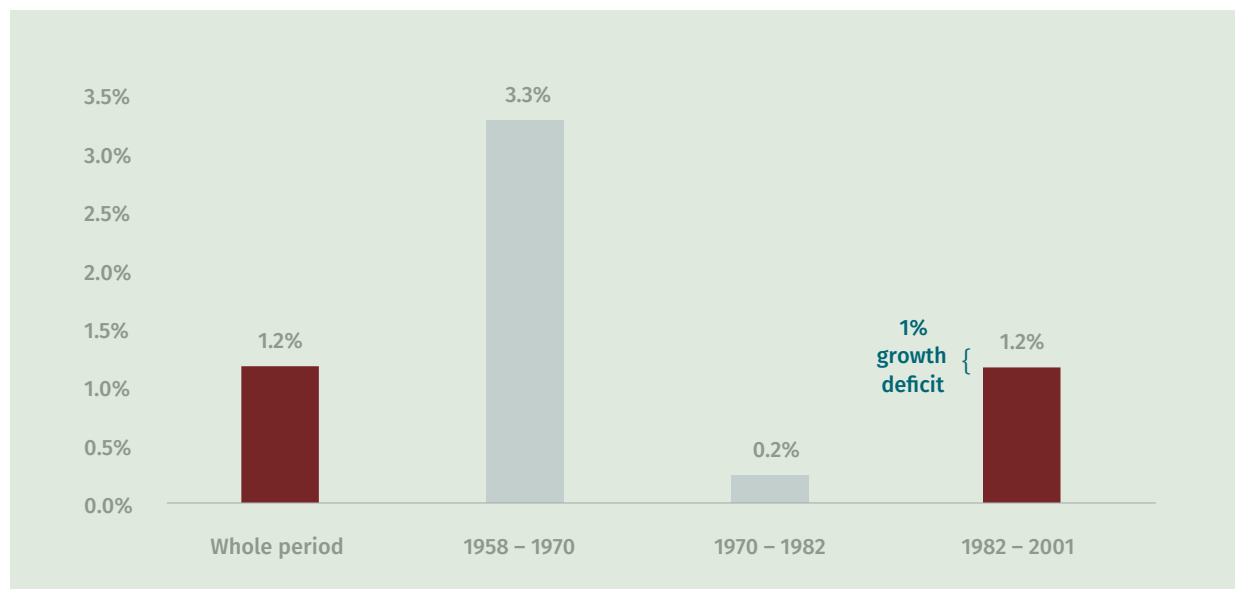


**FIGURE 21. Average Annualized Quarterly Change in Real U.S. Households Net Worth**  
1982 Q4 through 2001 Q4 Compared to Whole Period



## FIGURE 22. Average Annual Change in Real Family Income

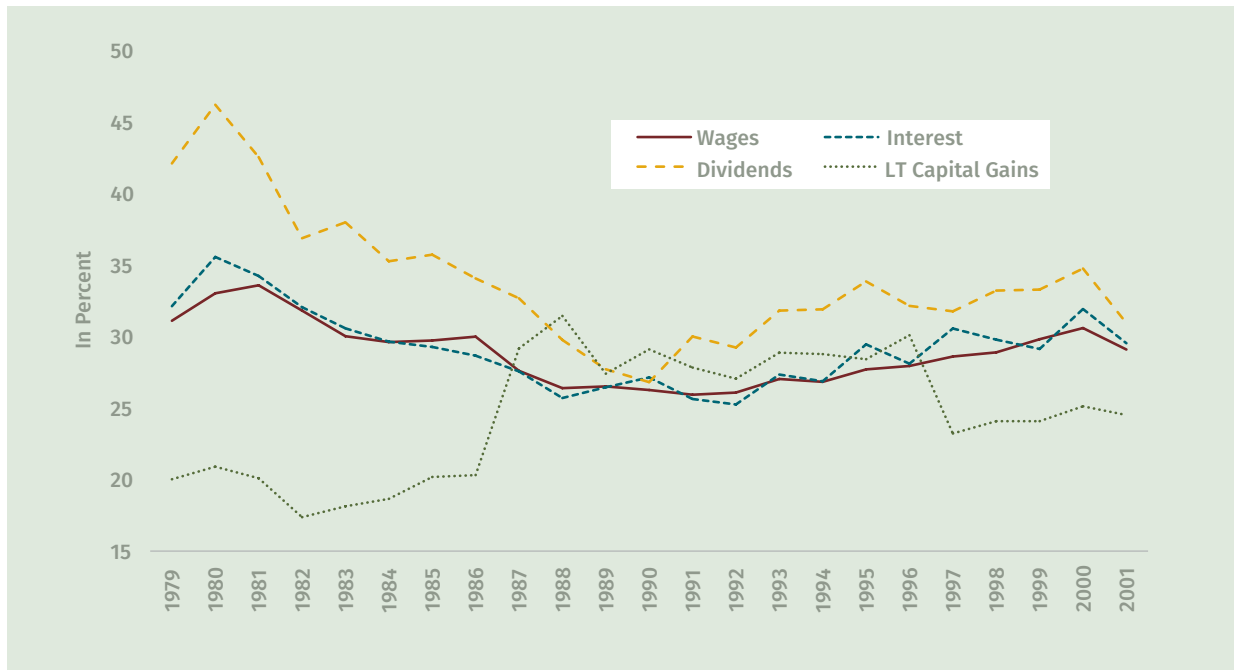
1982 through 2001 Compared to Whole Period



Consistent with this paper's thesis, both the monetary policy environment and the fiscal policy environment became significantly more pro-growth during the 1980s and 1990s. Improvements in the fiscal environment actually began with the tax reform of 1978 that effectively reduced the top capital gains tax rate on long-term capital gains from approximately 50 percent to 28 percent, reduced the corporate income tax rate, and extended the 10 percent investment tax credit.<sup>22</sup> The Economic Recovery Tax Act of 1981 "made dramatic changes in our system for cost recovery, investment incentives, overall tax rates, recognition of inflation, and estate and gift taxes."<sup>23</sup>

With respect to economic incentives, the most important changes during the 1980s were the reduction in the top marginal income tax rate to 50 percent (from 70 percent) in the 1981 Act, followed by a further reduction to 28 percent by the Tax Reform Act of 1986. The impacts from the tax rate reductions are illustrated in Figure 23. The average marginal tax rates were generally declining throughout the 1980s, with the exception of long-term capital gains, which were increased as part of the 1986 Tax Reform and simplification.

