

## *Deficits, Interest Rates, and Taxes Myths and Realities*

by Alan Reynolds

### Executive Summary

The federal government's swing from budget surpluses to budget deficits has raised concerns about possible negative economic effects. Some economists have argued that deficits will raise interest rates, reduce economic growth, increase trade deficits, and possibly create a financial crisis.

This paper examines those claims and finds that they are not supported by the evidence. In particular, the arguments of a recent study by former Treasury secretary Robert Rubin, Brookings Institution scholar Peter Orszag, and economist Allen Sinai are examined in detail. That study proposed four hypotheses about the effects of sustained budget deficits: First, projected future deficits affect current interest rates. Second, smaller budget deficits produce more domestic private investment. Third, budget deficits cause trade deficits. Fourth, budget deficits cause fiscal disarray and require tax increases to maintain confidence.

Empirical evidence—U.S. time series data and international comparisons—do not support

these hypotheses. Also, several of the hypotheses are inconsistent with each other. In reality, neither actual nor projected budget deficits raise real or nominal interest rates, steepen the yield curve, reduce national savings, cause trade deficits, or make the dollar go down or up. The logic behind such speculations is flawed and the evidence is missing.

These issues are important because numerous pundits and policymakers are arguing that taxes should be raised to reduce deficits. Indeed, a theme of Rubin, Orszag, and Sinai is that higher tax rates can improve economic growth, but that runs directly counter to serious research on the causes of economic growth. Research on economic growth assigns importance to the tax structure, marginal tax rates, and the level and composition of government spending, but not to whether spending is financed by taxes or deficits. Deficits are a sign that federal spending is too high, but deficits do not cause many of the economic harms that some analysts are claiming.

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## **Introduction**

A January 2004 study by former Treasury secretary Robert Rubin, Brookings Institution scholar Peter Orszag, and economist Allen Sinai proposed four hypotheses about the effects of sustained federal budget deficits.<sup>1</sup>

The first hypothesis describes a link between budget deficits and interest rates. Some economists used to argue that current budget deficits increased long-term interest rates. Rubin, Orszag, and Sinai have proposed two new variations on this theory. They argue that *estimated* future budget deficits increase *real* interest rates, or alternatively change the spread between short- and long-term interest rates.

The second hypothesis is that smaller budget deficits will automatically produce more domestic private investment, regardless of whether they are attained by higher tax rates or restrained spending.

The third hypothesis is that larger budget deficits cause larger trade or current account deficits. This echoes the “twin deficits” theory of the 1980s, except that deficits are now said to make the dollar go *down* rather than up.

The fourth hypothesis is that market participants may fail to notice budget deficits for years yet experience an unsettling loss of confidence because of unnoticed fiscal problems. This “risk of financial and fiscal disarray” bears a strong resemblance to the endless “hard landing” scares of the 1980s.<sup>2</sup> The authors’ proposed solution is also the same as in the 1980s—an increase in taxes as a “preemptive strike” to maintain confidence.

Rubin, Orszag, and Sinai refer to the first three hypotheses as the “conventional view”:

Under the conventional view, ongoing budget deficits decrease national saving, which reduces domestic investment and increases borrowing from abroad. Interest rates play a key role in how the economy adjusts. The reduction in national saving raises domestic interest rates, which dampens investment and attracts capital from abroad.

The external borrowing that helps to finance the budget deficit is reflected in a larger current account deficit . . . The reduction in domestic investment (which lowers productivity growth) and the increase in the current account deficit (which requires that more of the returns from the domestic capital stock accrue to foreigners) both reduce future national income.<sup>3</sup>

The authors augment the conventional view with another hypothesis that is supposed to be novel and unconventional. This fourth hypothesis is what used to be called the “hard landing scenario” simply relabeled as the “risk of financial and fiscal disarray.” Specifically, the authors claim that sustained budget deficits may cause “depreciation of the exchange rate and decline in confidence [which] can reduce stock prices.”<sup>4</sup> The authors advocate a preemptive strike against estimated future budget deficits in the form of higher taxes on investors and others, ostensibly to improve investor confidence.

These are not new ideas. The first two hypotheses (about deficits reducing savings and raising interest rates) were associated with proponents of high tax rates in the 1950s, particularly President Dwight D. Eisenhower. The third (twin deficits) was forcefully articulated in the 1980s and mid-1990s by Harvard University’s Martin Feldstein and former Treasury secretary Lawrence Summers. The fourth (higher taxes to restore investor confidence) was embraced in 1931 under President Herbert Hoover.

### **First Hypothesis: Deficits and Interest Rates**

The original version of the first hypothesis predicted that *actual* deficits would raise *actual* long-term interest rates. The new version of this theory is presented in the recent paper by Rubin, Orszag, and Sinai, and in a 2003 study by Anne-Marie Brook of the Organisation for Economic Co-operation and Development.<sup>5</sup>

The Rubin, Orszag, and Sinai paper redefines the supposed link between deficits and interest rates in three ways.

First, it argues that interest rates are affected by *estimated future* deficits rather than actual present deficits. One cited study, by Thomas Laubach of the Federal Reserve Board, assumes “deficits projected several years into the future may be informative about the longer-run fiscal position, and may therefore approximate investors’ expectations.”<sup>6</sup> Yet it is difficult to see how estimated deficits could have effects that actual deficits do not have, since past estimates have been wildly inaccurate.

Budget forecasting errors follow a cyclical pattern, becoming too optimistic near economic peaks but too pessimistic in the early stages of recovery, as in 1984, 1994, and probably 2004. As the economy expands, so does the budget. As the actual budget gets better, so do estimated future budgets.

The fiscal year 1984 federal budget estimated that the deficit would reach \$308 billion by 1987. But the deficit actually fell to \$150 billion that year, with few major policy changes except lower tax rates. In early 1986, the CBO quickly slashed projected deficits for the following three years by \$411 billion over a five-month period.<sup>7</sup> Deficit estimates are eventually adjusted to conform to reality.

