5.17 RESEARCH BRIEF

Debt in the U.S.
Fuel for Growth or Ticking Time Bomb?

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AIER founder E. C. Harwood placed great emphasis on the necessity of clear and specific terminology in scientific economic inquiry. He dedicated the first two chapters of his textbook Useful Economics to establishing such a vocabulary. One term commonly used today that might not meet Harwood's standard is "national debt." When people refer to the national debt, they almost always mean the debt owed by our government. But there are actually two important types of debt in the American economy: government debt, and private debt owed by households and businesses. In 2015, government debt stood at $18.8 trillion (104 percent of GDP) while private debt was $27.1 trillion (150 percent of GDP). What do these debts, separately and in concert, mean for the future of our economy? Some government borrowing at low rates may be healthy, and some private debt is essential for growth, dispersed among millions of households and businesses.

This research brief examines both types of debt and how concerning they are. We first discuss the history and growth of the federal debt, as well as the primary reasons for the debt. Then we tackle the more subtle issue of private debt. Many economists strongly believe the level and growth of a nation's private debt, more than public debt, predicts the worst recessions. We show that the level and trajectory of private debt are at amounts which can harm our economy.

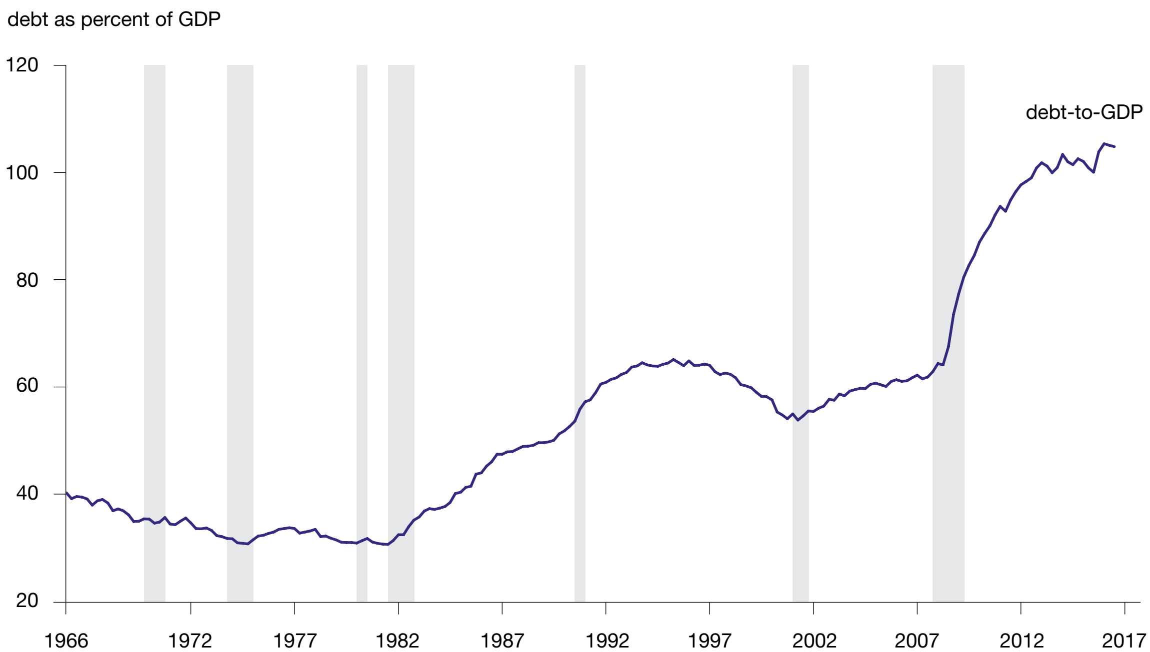
Long-running Budget Deficits and the National Debt

Ongoing federal budget deficits have required the U.S. Treasury to issue substantial amounts of debt to finance government spending. The Treasury has been able to easily issue debt since the federal government enjoys the highest credit rating, which lowers the interest rate that creditors demand. Historically low interest rates in general have further helped limit interest expense. Until recently, the rest of the world has been willing to purchase Treasury securities despite low interest rates. Foreign purchasers of Treasury securities were not deterred by a debt-to-GDP ratio close to an all-time high. But they have changed their outlook. Over the last year, foreigners have become net sellers of Treasury securities. If they continue to be net sellers of Treasury securities, the federal government may face trouble financing budget deficits.