**FIGURE 23. Effective Average Marginal Tax Rates on Wages, Interest, Dividends and Long-term Capital Gains 1979 through 2001<sup>24</sup>**



Along with significant tax simplification, these tax reforms increased incentives to work and invest, reduced the negative impacts from inflation on the income tax system, and simplified overall tax compliance. Summarizing several studies that examined the economic benefits from these tax reforms, Eissa (1996) noted that the

evidence suggests that individual behavior did respond to the incentives in these tax laws. Lindsey (1987) and Navratil (1994) use tax return data and find that the marginal tax rate reductions in ERTA had a significant effect on taxable income. Feldstein (1993) and Auten and Carroll (1994) find similar results for TRA86. Burtless (1991) and Bosworth and Burtless (1992) study the labor supply responses to the tax reforms of the 1980s. These studies analyze the trend in labor supply for different demographic groups using Current Population Survey (CPS) data for 1968-88 and 1968-90, respectively. They find significant responses in hours of work (relative to trend) by married women at the top and bottom of the income distribution. Eissa (1995) also finds a strong response by upper-income women to TRA86.<sup>25</sup>

Similarly, upon reviewing the data, the Chief Economist to the Vice Chairman of the Joint Economic Committee concluded that “the Reagan tax cuts, like similar measures enacted in the 1920s and 1960s, showed that reducing excessive tax rates stimulates growth, reduces tax avoidance, and can increase the amount and share of tax payments generated by the rich.”<sup>26</sup>



This assessment is also widely held among public finance economists. Based on a survey conducted by Fuchs, Krueger, and Poterba (1998), the median response indicated that the long-term impact from the 1986 tax reform was an annual rate of economic growth that was about one percentage point higher.<sup>27</sup> Put more simply, academic studies found that these tax reforms increased employment and incomes, which are consistent with the data presented in Figures 19 through 22.

Just as important to promoting growth throughout the 1980s and 1990s, if not more so, was a dramatic improvement in monetary policy. Starting in the late 1970s and early 1980s, Paul Volker guided the Federal Reserve to a more rules based approach to monetary policy that focused on price stability. Of course, the improvement in monetary policy does not imply that the period was without challenges including the 1987 stock market crash, the first Gulf War, and the 1990-91 recession and the slow recovery from its aftermath. Despite these challenges, the Federal Reserve managed to maintain overall price stability. An analysis of monetary policy by Clarida et al. (2000) found

...a significant difference in the way monetary policy was conducted pre- and post-late 1979. In the pre-Volcker years, the Fed typically raised nominal rates by less than any increase in expected inflation, thus letting real short-term rates decline as anticipated inflation rose. On the other hand, during the Volcker-Greenspan era the Fed raised real as well as nominal short-term interest rates in response to higher expected inflation. Thus, our results lend quantitative support to the view that the anti-inflationary stance of the Fed has been stronger in the past two decades.<sup>28</sup>

Much of this success is attributed to the Federal Reserve's policy being more consistent with a monetary policy rule, albeit the Fed was not officially bound by any specific policy rule. Meltzer (2014) summarized monetary policy during this period by stating,

the years when Volcker was chairman are one of the few periods in which the Federal Reserve was less influenced by short-term events. Volcker followed the successful disinflation by relying for guidance on a *Taylor rule* after 1985. His successor, Alan Greenspan, continued that policy until 2003. This produced the longest period in Fed history of price stability with relatively stable growth, and short, mild recessions. This period is known as the "Great Moderation." I believe that the reduction in fluctuations is mainly the result of a rule-based policy that focused more attention on the medium-term than on current data."<sup>29</sup>

Meltzer's view that monetary policy became more stable and grounded in rules is widely held.

For example, Taylor in a 2011 speech at the American Economics Association, noted that

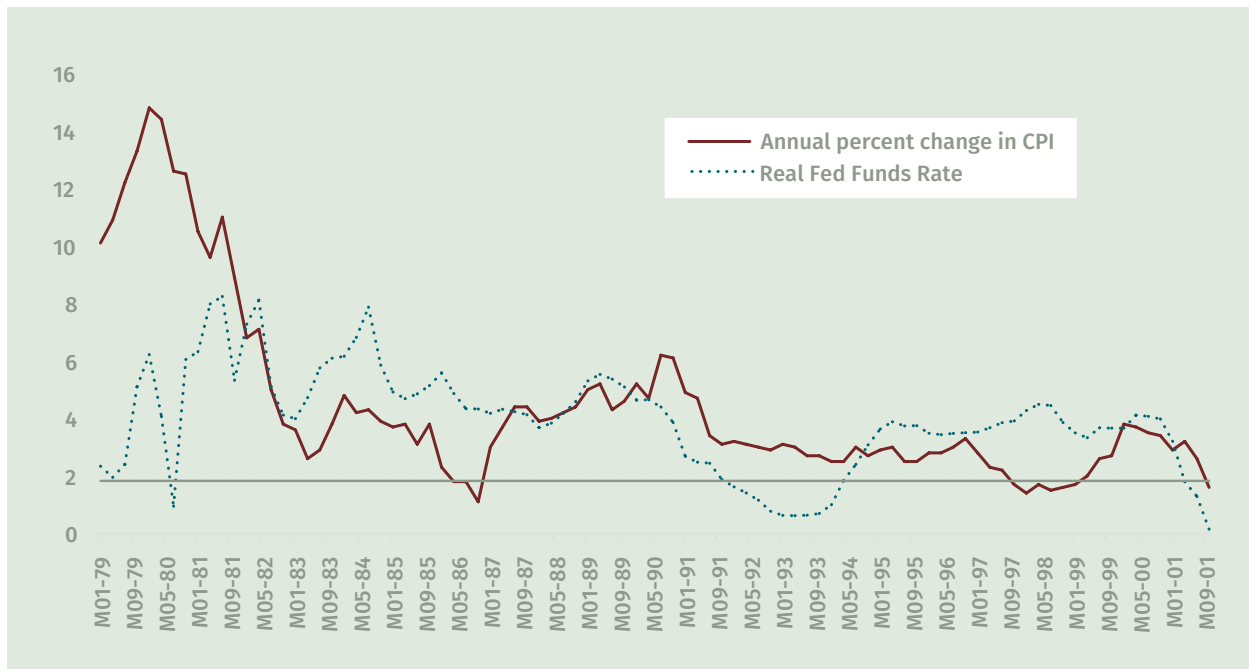
the shift toward more rules-based monetary policy began with the shift of Fed policy to a focus on inflation under the leadership of Paul Volker from 1979 to 1987. It was a dramatic change from the 1970s. In his 1983 address before the AFA-AEA luncheon Volker said "We have...gone a long way toward changing the trends of the past decade and more." Alan Greenspan maintained the commitment to price stability in the 1980s and 1990s. Allan Meltzer describes these changes in detail in his history of the Fed.