In President Bill Clinton’s first budget address in 1993, he said, “Ten years from now . . . when Members of Congress come here, they’ll be devoting over 20 cents on the dollar to interest payments.”<sup>8</sup> Yet actual interest expense turned out to be only 7.1 cents on the dollar in 2003—down from 12.5 in 2000 when the budget was in surplus.<sup>9</sup> Debt service is the true burden of deficit financing, but currently it is unusually *low*. Just as homeowners have refinanced their mortgages, so has the U.S. Treasury.

Interest expense was not the only spending estimate that turned out to be grossly exaggerated in the 1993 projections. In response to such erroneous forecasts, Congress enacted the second tax increase in three years. Both the 1990 and 1993 federal tax laws focused on

increasing marginal tax rates on individuals by increasing statutory rates and phasing-out deductions for higher-income taxpayers.

In the fall of 1994, after tax rates had been increased, the Congressional Budget Office continued to overestimate the deficit in the year 2000 by 5.3 percent of gross domestic product—a \$520 billion exaggeration for a single year. Higher tax rates in 1993 had nothing to do with the exaggerated 1994 deficit projections. The two new tax brackets of 36 and 39.6 percent were projected to raise only \$22.5 billion in 1995 (much smaller than typical estimating errors one year ahead) and the long-term 1994 budget projections already incorporated such static revenue estimates.<sup>10</sup>

At the recent business cycle peak in early 2001, the CBO erred in the opposite direction, as it routinely does at cyclical peaks, by overestimating future surpluses by trillions of dollars. If interest rates actually depended on such unreliable estimates (as Rubin, Orszag, and Sinai contend), bond yields would have been extremely low in early 2001 and would be much higher today. Instead, interest rates were substantially higher in that period of estimated future surpluses and fell to record lows after those estimates had been revised to show large future deficits. That theory had already failed before it was published.

In a separate paper, Orszag and William Gale, of the Brookings Institution, respond to this recent turn of events by arguing, “The fact that long-term nominal interest rates are low does not mean they would not have been lower.”<sup>11</sup> But that amounts to turning this into a nonfalsifiable hypothesis—what Karl Popper called a metaphysical statement. “Those among us who are unwilling to expose their ideas to the hazard of refutation,” wrote Popper, “do not take part in the scientific game.”<sup>12</sup>

Rubin, Orszag, and Sinai’s variation on the first hypothesis is to downplay the obviously invisible effect of deficits on *nominal* interest rates by saying, “The overall level of *nominal* interest rates is affected by many factors

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[emphasis in the original].”<sup>13</sup> That suggests that although deficits may not raise nominal interest rates, they do not raise real interest rates either. One reason for switching from nominal to real rates, as Anne-Marie Brook notes, is that “most empirical work conducted in the past ten years estimates the impact on U.S. *real* long-term interest rates.”<sup>14</sup> Gale and Orszag cite Laubach, for example, but neglect to mention that his study tried to estimate what *real* interest rates are *expected* to be five years in the future.

Expectations aside, changing the subject from nominal to real interest rates is not a trivial distinction. *If estimated deficits raised real interest rates but not nominal interest rates, that must mean bigger deficits cause inflation to fall.* As a matter of historical fact, there actually was a connection between bigger deficits and lower inflation in the United States. It is not that rising deficits caused inflation to fall in the 1980s, but that falling inflation after 1981 caused deficits to rise. Lower inflation ended the previous revenue windfalls from bracket creep and overtaxation of inflated inventory profits and capital gains. Also, the Federal Reserve’s decision to hold the federal funds interest rate at between 9 and 16 percent from 1981 to 1984 (far above the inflation rate) greatly increased federal interest expense and caused profits and employment to contract until 1983–84 when tax rate reductions were phased in. Laubach acknowledges: “Both deficits and interest rates rose sharply, with the latter arguably driven at least in part by the Volcker disinflation.” He does not seem to realize that the *former*—deficits—were “driven at least in part by the Volcker disinflation.”

The hypothesis that budget projections affect *real* interest rates has the additional handicap of being inconsistent with the facts. As Rik Hafer, a professor at Southern Illinois University at Edwardsville, demonstrated graphically, “During the late 1990s when the projected budget surplus was increasing steadily, the 10-year real interest rate was rising.”<sup>15</sup> This should have been no surprise. Real interest rates are always highest

when the economy is expanding briskly (e.g., 1983–84 and 1996–2000) and lowest when the economy is stagnant or declining (e.g., Japan in recent years).

### **Yield Curves**

Rubin, Orszag, and Sinai prefer to change the subject from long-term rates, whether real or nominal, to the yield curve, which shows interest rates on bonds of different maturities. They note: “For purposes of assessing the effects of future budget surpluses or deficits, it may be more insightful to examine the spread between long-term and short-term interest rates. That spread is currently relatively high . . . and has increased substantially since the 2001 tax cut.” Anne-Marie Brook also views the interest rate spread as an alternative to claiming that deficits raise real interest rates. “The most common approach is to use some measure of the level of real interest rates as the dependent variable,” she writes. “A related approach is to model the interest rate spread (long minus short).”<sup>16</sup>

However, the interest rate spread is not at all related to real interest rates, either in theory or fact. Real interest rates were *extremely* high in 1979–81, for example, but the yield curve was inverted at the time. Real interest rates were unusually low in 1992–93 and 2002–03, but the yield curve was steep.

Changing the dependent variable from long-term interest rates to the gap between long- and short-term rates is even more troublesome than changing from nominal to real yields. *If estimated future deficits only affect the spread between short-term and long-term interest rates, then larger projected deficits must cause short-term rates to fall.* Projected future budget surpluses would likewise be associated with *higher* short-term rates. This is not what Rubin, Orszag, and Sinai say, but it *is* what their hypothesis says.

The yield curve hypothesis is logically obligated to thank rising budget deficits for the dramatic drop in both real and nominal short-term interest rates since the 2001 tax cut, and, therefore, the wider spread between long-term and short-term rates.

In reality, any observed connection between yield curves and deficit projections is simply due to the fact that both are cyclical.<sup>17</sup> Long-term interest rates *always* fall when short-term rates fall, but *never* by nearly as much—causing the yield curve to become steeper when the Fed eases. The Fed eases during and shortly after recessions, which is also when the CBO and the White House usually revise their deficit projections upwards.