Since the Great Depression, the federal government has typically run a deficit. From 1929 to 2016, the average deficit was 3.1 percent of GDP. The deficit peaked during the Second World War at 26.8 percent of GDP. From 1946 to the end of the 1970s, a strong postwar economy boosted tax payments and reduced the deficit to an average of just 1 percent of GDP. The deficit increased in the 1980s when President Reagan cut taxes and increased government spending on defense. The economic boom in the 1990s created a budget surplus for the first time since the late 1960s. The bursting of the tech bubble, President George W. Bush's tax cuts, and spending on the wars in Iraq and Afghanistan caused the budget surplus to return to a deficit. During the Great Recession and subsequent weak recovery, the deficit has averaged 5.5 percent of GDP. Each year since 2001, in fact, the federal government has spent more than the tax revenue it has taken in.

Ongoing federal budget deficits have caused a large run-up in federal debt. The federal government debt-to-GDP ratio reached an all-time high at the beginning of 2016: 105.4 percent of GDP. To put that figure in perspective, from the mid-1960s until the start of the Great Recession the average federal debt-to-GDP ratio was 46.8 percent. Most of the increase in federal debt has accumulated following

Chart 1. U.S. debt-to-GDP is near an all-time high.



Note: Shaded areas denote recessions.
Source: Office of Management and Budget (FRED).

the onset of the Great Recession. In the first quarter of 2008, the federal debt-to-GDP ratio was 64.3 percent. At the end of 2016, the federal debt-to-GDP ratio remained near the all-time high at 104.8 percent of GDP.

In 2016, interest on the national debt was $241 billion, or nearly 2 percent of GDP. Despite a record level of debt and ongoing deficits, federal spending to cover interest on the national debt has been lower compared with recent decades. During the 1980s and 1990s, interest payments as a share of the national debt averaged 2.7 percent of GDP. Lower interest expense has been the result of lower interest rates. During the early 1980s, the 10-year Treasury yield reached over 15 percent. Interest rates were high during the early 1980s because Federal Reserve chairman Paul Volcker was pursuing a high interest rate policy in response to high inflation. After the early 1980s, interest rates began a consistent and gradual decline. Today the yield on the 10-year Treasury is closer to 2 percent. But historically high debt-to-GDP levels risk higher interest expense for the federal government.

Deficits are Likely to Continue

How is the government planning to lower this ratio? Not by taxation. Since the early 2000s, federal spending has exceeded tax revenues. The largest source of federal revenue is income taxes. In 2016, income taxes accounted for $1.5 trillion, or 8.4 percent of GDP. A strong labor market—with the U.S. economy adding over 2 million jobs over the last year—has given income-tax collection a boost. The next-largest source of federal revenue is payroll taxes for social-insurance programs such as Social Security and Medicare. In 2016, payroll taxes for social insurance equaled $1.1 trillion, or 6.1 percent of GDP. Corporate taxes are the third-largest source of federal revenue, but are much smaller than income taxes and payroll taxes. Corporate-tax revenue accounted for 1.6 percent of GDP last year.

The new administration does not appear likely to reverse this trend. President Trump's recently released 2018 budget blueprint calls for a $52 billion increase in the Department of Defense budget compared to 2017. President Trump plans to increase military spending without increasing the deficit or debt by making broad cuts to nonmilitary government agencies.

The details of President Trump's tax plan have yet to be released. However, analysis of President Trump's tax cuts has shown they will likely increase the deficit and debt. During the presidential campaign, Trump ran on tax cuts for individuals and businesses. What might Trump's tax plan look like? The Tax Foundation estimates that individual tax brackets would be reduced from seven to three. For single-filers, the highest tax bracket would likely be lowered to 33 percent from nearly 40 percent. The middle tax bracket would likely be 25 percent and the lowest bracket close to 12 percent. The capital-gains rate would be reduced across tax brackets as well. Important deductions would be adjusted. For example, the standard deduction would be doubled and child-care expenses made deductible from taxable income, according to the foundation.