Additional evidence of more rules-based policy is the Fed's more predictable and transparent decision-making process with a focus on expectations of future policy actions. The Fed started announcing its interest rate decisions immediately after making them. It also started explaining its intentions about the future. More evidence appears in the transcripts of the FOMC in the 1990s, which show a large number of references to policy rules. Former Fed Governor Larry Meyer emphasizes this systematic policy framework in his 2004 book which contrasts sharply with Sherman Maisel's 1973 book.

Finally, actual monetary policy corresponded much more closely to simple policy rules in the 1980s and 1990s compared with the 1960s and 1970s as Judd and Trehan of the San Francisco Fed first pointed out in 1995.<sup>30</sup>

Figure 24 provides a perspective on the Federal Reserve's monetary policy during this period. Generally speaking, once the monetary control program of the early 1980s reduced inflation (and expected inflation), the Federal Reserve responded to building inflationary pressures by increasing the real Federal Funds rate above the inflation rate.<sup>31</sup> In response to weakening overall economic activity (e.g. aggregate spending), the Federal Reserve would decrease the Federal Funds rate to reflect the declining demand for money growth.<sup>32</sup> By maintaining this operating rule, overall money growth generally reflected the growth in money demand and monetary policy's impact more closely resembled Milton Friedman's goals of preventing money from "being a major source of economic disturbance" and providing "a stable background" for economic activity.

**FIGURE 24. Real Federal Funds Rate Compared to**  
Year-over-Year Changes in CPI  
1979 Q1 through 2001 Q4

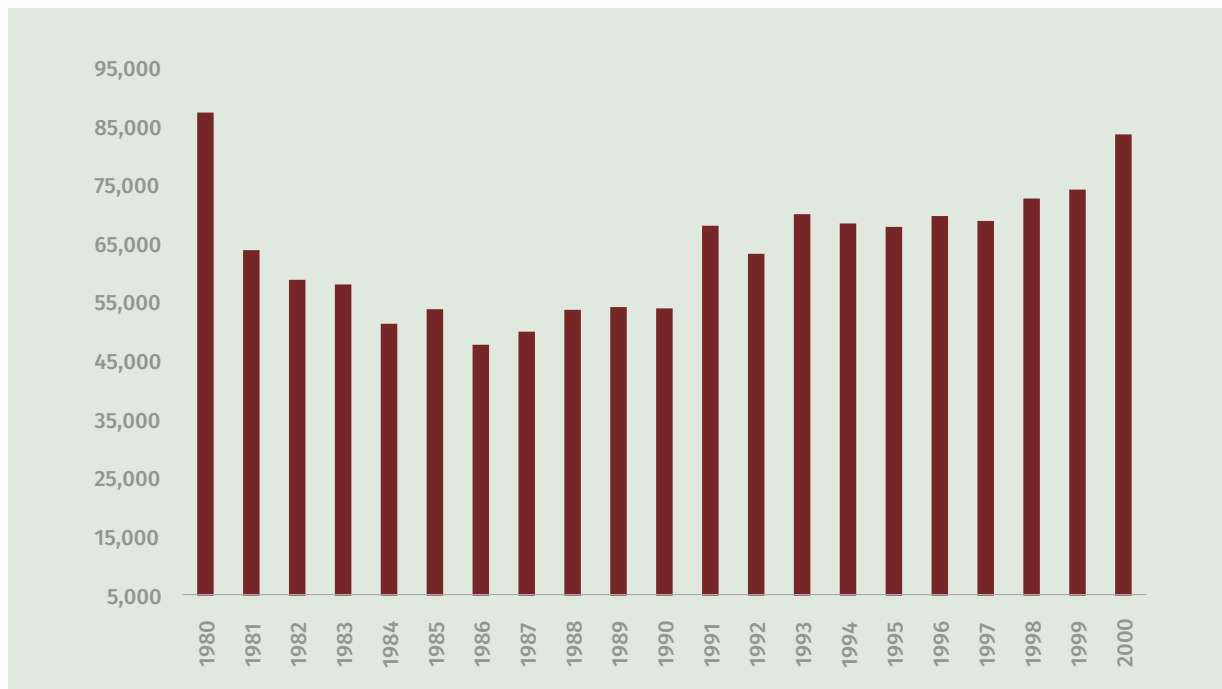


Similarly, regulatory policies were also supportive of growth during the 1980s and 1990s, many of which began in the 1970s. Overall, deregulation improved the efficiency of diverse industries such as railroads, airlines, telecommunications, and banking. As Frankel and Orzag noted:

The U.S. economy has long been less regulated than most other industrialized economies. But the past 25 years have witnessed important further steps toward deregulation. The deregulation trend began during the Carter Administration, in trucking, airlines, natural gas, and banking. During the Reagan Administration, deregulation was extended to the telecommunications sector. More recently, further deregulation has occurred in the electricity market, and market-friendly environmental regulation, such as in the sulfur dioxide permit program, has been expanded. Some of these deregulation efforts have faced bumps in the road, particularly banking and electricity. Nevertheless, the overall effect of deregulation has been to make the U.S. economy more efficient in the long run. The fundamental continuity of policy across Administrations in these areas also highlights a theme mentioned above: despite the drama of changes in Administrations, policy does not shift nearly as much as one would imagine.<sup>33</sup>

The reductions in these regulatory burdens can be visualized in the large reduction in the size of the Federal Register between 1980 and 1990 (particularly through 1986), although a reversal of this trend is evident starting in 1990, see Figure 25.

**FIGURE 25. Total Federal Register Pages Published**  
1980 through 2000



While monetary and fiscal policies were generally supportive of overall prosperity during this period, there were several key flaws. Paramount among these flaws, government expenditures remained above a growth maximizing rate throughout the 1980s, see Figure 26.

**FIGURE 26. Total Government Expenditures Relative to Private Income**  
1982 through 2001



Figure 26 also illustrates that fiscal discipline emerged during the late-1990s. Since, despite the decline, total government expenditures continued to exceed the growth maximizing level, the fiscal restraint was an important economic positive that helped support the strong economic growth rates during the late 1990s. Unfortunately, the fiscal restraint was short lived. Following the 2001 recession, the government expenditure burden relative to private income higher started to rise again, the implications from which are discussed more fully in the next section. Additionally, as illustrated in “Accounting for Government”, the structural problems driving the growth in long-term government expenditures (i.e. transfer payments) were not addressed during the late 1990s. When coupled with the acceleration in government spending during the early 2000s, the growing government expenditure burden has become a larger drag on economic growth during the current economy.