The yield curve is a component of the index of leading indicators. A steep yield curve—which Rubin, Orszag, and Sinai depict as an ominous sign of future deficits—is universally viewed as an excellent leading indicator of future prosperity. A flat or inverted yield curve—which the authors associate with surpluses—“significantly outperforms other financial and macroeconomic indicators in predicting recession.”<sup>18</sup> The authors surely do not intend to claim that budget surpluses cause recessions nor that deficits cause prosperity, but that is what their yield curve hypothesis implies.

The hypothesis that projected deficits steepen the yield curve and the contradictory hypothesis that they raise real interest rates both undermine the authors’ central claim that projected deficits reduce economic growth. Steep yield curves forecast strong economic growth, not weakness. As long as the yield curve is not inverted (indicating unsustainably tight monetary policy), interest rates are high in real terms only when the pace of economic growth (and therefore the real return on capital) is also high.<sup>19</sup>

### **Interest Rates on Government Bonds**

Despite all these strained efforts to link unreliable deficit projections to yield curves or real interest rates, efforts to demonize deficits still rely on their alleged effect on *actual* interest rates. Brookings Institution scholars Alice Rivlin and Isabel Sawhill, for example, illustrate the burden of deficits by noting, “monthly payments on a thirty-year fixed-rate mortgage will rise from \$1,500 to \$1,663 when interest rates rise from 6 to 7 percent.”<sup>20</sup> But monthly payments would not

rise at all if the yield curve merely became steeper (and therefore more optimistic) or if the mortgage rate increased only in real terms (because inflation fell).

It is hard to avoid the conclusion that this debate is not about facts but about theory. Stubborn convictions about an invisible link between deficits and bond yields rest on “the quantity theory of bonds”: Treasury bonds are thought to be valued for their scarcity, like rare stamps or antiques, making their market value vary inversely with the volume of bonds marketed. This theory is never applied to other debt instruments. Those who advance the quantity theory of Treasury bonds do not claim that the huge volume of mortgages issued in the year 2002 must have pushed mortgage rates higher.

In reality, people do not buy a country’s bonds because of their scarcity (unless default risk is involved) but because they expect the return—including coupon and capital gains—to at least match the risk-adjusted return of alternative investments. Those alternative investments include all of the world’s stocks, bonds, bills, commodities, and real estate. Governments do not borrow from the current *flow* of national savings, as the authors assume, but from the world’s *stock* of assets.

Interest rates are also reduced rather than increased by lower marginal tax rates, for the same reason that tax-exempt money market funds pay a lower interest rate than taxable bonds. Rubin, Orszag, and Sinai’s “financial disarray” analysis promotes concern that “depreciation of the dollar . . . would almost surely reduce stock prices.” (That would have been terrible investment advice in 2003). Ostensibly to help keep stock prices higher, they propose to raise investors’ marginal tax rates. But stock prices only increased after marginal tax rates (including those on dividends and capital gains) came down. Rajnish Mehra and Edward Prescott find that much of their famous “equity premium puzzle” was because “reductions in marginal tax rates account for the high return on corporate equity in the [1960–2000] period.”<sup>21</sup>

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Long-term nominal interest rates have been very closely linked to inflation, but inflation has not been linked to budget deficits (except inversely in the 1980s). To shore up their fourth “financial disarray” hypothesis, Rubin, Orszag, and Sinai favorably quote a CBO speculation that “consumer prices could shoot up” because of deficits. This quaint notion that deficits are inherently inflationary arose in the 1950s from traditional Keynesian analysis, which treated deficits as an equivalent “stimulus” to Fed easing, thus blurring a vital distinction between the Treasury selling bonds and the Federal Reserve buying bonds. The U.S. public debt is less than 40 percent of GDP; Japan’s debt is three times that large. But few people are worrying about hyperinflation in Japan.

Sustained changes in *real* interest rates are driven by the real return on invested capital, which makes promises to boost growth with lower real interest rates illogical and inconsistent with experience.<sup>22</sup>

International arbitrage ensures that national interest rates are not determined by domestic fiscal conditions, except to the extent that those conditions might imply greater risks of default or of future exchange rate losses. The first table in Brook’s study shows that long-term U.S. interest rates rose by an average of 2.4 percentage points in three recent cycles of central bank tightening. But long-term interest rates also rose by 2.4 percentage points in Canada, Japan, and the U.K. (there were slight differences between Germany, France, and Italy, but only before they joined a common currency). Financial markets are *global* and are not driven by the national government’s portion of domestic borrowing.<sup>23</sup>

The quantity theory of bonds is clearly irrelevant for major countries—even those with large accumulated debts, such as Japan.

## **Second Hypothesis: Deficits and Savings**

The second hypothesis has two parts. First, budget deficits must reduce the overall

ration of national savings to GDP. Second, such a decline must reduce domestic investment or make U.S. citizens more indebted to foreigners. The central thesis dates back to the late 1950s.

In President Eisenhower’s budget address of January 1960, he defended keeping punitive Korean War tax rates in place because “sound fiscal and economic policy requires a budget surplus . . . to increase the supply of savings available for the productive investment so essential to continued economic growth.”<sup>24</sup> His comments came three months before the third recession in six years. Republicans were harshly punished in the 1960 elections. Paul Samuelson, President Kennedy’s top economic adviser, called Eisenhower’s fiscal policy an “investment in sadism.”<sup>25</sup>

Eisenhower’s hypothesis that budget surpluses raise savings and private investment has been reborn in the Rubin, Orszag, and Sinai paper. Similarly, Gale and Orszag suggest that the effect of deficits on interest rates is “at least partially a red herring” because what matters is that savings and investment must fall “regardless of whether interest rates are affected.”<sup>26</sup> But that evasion begs all the questions, since higher interest rates were supposed to be the mechanism that discourages investment and (in all previous “twin deficits” theories) drives the dollar *higher*.<sup>27</sup>

Gale and Orszag offer no direct evidence as to whether or not national savings rates actually rose in any country at any point after deficits were replaced by surpluses. “For the most part, we summarize findings obtained in earlier surveys . . . [and] focus on a few key highlights from the literature.”<sup>28</sup> But there are notable omissions from their summary, such as Robert Eisner’s 1994 study in *The Review of Economics and Statistics*, which found no effect of deficits on savings.<sup>29</sup> John Seater’s 1993 survey is mentioned, but not the fact that it found the evidence “inconsistent with the view that government debt is positively related to interest rates.”<sup>30</sup>

### **Foreign Experience**

Those earlier surveys (mostly from 1987–

93) did not have the benefit of three ideal natural experiments in recent years: the United States, the United Kingdom, and Australia all moving from large and prolonged deficits to several years of surplus. The swing from deficit to surplus was sizable in each case, about 4 to 5 percent of GDP. If the second hypothesis were correct, the national savings rate should have increased by 4 to 5 percentage points following the swing from deficit to surplus. Instead, the national savings rate rose briefly for only one year in the U.K. and declined slightly in the U.S. and Australia.

From 1981 to 1989, when U.S. budget deficits averaged 3.8 percent of GDP, the national savings rate was 18.2 percent of GDP. From 1998 to 2001, while the U.S. budget was in surplus, the national savings rate was 18 percent of GDP.<sup>31</sup>

The U.K. national savings rate averaged 17.8 percent from 1984 to 1987, when the budget was in deficit, but dipped to 17.2 percent in 1988–89, when the budget moved into surplus. British budget deficits subsequently averaged 4.7 percent of GDP from 1990 to 1997, followed by surpluses averaging 1.5 percent of GDP from 1998 to 2001. The savings rate was 15.4 percent during the eight years of chronic deficits and 16 percent during the period of surpluses, but all of the latter gain was in a single year, 1998. Savings during 1999–2001 dropped back to 15.4 percent.

Australia had an unbroken string of deficits that averaged 2.9 percent of GDP from 1986 to 1997. The deficits were followed by surpluses averaging 1.1 percent of GDP from 1998 to 2001. The savings rate during the period of deficits was 19 percent. The savings rate during the period of surpluses was 18.9 percent.<sup>32</sup>

It should not be surprising that taking more money from the private sector and giving it to the government does not improve the budgets of *both* the private and government sectors at the same time. After all, income taxes fall heavily on the main sources of saving—corporations and high-income households.

Japan's long series of huge budget deficits was eventually followed by a reduction in private savings in recent years. But that was because Japanese households have been offered a near-zero return on stocks, bonds and banks deposits. Corporate profits (therefore retained earnings) have also been quite weak. Casey Mulligan of the University of Chicago shows that savings *is* sensitive to *after-tax* returns on investments in general, but that such returns are *not* captured by the interest rate on Treasury bonds.<sup>33</sup> The prolonged absence of profitable investment opportunities undoubtedly contributed to Japan's budget deficits, but it is implausible that it was *caused* by those deficits.

A key point to note is that Japan's huge, sustained budget deficits, which have averaged 7 percent of GDP in recent years, did *not* result in high interest rates, a steep yield curve, a collapsing yen, or a big current account deficit, as the Rubin-Orszag-Sinai theory predicts.

The Rubin-Orszag-Sinai "taxes equal savings" doctrine was popular in development economics in the early sixties, when it was called "forced savings." A popular textbook of that era, *Economic Development* by Gerald Meier and Robert Baldwin, explained: "Increased taxation . . . allows the government to force savings and reduce disposable incomes. A difficulty with this method, however, is that while involuntary saving is increased, voluntary saving may be diminished."<sup>34</sup> Meier and Baldwin's simple explanation of why more taxes do not equal more savings did not require "Ricardian Equivalence," which is the theory that people have perfect foresight about future tax obligations to service the added debt. To the extent that taxes reduce household's after-tax income, their savings *must* fall unless they can somehow save a *higher* percentage of their shrunken incomes. Taxpayers cannot save money they no longer have.

Even if deficits did reduce savings, would domestic investment be reduced? The authors contradict themselves on this point, because if investment was closely tied to domestic savings then there would be no need for external

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finances and no impact on the current account deficit.

Some economists have theorized that each billion dollars of government borrowing is drained from a supposedly fixed “savings pool,” which reduces the amount left over for private investment.<sup>35</sup> Others have theorized that domestic investment would instead have to be financed by a net inflow of foreign direct and portfolio investment. But these two theoretical conjectures contradict each other.

The belief that a high savings rate ensured rapid economic growth is the main reason many U.S. economists in the sixties predicted that the Soviet Union would out-produce the United States by 1980 or 1990.<sup>36</sup> The high savings rate in Japan is also why others in the eighties predicted that the Japanese economy would be larger than the U.S. economy by now. Economic growth is not as simple as that.

### **Third Hypothesis: Budget Deficits and Trade Deficits**

Rubin, Orszag, and Sinai attempt to revive the 1980s specters of “twin deficits” and an economic “hard landing.” In the twin deficits theory, budget deficits are linked to trade deficits. A hard landing is now called “financial disarray” by the authors.

Before the federal budget moved into surplus in 1998, the same accounting model now being recycled by Rubin, Orszag, and Sinai was used by Martin Feldstein, Larry Summers, and others to make three very explicit and unconditional predictions. They predicted that moving from deficits to surpluses would increase the national savings rate, reduce long-term interest rates, and eliminate the current account deficit. Not one of those predictions came true.<sup>37</sup>

In 1995, Martin Feldstein, a former adviser to President Reagan, argued: “With a lower level of current and expected future government borrowing, real interest rates would decline and the dollar would come down with them . . . A lower budget deficit would thus reduce our trade deficit.”<sup>38</sup>

However, like the notion that more taxes equal more saving and investment, the twin deficits hypothesis has rarely been presented as a theory whose veracity depended on any facts. The twin deficits hypothesis has, instead, been presented as an unquestionable accounting identity. This has been convenient, because the sharp cyclical reduction in budget deficits from 1991 to 2000 provided an excellent time to test the theory, if facts mattered at all.

In 1991, the budget deficit was 4.7 percent of GDP, up from 3.9 percent in 1989. The current account, however, had moved from a deficit of 1.8 percent in 1989 to a small surplus in 1991. In each subsequent year, the budget deficit fell and the current account rose. By 1998, the budget surplus equaled 0.8 percent of GDP but the current account deficit was 2.5 percent. By 2000, the budget surplus equaled 2.4 percent of GDP but the current account deficit was 4.4 percent.