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# A Depressed Beginning to the 21st Century

The economy of the 1980s and 1990s benefited from a policy mix of falling taxes, falling spending (eventually), improving monetary stability, and declining regulatory burdens. Since the beginning of the 21<sup>st</sup> century, these trends have reversed themselves. Based on the patterns across the 3 sub-periods examined thus far, the economic consequences are not surprising.

It is difficult to discuss the economic performance of the past decade and a half without discussing the bursting of the technology bubble in 2000 and the bursting of the housing bubble and financial crisis that began in 2008. These periods of financial instability are connected via errant changes in monetary and regulatory policies.

On the regulatory side, stricter enforcement of the Community Reinvestment Act (CRA), which began in the late 1990s has been linked to an increase in bank loans that carried greater risks.<sup>34</sup> The policy to expand homeownership was further bolstered by the explicit policy to expand the operations of Fannie Mae and Freddie Mac, which, effectively, created a demand for lower quality loans. These regulatory disincentives were then amplified by a worsening of monetary policy, which in combination, helped create the housing bubble, and subsequent bust.<sup>35</sup>

Monetary policy worsened because the Federal Reserve was not on any official rule. Instead, the Fed's rules-based approach that provided price stability throughout the 1980s and 1990s were based on its leadership's desire to take actions that resembled a rules-based monetary policy. In response to the 2001 recession and the bursting of the technology stock bubble, the Federal Reserve commenced with an excessively easy monetary policy between 2003 and 2005 that was more akin to the discretionary policies of the 1970s. The policy mix of ultra-loose monetary policy and regulations that encouraged home ownership and mortgage lending inflated the housing bubble, distorted the capital allocation process in the U.S., and created significant economic costs and lost opportunities. The result was the inevitable housing collapse and the 2008 financial crisis.

While the “lender of last resort” functions of the Federal Reserve following the collapse were appropriate, monetary policy since 2003 has been both discretionary and has downplayed the importance of price stability. As Orphanides (2014) documents this important policy change:

...judging from recent statements, the Federal Reserve may have deviated from the interpretation of the mandate that had been adopted during the Volcker-Greenspan era. Consider the quote below from the December 2012 FOMC statement:

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. . . . [T]he Committee decided to keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that this exceptionally low

range for the federal funds rate will be appropriate at least as long as the unemployment rate remains above 6-1/2 percent, inflation between one and two years ahead is projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored [Federal Open Market Committee 2012].

In this statement, the Committee suggests a more literal interpretation of the dual mandate that appears to downplay the primacy of price stability and explicitly introduces a numerical threshold on the unemployment rate as a guide for monetary policy. Elevating the role of the unemployment rate as a policy goal or guide, necessarily diminishes the importance of price stability as a goal or policy guide. Interpreted in this manner, the dual mandate can become a justification for letting inflation rise beyond what the Federal Reserve considers consistent with price stability. Pursuing an inflationary policy could be justified as necessary to achieve better outcomes with respect to its employment objective.<sup>36</sup>

The Federal Reserve's unprecedented expansions and prolonged zero-interest rate policies (also known as ZIRP) following the 2007-09 financial crises has, despite its intentions, led to several poor outcomes. Paramount among these has been the misallocation of capital. As Dorn (2015) noted:

By holding rates near zero for almost seven years, the Fed has driven up the price of risky assets, increased leverage and created a pseudo wealth effect, which will be reversed once rates return to normal. Asset prices cannot continuously outpace real economic growth. When the bubbles in the stock and bond markets burst, as interest rates begin to rise toward their natural, long-term equilibrium, the Fed's unconventional wisdom will be called into question.

Central banks throughout history have been used to finance government debt, and the Fed is no exception. The ultra-low interest rates on Treasury debt, with the three-month T-Bill rate now at zero, have allowed the federal government to act as if deficit financing is a free lunch. Those who hold that debt, however, face the risk of rising rates and falling prices, especially on longer-term debt.<sup>37</sup>

In addition, the zero-interest rate policy distorted a key price discovery mechanism (e.g. the risk-free rate) that is the basis for most other prices in the capital markets. As a consequence, there is a larger chance that markets will misprice risk and an increase in market uncertainty. Lehrman (2014) comprehensively describes how the massive amounts of money that the Federal Reserve created since the end of the 2007-09 economic crisis has distorted the U.S. asset base.

Consider what happens when the Fed suppresses interest rates to near-zero and issues massive amounts of new money and credit to pay for purchases of Treasury and mortgage-backed securities during periods of sustained quantitative easing (2008-13). But market participants may not desire to hold all of the new money and credit issued. The market outcome must be interest rate arbitrage by specu-

lators and investors who get the new credit first. But interest rate suppression and sustained, excess, undesired money are the necessary conditions of asset or price inflation, since interest rate arbitrage causes total demand for higher yielding assets to exceed total supply, the interest rate arbitrage thus causing mainly asset price inflation. Banks, brokers, and speculators, with marketable collateral and ready access to the banks, commandeer the new credit at near-zero interest rates. With cheap new money the financial elites buy and arbitrage, worldwide at little risk, all relatively undervalued financial assets, foreign exchange, commodities, real estate, farmland, and art—any asset they believe will protect against future asset and price inflation and is likely to be profitable during the period where asset prices are sustained by quantitative easing. Since the consumer price index or consumer products are not the betting objects of banker-broker-investor speculation, the illusion persists of low inflation (as it is conventionally measured by the CPI). But economic wealth does not consist only of current consumption goods. Commodities, real estate, and financial assets, which may be considered claims on future consumption goods, are articles of wealth desired in the market.<sup>38</sup>

The zero-interest rate policy has transferred wealth from savers to borrowers. As the largest borrower, the U.S. government has benefited from these trends, as illustrated by the stable share of interest rate expenditures despite the rising government debt burden.<sup>39</sup> While borrowers benefit, savers, particularly the growing population of older Americans, are hurt by earning lower real returns on traditional savings instruments and by an over-exposure to riskier asset classes at a time when their portfolios should be allocated to more conservative investments. Dorn (2015) also noted this problem with the zero-interest rate policy (ZIRP) stating:

The Fed's ZIRP has also harmed savers who basically get nothing on their money-market funds and saving-account balances. Indeed, after inflation and taxes, real rates on those instruments are negative. Monetary policy has therefore not only misallocated credit, it has redistributed wealth from Main Street to Wall Street. The lost interest income is a permanent loss of wealth.<sup>40</sup>

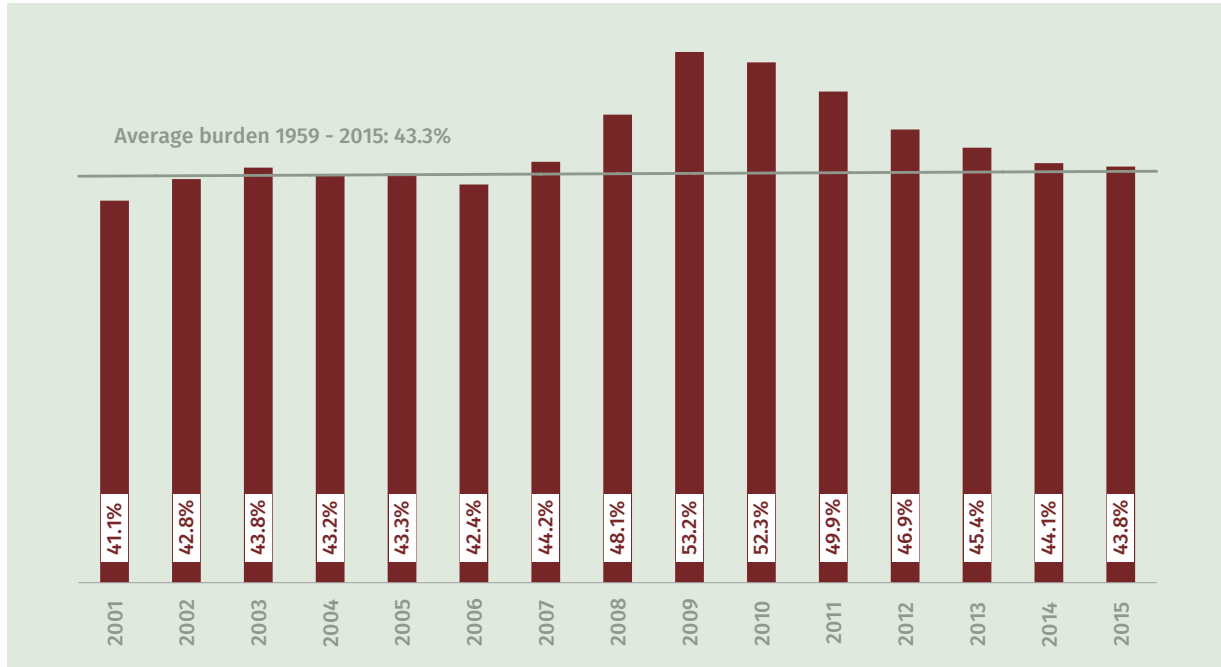
Beyond the regulations directly related to the housing crisis, there has been other expansions of regulations that have diminished overall economic growth. The rising regulatory burdens in other areas includes: the Sarbanes-Oxley corporate governance regulations; the Dodd-Frank financial regulations; and, numerous expansions of regulatory authority by the Executive Branch, such as the proposed Clean Power Plan's (CPP) regulations on the energy sector or the expanded regulations on waterways, which, as of this writing, look like they will be reduced/eliminated by the Trump Administration (a possibly optimistic sign for an acceleration of economic growth).

Overall, the expanded burdens from regulations since 2001 have taken a toll on overall economic growth. According to Gattuso and Katz (2016), just these new (major) regulations implemented since 2001 impose an annual cost of \$176 billion.<sup>41</sup> These increased regulatory burdens impact a wide array of industries. For example, the increased regulatory burden associated with the Dodd-Frank financial regulations has raised operational costs on banks (particularly smaller banks), and has been linked to a reduction in the amount of bank lending (particularly to small businesses).<sup>42</sup>

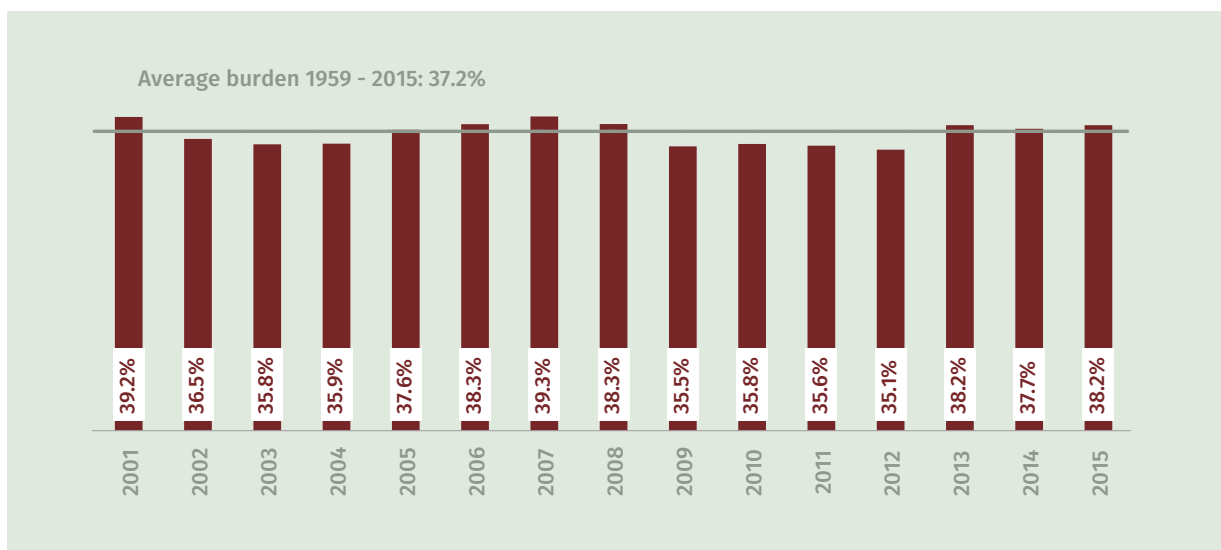


Fiscal policy has also weakened during this period, particularly with respect to spending and the deficit. In contrast to the declining expenditure burden through 2001 (see Figure 26), Figures 27 through 29 illustrate that since 2001 that the total expenditure burden has been generally above average, and in every year either the current tax burden or the deficit burden have been above average.