It would be difficult to discover any hypothesis that produced worse predictions than the twin deficits theory. A possible exception is the prediction of recent years that moving from budget surpluses to deficits between 2000 and 2003 threatened to make mortgage interest rates rise.

The twin deficits hypothesis fares no better in cross-country comparisons than it does in the U.S. time series data. The February 7, 2004, edition of *The Economist* estimated that Australia had a budget *surplus* of 0.8 in 2003 but a current account *deficit* of 6.2 percent of GDP. Japan had a budget *deficit* of 7.4 percent of GDP but a current account *surplus* of 3 percent of GDP. Australia’s government bond yield was 5.69 percent, while Japan’s was 1.28 percent.

### **The Bogey of Foreign Debt**

The twin deficits hypothesis has been thoroughly tested and proven thoroughly incorrect. The United States has had a current account deficit in most recent years, and Japan has had a current account surplus, but both of those developments were correlated with the relative pace of U.S. economic growth rather



than budget deficits. When the U.S. grows faster than other major economies, such as Japan, U.S. imports grow faster than exports. If and when growth elsewhere speeds up, so does their demand for U.S. exports.

Even if there was some invisible connection between budget deficits and current account deficits, the related claims of Rubin, Orszag, and Sinai that a net inflow of foreign investment reduces future U.S. assets and income would still be invalid. The authors say that “the increase in the current account deficit (which requires that more of the returns from the domestic capital stock accrue to foreigners) [will] reduce future national income.”<sup>39</sup> Similarly, Gale and Orszag note that if foreigners invest in the U.S., “the capital owned by Americans declines.”<sup>40</sup>

This reasoning appears to take the amount of capital invested in the U.S. as fixed, so that foreigners could buy claims to that fixed stock of capital only at the expense of Americans. But physical capital financed by selling equity or bonds to foreigners is not a zero-sum transfer of ownership of claims to a fixed capital stock but a means of financing *additions* to that capital stock.

One obvious problem with alluding to all foreign investment as U.S. debt to foreigners is that much of the net capital inflow is really equity—direct investment and purchases of shares in the U.S. firms. When Nissan built a factory in Tennessee, it certainly did not reduce “the capital owned by Americans.” If that investment is profitable, earnings from the U.S. plant will accrue to Nissan stockholders as dividends or capital gains. Americans can and do own shares in Nissan, just as Americans own more shares in the French drug company Aventis than the French do, and many Americans work at factories and offices with foreign names on them. It makes little sense to say Americans would be even better off if they had built all the foreign factories in America with their own savings. Americans cannot produce Nissans, BMWs, and foreign-brand drugs without foreign help and permission.

The U.S. current account deficit means that foreign exporters are choosing to sue some of their export earnings to invest in the United States rather than purchase U.S. goods and services immediately. As Matthew Higgins and Thomas Klitgaard of the New York Federal Reserve Bank point out, such extra investment from the current account deficit produces long-term U.S. income gains “from the indirect effects of higher investment spending on economy-wide employment.”<sup>41</sup>

### **The Fourth Hypothesis: Raising Taxes to Restore Confidence**

The last idea of Rubin, Orszag, and Sinai is that raising taxes will restore confidence. This myth has been around for decades. It was prominently articulated by Peter G. Peterson in an October 1987 cover feature in the *Atlantic Monthly* arguing that the stock market had crashed because investors suddenly noticed that there was a budget deficit.

The myth did its greatest damage when it was put into practice by President Herbert Hoover. At the end of 1931, a year after signing a disastrous increase in tariffs, President Hoover asked Congress for a “temporary” income tax increase, raising tax rates to levels not seen since the depression of 1920–21. Hoover proclaimed repeatedly that “nothing is more necessary at this time than balancing the budget.”<sup>42</sup> It was, he said, “indispensable to the restoration of confidence and to the very start of economic recovery . . . We cannot maintain public confidence nor stability of the Federal Government without undertaking some temporary tax increases.”<sup>43</sup>

In a preemptive strike designed to restore confidence, marginal tax rates were raised in June 1932 from rates of 1–25 percent to rates of 4–63 percent. Yet revenue from the individual income tax dropped from \$834 million in 1931 to \$427 million in 1932 and to \$353 million in 1933. Consistent with his theory, Hoover also asked Congress to create a new national sales tax. He said, “To assure a bal-

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**Congress increased the highest federal marginal income tax rates in 1990 and 1993. Despite those rate increases, tax revenues were not visibly increased.**

anced budget . . . excise taxes should be extended to cover practically all manufacturers at a uniform rate, except necessary food.”<sup>44</sup> That time Congress did not go along, and neither did the electorate.

As the experience of the early 1930s shows, the old “confidence” game is a damaging myth that should not be revived. Renaming it a “preemptive strike” does not improve the theory’s chances of success.

### **Taxes: Microeconomic Effects Matter**

Those who cling to various hypotheses about how budget deficits are supposed to affect interest rates, savings, exchange rates, and the current account tend to dismiss criticism by claiming that economists who disagree with them are just saying that “deficits don’t matter.” Deficits do matter, but not in *any* of the ways Rubin, Orszag, Sinai, and Gale imagine.

Federal debt service is not a free lunch, although it now amounts to only 1.4 percent of GDP, down from 2.3 percent in 2000. Government borrowing is much like any other borrowing, such as mortgages or corporate bonds: The debt service cost of government borrowing has to be compared with the alternatives (e.g., the alternative to a young family taking out a mortgage is to keep paying rent).

For the federal government, the alternatives to borrowing are restraining spending or attempting to collect more taxes. (The latter is difficult because the income tax share of GDP has been stubbornly immune to such attempts). It is pointless to say that U.S. taxpayers would be better off raising current taxes on the basis of projected future borrowing without comparing all costs to taxpayers of increasing marginal tax rates, including potential damage to the economy (and therefore to actual tax receipts).

Writing in *Tax Notes* last year, Gale and Orszag said:

A cut in marginal tax rates will generally have two sets of effects on future

national income. First, the tax cut will affect [increase] labor supply, human capital accumulation, saving, investment, entrepreneurship and so on. Second, the reduction in revenues will raise the deficit and reduce national saving . . . For the tax cut to have a net positive effect on economic growth, the effects on labor supply, savings, etc., not only must be positive, they must be larger than the drag created by the increased deficit. Similar findings apply to deficits created by spending increases.<sup>45</sup>

These “two effects” are inherently inconsistent with each other. To the extent that reductions in marginal rates have beneficial effects on economic growth, as the authors acknowledge, those reductions will result in a larger tax base. “A fair assessment [of the evidence],” wrote Gale, “would conclude that well-designed tax policies can raise growth.”<sup>46</sup> The tax base would therefore be enlarged, even aside from reduced avoidance, and tax revenues might also be enlarged. If a larger tax base is taxed at a lower average (not marginal) rate, the net effect on revenue is ambiguous. That ambiguity makes it incorrect for Gale and Orszag to *assume* a long-term “reduction in revenues.” For the same reason, the authors’ key assumption that lower taxes today must be fully offset by higher taxes tomorrow is also invalid, as are their cited simulations from a nonmarginal model that depends on that assumption (the 1987 Auerbach-Kotlikoff model).

Congress increased the highest federal marginal income tax rates in 1990 (effective for 1991) and 1993 by raising statutory tax rates and phasing out deductions and exemptions for high-income earners. Despite those rate increases, tax revenues were not visibly increased. Receipts from the individual income tax averaged 8.2 percent of GDP from 1988 to 1990 when the top tax rate was 28 percent, and 7.8 percent in 1991–92 after the Bush tax increase. The economy was in recession for the first two quarters of FY91,

so we should have expected that tax receipts would recover by 1993, regardless of the tax increase. Yet revenues were only 7.7 percent of GDP in 1993, 7.8 percent in 1994, and 8.1 percent in 1995—less than in 1989 (8.3 percent) prior to the two tax rate increases. Revenues did surge in 1997–2000, but much of that revenue gain was from capital gains taxed at the reduced rate of 20 percent.

Federal revenues from the individual income tax have been a nearly constant share of GDP (and of personal income) since 1952, regardless of whether the top tax rate was 91 percent or 28 percent and regardless of whether loopholes were opened or closed. The individual income tax varies cyclically between about 7.5 and 9 percent of GDP, largely reflecting swings in the stock market, but it shows no significant connection to how high or low the highest tax rate is on upper-income filers (I call this “Reynolds’ Law”). Since taxes on individual income are a nearly constant share of GDP, and taxes on corporate income vary with profits, it follows that the only way to achieve a sustained increase in real federal revenue is by adopting policies conducive to sustained increases in real GDP.

The absence of any relationship between top tax rates and revenues is most revealing when focusing on individual income taxes, and excluding the many increases in the Social Security and Medicare tax rates and base. Yet there is also no apparent relationship between income tax changes and the ratio of *all* taxes to GDP. Rudolph Penner and Eugene Steuerle remark that “the federal tax burden has seldom been allowed to exceed 19 percent. Every time that level has been breached, taxes have been cut significantly.”<sup>47</sup>

The implication that the ratio of taxes to GDP would have risen well above 19 percent were it not for reductions in tax rates is extremely misleading. After all, taxes reached 20 percent in 1944 and 1945 when tax rates were almost confiscatory (94 percent) and compliance was high due to patriotism and rationing. Federal taxes were 16.2 percent of GDP in 1959 when Eisenhower was defending 91 percent tax rates, 18.4 percent in 1967

after the deep and broad Kennedy tax cuts, and 18.3 percent in 1989 after two rounds of major tax rate reductions under President Reagan.

Sustained, noncyclical variations in the tax share of GDP have not been associated with legislated tax cuts or increases except to the extent that tax policy affected the denominator of that ratio (by helping or hurting the real GDP growth). Aside from the stock market boom of 1997–2000, the only time the federal share of GDP exceeded 19 percent was just before and during recessions, when GDP slowed or fell in real terms—in particular 1952, 1969–70 and 1980–82. The tax share declined for a while after every recession, partly because taxes are paid on income earned in the prior year. Yet the overall tax share of GDP was back above 18 percent in 1977–79 and 1987–89 without any tax rate increase.

Why have past changes in the highest marginal tax rates—ranging from 28 to 91 percent—had no discernible effect in raising or lowering the share of taxes to personal income or GDP? The only possible answers are that higher tax rates either discourage the affected people from earning as much income or that higher tax rates encourage taxpayers to receive income in ways not reported to the IRS or seeking higher deductions (e.g., by switching from salary to perks or by taking out a larger mortgage).

Studies by Daniel Feenberg and James Poterba, Martin Feldstein, and Lawrence Lindsey have shown that the amount of taxable income reported is extremely sensitive to the highest marginal tax rates. Their critics merely debate the source of that sensitivity (the extent to which it represents tax avoidance or reduced effort) and its duration (the extent to which it reflects deferring or avoiding taxation). One of those critics, Emmanuel Saez, examined behavioral responses, mainly for 1996–2000, “such as labor supply decisions, career choices and savings decisions.” He finds that “behavioral responses to changes in marginal tax rates [were] concentrated at the top of the income distribution.”<sup>48</sup>

**Federal revenues from the individual income tax have been a nearly constant share of GDP since 1952 (I call this “Reynolds’ Law”).**

**Research on the causes of economic growth assigns importance to marginal tax rates and the structure of taxation but not to whether spending is financed by taxes or debt.**

But that is the crucial part of the income distribution, since the top 1 percent of taxpayers earned 17.5 percent of all income in 2001 and paid 33.9 percent of all federal income tax.<sup>49</sup> And it is at the top of the income distribution where leading politicians claim it would be possible to raise substantially more revenues by raising tax rates.