**FIGURE 27. Total Government Expenditures Relative to Private Income**  
2001 through 2015



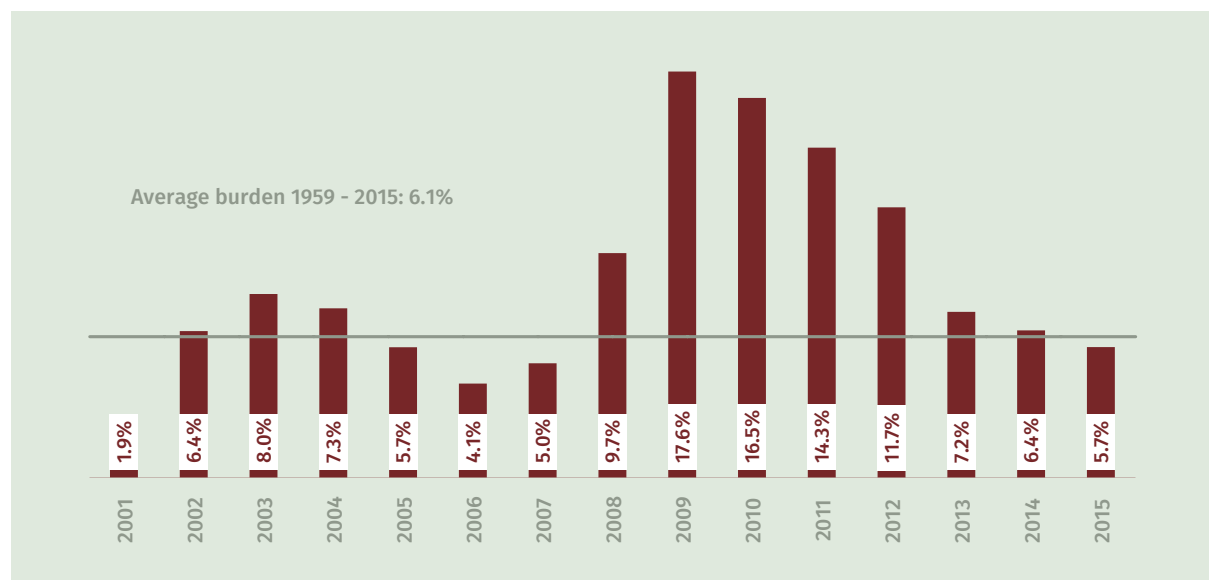
**FIGURE 28. Total Tax Revenues Relative to Private Income**  
2001 through 2015





**FIGURE 29. Total Deficit Spending Relative to Private Income**

2001 through 2015

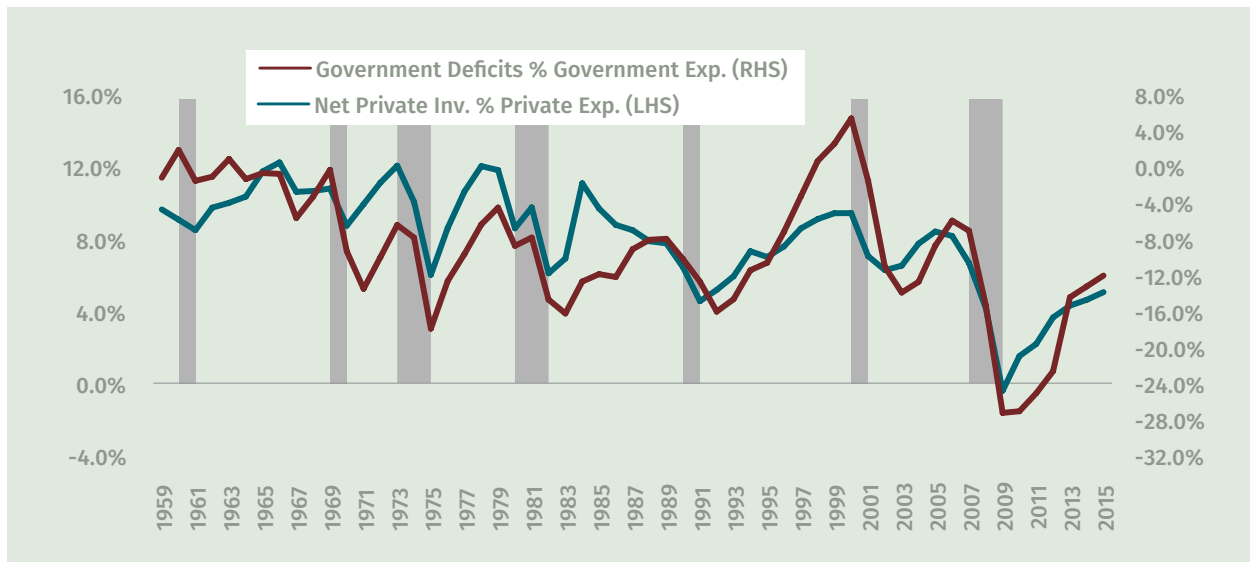


The economic consequence from this rising expenditure burdens and lack of spending control throughout most of this period is exemplified by the \$787 billion stimulus package that was implemented in response to the 2007-09 economic crisis. As Riedl (2010) notes:

Economic data contradict Keynesian stimulus theory. If deficits represented “new dollars” in the economy, the record \$1.2 trillion in FY 2009 deficit spending that began in October 2008 – well before the stimulus added \$200 billion more – would have already overheated the economy. Yet despite the historic 7 percent increase in GDP deficit spending over the previous year, the economy shrank by 2.3 percent in FY 2009. To argue that deficits represent new money injected into the economy is to argue that the economy would have contracted by 9.3 percent without this “infusion” of added deficit spending (or even more, given the Keynesian multiplier effect that was supposed to further boost the impact). That is simply not plausible, and few if any economists have claimed otherwise.<sup>43</sup>