Saez concludes that the rapid rise of top incomes in the 1990s “appears too large to have been *solely* the direct consequence of . . . supply-side effects.”<sup>50</sup> Yet nobody ever said that income growth depends “solely” on tax policy. There were unanticipated windfalls from exercised stock options during the technology stock boom, for example, although that was partly an *indirect* consequence of the lower tax on capital gains. Saez finds it “particularly surprising” that high incomes grew while stocks soared, since the top tax on ordinary income was higher in 1996–2000 than it had been in 1988–92. But the tax on capital gains was *lower* than it had been over the previous 10 years. In any case, the existence of stock market windfalls in 1996–2000 is entirely irrelevant to the question of whether or not high marginal tax rates encourage revenue-losing behavioral responses, such as premature retirement or aggressive tax avoidance. In fact, any effect of high tax rates on tax avoidance is virtually ruled out by the way Saez measures income—*before* tax deductions and adjustments.

Brookings Institution scholars Henry Aaron, Gale, and Orszag propose the option of repealing the 2001 income tax changes that benefit “high-income filers.”<sup>51</sup> It turns out that “high-income” means the top four marginal tax rates—including putting the 25 percent rate back up to 28 percent. For single people, “high income” starts at a taxable income of \$29,050 in 2004. Despite the broad reach of this proposed tax increase, their static revenue estimate from raising *all* of the top four tax rates is just 0.4 percent of GDP in 2014. Their estimate from taxing dividends and capital gains at the tax rates *before* 2001 is only 0.2 percent of GDP. On a dynamic basis, such increased tax rates

would not have to do nearly as much damage to the economy and stock market as I believe they would to end up raising little or no revenue at all over time.

## **Taxes, Spending, and Economic Growth**

The central theme of Rubin, Orszag, and Sinai—that higher tax rates can improve growth by raising saving and investment—might be “conventional” at the International Monetary Fund or in some elementary textbooks, but it is quite unconventional when it comes to serious research on the causes of economic growth. Such research assigns importance to marginal tax rates and the structure of taxation and to the level and composition of government spending but not to whether spending is financed by taxes or debt.

Cross-country empirical studies, such as *Economic Growth* by Robert Barro and Xavier Sala-i-Martin and the *Global Competitiveness Report* from the World Economic Forum, find no significance of budget deficits *per se*.<sup>52</sup> In contrast with Rubin, Orszag, and Sinai, economists looking at the sources of economic growth do not treat tax and spending policy as two equally viable devices for changing budget deficits. They treat increases in distortive taxation as a *negative* influence on economic growth and reduction in government purchases and transfers as a *positive* influence.

Consider a recent study of 18 countries by Alberto Alesina of Harvard University, Silvia Ardagna of Wellesley College, Robert Perotti of the European University Institute, and Fabio Schiantarelli of Boston College.<sup>53</sup> They conclude the following:

First, increases in public spending increase labor costs and reduce profits. As a result, investment declines as well . . . . Second, increases in taxes reduce profits and investment. . . . Labor taxes have the largest impact on profits and

investment. Third, . . . fiscal stabilizations that have led to an increase in growth consist mainly of spending cuts, particularly in government wages and transfers, while those associated with a downturn in the economy are characterized by tax increases.<sup>54</sup>

The old myth that growth depends on balanced budgets is nowhere to be found in the recent 248-page OECD study, *The Sources of Economic Growth in OECD Countries*.<sup>55</sup> The marketing blurb for that study notes: “Growth patterns through the 1990s and into this decade have turned received wisdom on its head . . . with the United States notably drawing further ahead of the field.” The OECD’s chief economist, Ignazio Visco, writes that “one of the most important lessons to emerge from this work is that . . . excessive tax burdens distort proper resource allocation.”<sup>56</sup> In particular, the OECD study goes on, “high personal income tax rates can discourage entrepreneurship.”<sup>57</sup>

Such microeconomic effects of tax and spending policy can be seriously misunderstood by placing undue emphasis on the gap between planned or realized tax receipts and expenditures, that is, estimated or actual budget deficits.

Government purchases of real resources reduce the availability of labor, equipment, and real property, and raise their costs to private businesses. That is why Alesina and his colleagues find that countries that cut government spending, such as Ireland, have had much faster economic growth than countries that pursued costly public works schemes, such as Japan. This “crowding out” is *real*, not financial. It *cannot* be reduced by funding government consumption with taxes rather than borrowing.

Government transfer payments are generally given only on the condition that recipients do not work too much, save too much, or plant too many crops. If productive effort or saving is even allowed by recipients of transfer payments, the payments are typically reduced or taxed at a higher rate, as in the

case of Social Security. Such programs are a disincentive for those who receive them and also for taxpayers who fund them. These disincentive effects are *not* reduced by funding transfers with taxes rather than borrowing.

Demographic projections imply that unfunded promises of Social Security and Medicare benefits could impose such a heavy tax burden on younger workers in the future that their incentives to work, attend college, and save for their own retirement will be severely impaired. This threat of demoralizingly high tax rates on workers and savers is the essence of the “aging crisis.” Converting that threat into a reality by speeding up the taxation of workers *cannot* solve this problem.

CBO’s long-term budget outlook projects individual tax receipts rising to about 15 percent of GDP by the year 2050, up from about 8 percent today, assuming that progressive taxes on labor and savings can and will be tapped to fund programs heretofore financed by flat-rate payroll taxes.<sup>58</sup> There is nothing in U.S. experience to suggest it would be remotely feasible to double the share of GDP collected by taxes on individual incomes. Trying to do so would severely depress the denominator of the ratio (GDP). Looking ahead, it is not future deficits that are unsustainable, it is future transfer payments from unreformed entitlement programs.

## Conclusions

Rubin, Orszag, and Sinai have offered four hypotheses that purport to predict the effects of estimated future budget deficits on yield curves, real interest rates, national savings, the current account deficit, and investor confidence. If these were not intended to yield testable predictions, they would be only metaphysical speculations.

Several of these hypotheses depend on a highly unusual chain of casuality, such as requiring that deficits cause inflation to fall in order to raise the real interest rates, or requiring that deficits cause short-term interest rates to fall in order to steepen the yield

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curve. Several hypotheses are inconsistent with each other, or with previous versions of this whole exercise in conventionality (twin deficits theorists such as Larry Summers used to postulate that deficits made the dollar rise, not fall). All four hypotheses are completely inconsistent with all direct evidence from U.S. time series data and with evidence from international comparisons.

In reality, neither actual nor projected budget deficits raise real or nominal interest rates, steepen the yield curve, reduce national savings, cause “twin deficits,” or make the dollar go down or up. The logic behind such speculations is flawed and contradictory and the evidence is nonexistent.

## Notes

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3. Rubin, Orszag, and Sinai, p. 1.
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11. William G. Gale and Peter R. Orszag, “The Economic Effects of Long-Term Fiscal Discipline,” Urban-Brookings Tax Policy Center Discussion Paper, December 17, 2002, p. 12.
12. Karl R. Popper, *The Logic of Scientific Discovery* (New York: Science Editions, 1961), p. 280. See also my comments on the epistemological shortcomings of the Gale-Orszag “evidence,” such as quoting famous people, textbooks, and the assumptions (rather than predictive value) of econometric models, in *The International Economy* symposium on this topic (Summer 2003), [www.findarticles.com/cf\\_dls/m2633/3\\_17/106423903/p1/article.jhtml](http://www.findarticles.com/cf_dls/m2633/3_17/106423903/p1/article.jhtml).
13. Rubin, Orszag, and Sinai, p. 13.
14. Brook, pp. 17–18.
15. Rik Hafer, “The Deficit Debate,” *Wall Street Journal*, January 14, 2003, p. A14.
16. Brook, p. 17.
17. Stephen Entin and Paul Evans, “Deficits, Tax Cuts, Interest Rates and Investment (Part I): Do Large Deficits Raise Interest Rates?” Institute for Research on the Economics of Taxation, Congressional Advisory no.139, October 23, 2002, <ftp://ftp.iret.org/pub/ADVS-139.PDF>. See also Entin and Evans, “Deficits, Tax Cuts, Interest Rates and Investment (Part II): Would Financial Market Consequences of Tax Reduction Negate Positive Effects on Growth?” IRET, Congressional Advisory no.140, November 8, 2002, <ftp://ftp.iret.org/pub/ADVS-140.PDF>.
18. Arturo Estrella and Frederic S. Mishkin, “The Yield Curve as a Predictor of U.S. Recessions,” in Federal Reserve Bank of New York, *Current Issues in Economics and Finance* 2, no. 7, June 1996, [www.lynixco.com/yield.pdf](http://www.lynixco.com/yield.pdf).
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20. Alice M. Rivlin and Isabel Sawhill, “Growing Deficits and Why They Matter,” in *Restoring Fiscal Sanity: How to Balance the Budget*, ed. Rivlin and

Sawhill (Washington: Brookings Institution Press, 2004), p. 25.

21. Rajnish Mehra and Edward C. Prescott, "The Equity Premium Puzzle in Retrospect," National Bureau of Economic Research, Working Paper no. 9525, February 2003, p. 52.

22. Alan Reynolds, "Do Budget Deficits Raise Long-Term Interest Rates?" *Cato Tax and Budget Bulletin* no. 1, February 2002, [www.cato.org/pubs/tbb/tbb-0202-1.pdf](http://www.cato.org/pubs/tbb/tbb-0202-1.pdf).

23. Some economists have estimated a miniscule effect of national deficits on *worldwide* interest rates, which acknowledges the integrated market for financial assets (though not their substitutability at the margin for real assets). Such estimates depend on the model's assumptions. Two British theoreticians devised a neoclassical model in which "lower taxes and larger deficits early on result in a lower global rate of interest." See Willem H. Buiter and Anne C. Sibert, "Cross-Border Tax Externalities: Are Budget Deficits Too Small?" NBER Working Paper no. 10110, November 2003.

24. Dwight D. Eisenhower, "Annual Budget Message to the Congress: Fiscal Year 1961," January 18, 1960.

25. Herbert Stein, *The Fiscal Revolution in America* (Washington: American Enterprise Institute, 1996), pp. 350, 369.

26. William G. Gale and Peter R. Orszag, "The Economic Effects of Long-Term Fiscal Discipline," p. 27.

27. C. Fred Bergsten, for example, presented a paper "Can the United States Afford the Tax Cuts of 2001?" at the American Economics Association meetings in Atlanta, January 5, 2002, [www.iiee.com/publications/papers/bergsten0102-2.pdf](http://www.iiee.com/publications/papers/bergsten0102-2.pdf). On page 10, he said: One major risk of the tax cut legislation of 2001 is, of course, that by inducing higher long-term interest rates, it will reduce investment." If interest rates are now to be dismissed as a "red herring," then so should such unsupported claims about investment being so sensitive to interest rates.

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30. John Seater, "Ricardian Equivalence," *Journal of Economic Literature* 31, no. 1 (March 1993): p. 176.

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32. Organisation for Economic Co-operation and Development, *OECD Economic Outlook* (Paris: OECD, December 2003). See the budget and savings data at [www.oecd.org/dataoecd/5/51/2483816.xls](http://www.oecd.org/dataoecd/5/51/2483816.xls) and [www.oecd.org/dataoecd/5/48/2483858.xls](http://www.oecd.org/dataoecd/5/48/2483858.xls).

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34. Gerald M. Meier and Robert E. Baldwin, *Economic Development* (New York: John Wiley and Sons, 1962), p. 340.

35. "Let us suppose that the pool of savings is fixed in size. It follows that, because more money has to be diverted from this pool to the government, less is available to companies for investment." Tim Congdon, *The Debt Threat* (New York: Basil Blackwell, 1988), p. 84. This empty metaphor of a savings "pool" suggests a *stock* of something (dollar bills?); but savings is a *flow*. If the savings rate is unchanged but income rises then savings also rise.

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37. Alan Reynolds, "The Fiscal-Monetary Policy Mix," *Cato Journal* 21, no. 2 (Fall 2001), [www.cato.org/pubs/journal/cj21n2-11.pdf](http://www.cato.org/pubs/journal/cj21n2-11.pdf).

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50. Saez, p. 38.
51. Henry J. Aaron, William G. Gale and Peter R. Orszag, "Meeting the Revenue Challenge," in *Restoring Fiscal Sanity: How to Balance the Budget*, ed. Rivlin and Sawhill, p. 114.
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55. OECD, *The Sources of Economic Growth in OECD Countries* (Paris: OECD, 2003), [www1.oecd.org/publications/e-book/1103011E.PDF](http://www1.oecd.org/publications/e-book/1103011E.PDF).