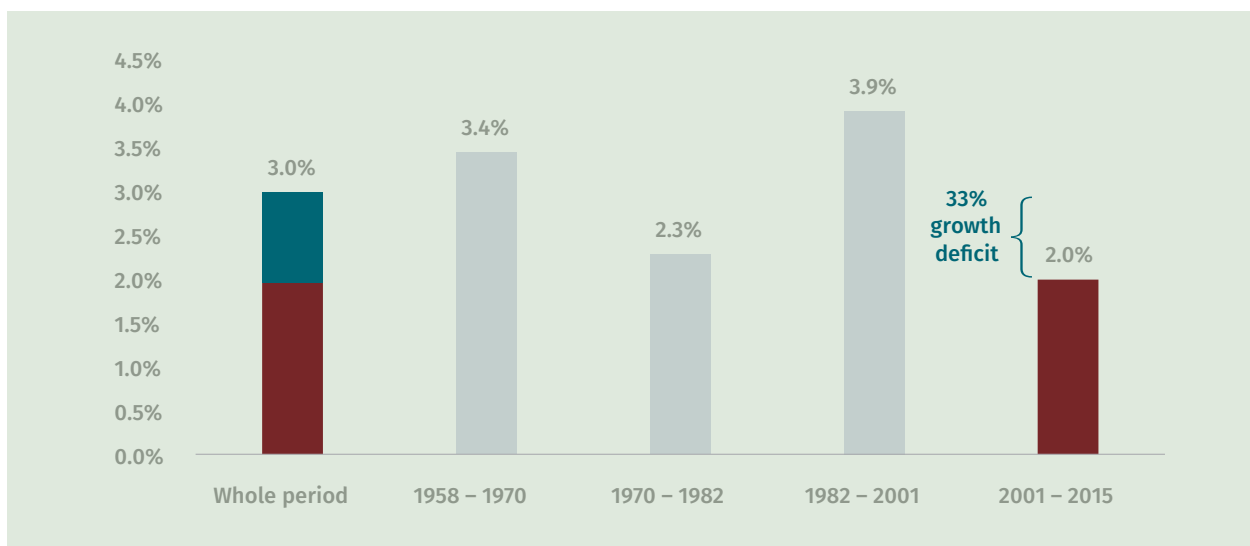
Since the stimulus expenditures are not new money, but simply represent resources that have been diverted from the private sector toward the government sector, there is an economic trade-off. This trade-off is illustrated by comparing the growth in net private investment and the change in government deficits, see Figure 30. As Figure 30 illustrates, rising government deficits are associated with declining net private investment, even after accounting for the impact from the booms and busts of the business cycle.

**FIGURE 30. Total Federal, State, and Local Government Deficits as a Percentage of Government Expenditures Compared to Net Private Investment as a Percentage of Private Expenditures 1959 through 2015**



Declining net investment is an indication that future economic growth will be weaker; and, based on this relationship, the rising government expenditures and rising budget deficits of the 2000 through 2015 period should be associated with slower overall economic growth. Figures 31 through 34 illustrate that this has, in fact, been the case. Figure 31 illustrates that the growth in inflation adjusted private income received grew only 2.0 percent per year, a 33 percent growth deficit compared to the average growth rate between 1958 and 2015.

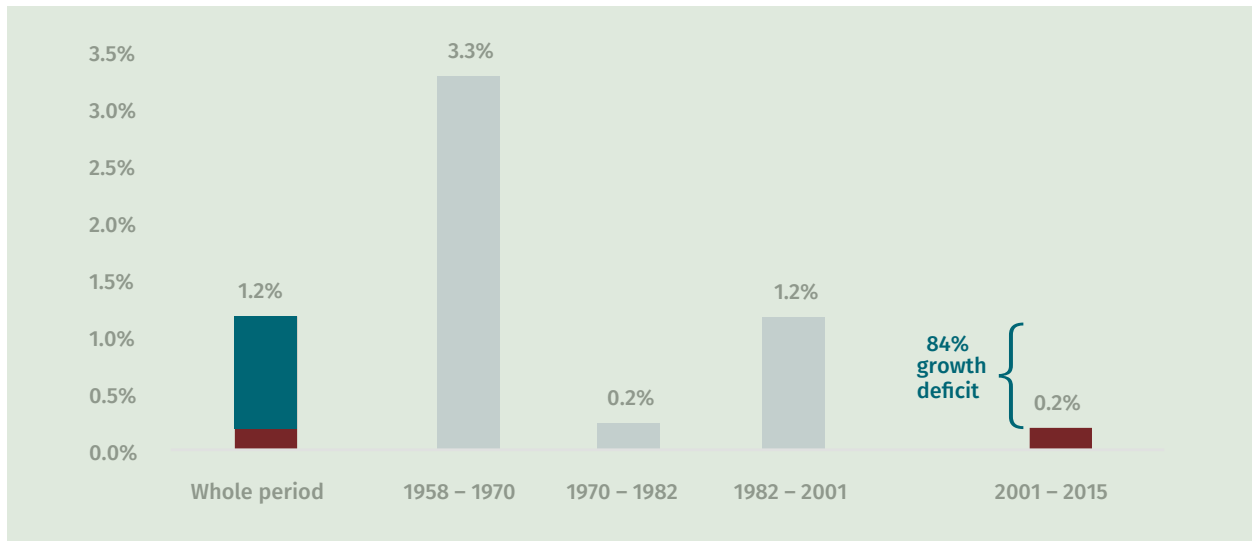
**FIGURE 31. Average Annual Change in Private Income Received 2001 through 2015 Compared to Whole Period**



Performing even worse, the growth in average inflation adjusted family incomes came to a near standstill between 2000 and 2015, similar to the experience of the 1970s. Between 2000 and 2015, inflation adjusted family income grew 0.2 percent, or an 84 percent growth deficit compared to the average growth rate between 1958 and 2015.

**FIGURE 32. Average Annual Change in Real Family Income**

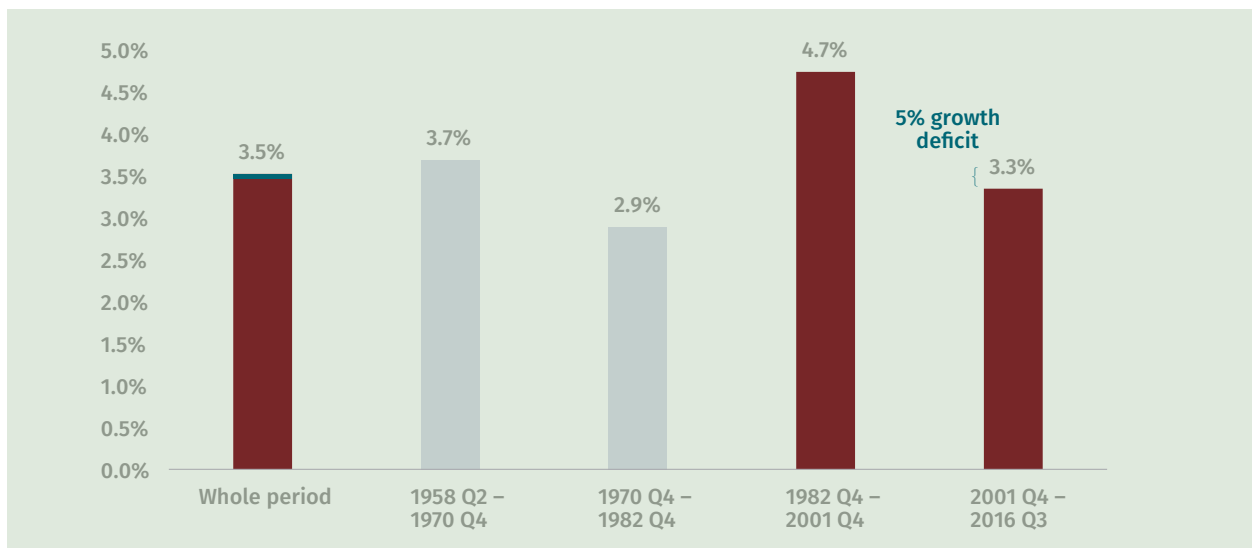
2001 through 2015 Compared to Whole Period



The growth in net worth was also slightly lower than the average for the entire period, see Figure 33. However, given the zero-interest rate policies of the Federal Reserve, and the asset inflation these policies have engineered, this result is unsurprising. Additionally, interest rates have not yet returned to normal, which could be influencing the growth in household net worth during the current period.

**FIGURE 33. Average Annualized Quarterly Change in U.S. Households Net Worth**

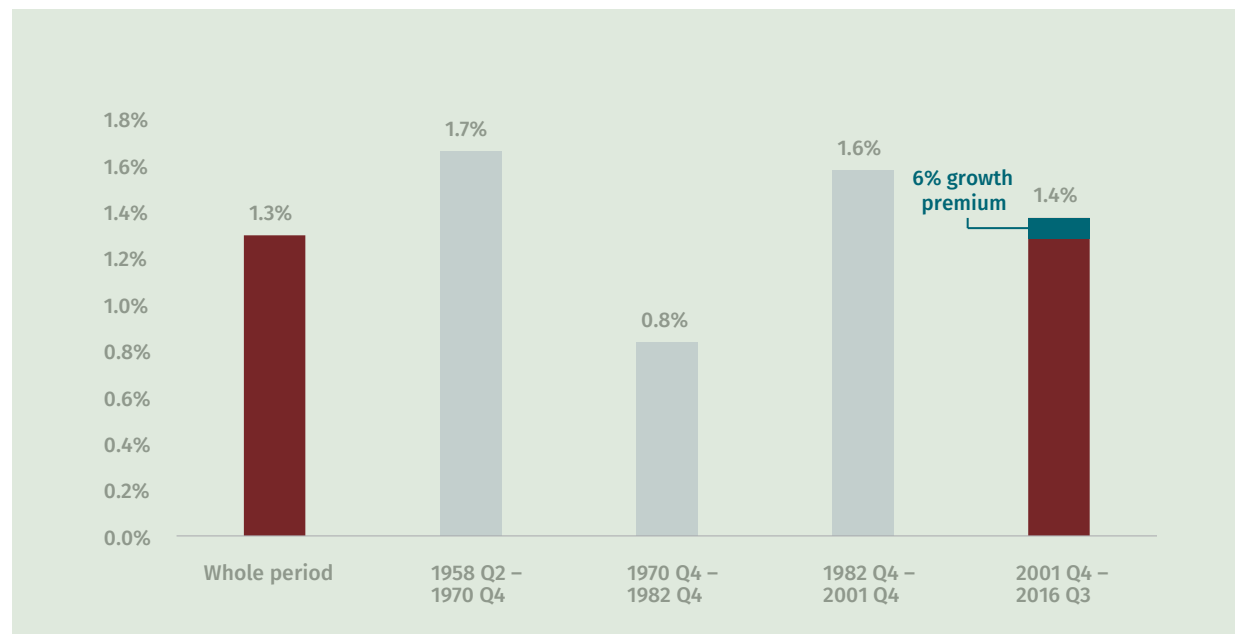
2001 Q4 through 2016 Q3 Compared to Whole Period



Average annualized growth in output per worker between 2001 Q4 and 2016 Q3 was slightly above average (1.4 percent compared to 1.3 percent over the entire period), despite a below average growth in real GDP (2.1 percent between 2001 Q4 and 2016 Q3 compared to 3.1 percent over the entire period, see Figure 34). This was due to a slower than average growth in the labor supply during the current period, which is a direct result of the government’s policy mix.

**FIGURE 34. Average Annualized Quarterly Change in real GDP per Worker**

2001 Q4 through 2016 Q3 Compared to Whole Period



Specifically, in response to the Great Recession, the Federal Reserve slashed interest rates to practically zero percent – the average monthly effective federal funds rate bottomed out at 0.07 percent in December 2011. This had the effect of lowering the weighted average cost of capital (WACC), which is a measure of how much it costs businesses to finance new capital investment. When coupled with other regulatory costs that raised the costs of labor, such as the Affordable Care Act, the price of capital has declined relative to the price of labor since the Great Recession. And, such a relative price change should be expected to change the amount of labor hired relative to the amount of capital purchased. This is exactly what has transpired.

As of January 2008, the average monthly effective federal funds rate was 3.94 percent. By 2015, the average monthly effective federal funds rate was still near zero – officially 0.11 percent. This sustained drop helped reduce the WACC from 9.1 percent as of January 2008, to 6.3 percent as of January 2015.<sup>44</sup> Partly in response to this significant relative price decline, growth in employment (as measured by full-time equivalent workers) rose by a mere 3.0 percent between 2008 and 2013 compared to an increase of private fixed assets of 19.4 percent. In other words, in response to government policies that changed the relative prices of labor and capital, companies substituted the relatively less expensive capital for the relatively more expensive workers. Importantly, these changes were due to policy induced distortions in the economic fundamentals.

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# Endnotes

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- 12 Orphanides, A. (2014) “The Need for a Price Stability Mandate” *Cato Journal*, Vol. 34, No. 2 (Spring/Summer).
- 13 The excess growth in the money supply is measured by comparing the growth in the monetary base – the monetary variable directly under control of the Federal Reserve – to the growth in MZM (money of zero maturity, or money that is immediately accessible, which includes M2 minus time deposits and money market funds).
- 14 Hafer, R. W. and Wheelock, D.C. (2003) “Darryl Francis and the Making of Monetary Policy, 1966-1975” Federal Reserve Bank of St. Louis, March/April; <http://www.federalreservehistory.org/Media/Material/People/162-54>.
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