Lower income taxes would mean a higher return for labor. In other words, workers would take home more of their paycheck. In response, they might work more hours. In addition, lower taxes might attract new entrants to the labor force. With more money in their pockets, Americans could spend more. This would be positive news for an economy driven by consumer spending. It is possible that a higher return to labor would lead to some workers working less. However, an elevated underemployment rate suggests the higher take home pay will incentivize more labor.

The Tax Foundation estimates that President Trump's tax cuts would increase gross domestic product by a cumulative 7 to 8 percent over the next 10 years. The foundation says tax cuts would help grow the capital stock by 20 percent and would create 1.8 million jobs. The Tax Foundation estimates that job creation will come from tax-cut-related incentives to work and invest. On the downside, the Tax Policy Center points out that cuts would likely cause larger deficits and add to the national debt, unless offsetting spending cuts are made. A higher debt could lead to higher interest rates crowding out private investment.

Who Holds Government Debt

Borrowing fills the difference between federal spending and federal revenue. Who is loaning the federal government all this money? Foreigners are the largest holders of Treasury securities. Foreign ownership of Treasury securities began to rise in the late 1970s. During the 1980s, the United States began to run a current account deficit. The current account deficit grew as once-agrarian countries industrialized because the United States could now import consumer goods at low cost from abroad. When the United States imports goods, other countries receive dollars. The foreign countries use the dollars to buy U.S. assets such as equities, real estate, and Treasury securities.

The share of Treasury securities owned by foreigners grew from the 1970s until the Great Recession. Prior to the 1970s, foreigners held an average 4.7 percent of marketable Treasury securities. During the 1970s, foreign ownership averaged 19.5 percent. By the 1990s, it had jumped to 25.6 percent. Foreign ownership peaked in 2008 at 56.5 percent. Since the Great Recession, foreigners have been reducing their purchases. In 2016, they became net sellers of Treasury securities for the first time since the early 2000s. In the third quarter of 2016, foreigners held just 45.2 percent of marketable Treasury securities. A large deficit and debt will be difficult to sustain if foreigners continue to reduce their holdings.

It remains unclear whether the two largest domestic holders of Treasury securities can increase purchases. U.S. household ownership of Treasury securities peaked at 43.1 percent in the first quarter of 1970. The share of Treasury securities owned by households declined from the early 1970s until the end of the Great Recession. During the 1970s, household ownership of Treasury securities averaged 30 percent of marketable Treasury debt outstanding. During the 1980s and 1990s, U.S. household ownership ranged from 22 percent to 24 percent. Between 2001 when the dot-com burst and 2007 when the housing-market bubbles burst, U.S. household ownership averaged 10.1 percent. Toward the end of the Great Recession, U.S. households owned just 2.7 percent of the marketable Treasury securities outstanding. Since the fourth quarter of 2008, though, U.S. household ownership has risen gradually to 8.6 percent in the third quarter of 2016.

The Federal Reserve is another holder of Treasury debt. It plans to eventually shrink its holdings of Treasury securities but is currently reinvesting principal payments from those securities. However, history is full of examples of central banks printing money to cover government spending. Should the U.S. government find itself in a funding crisis, the Fed could increase purchases of Treasury securities to make up for deficient foreign and private domestic demand.

The Federal Reserve will create problems if it prints money to purchase Treasury securities. First, by stepping in and buying Treasury securities, it might disincentivize Congress from putting the budget on a sustainable path. Second, monetizing the government debt will likely cause inflation. The government receives the new money first, spending it and pushing up prices. International investors will see the Fed buying Treasury securities. This will likely cause them to demand higher interest rates. Since many consumer interest rates are linked to Treasury rates, interest rates would rise across the economy. This would affect an even more important group of American debtors: private citizens.

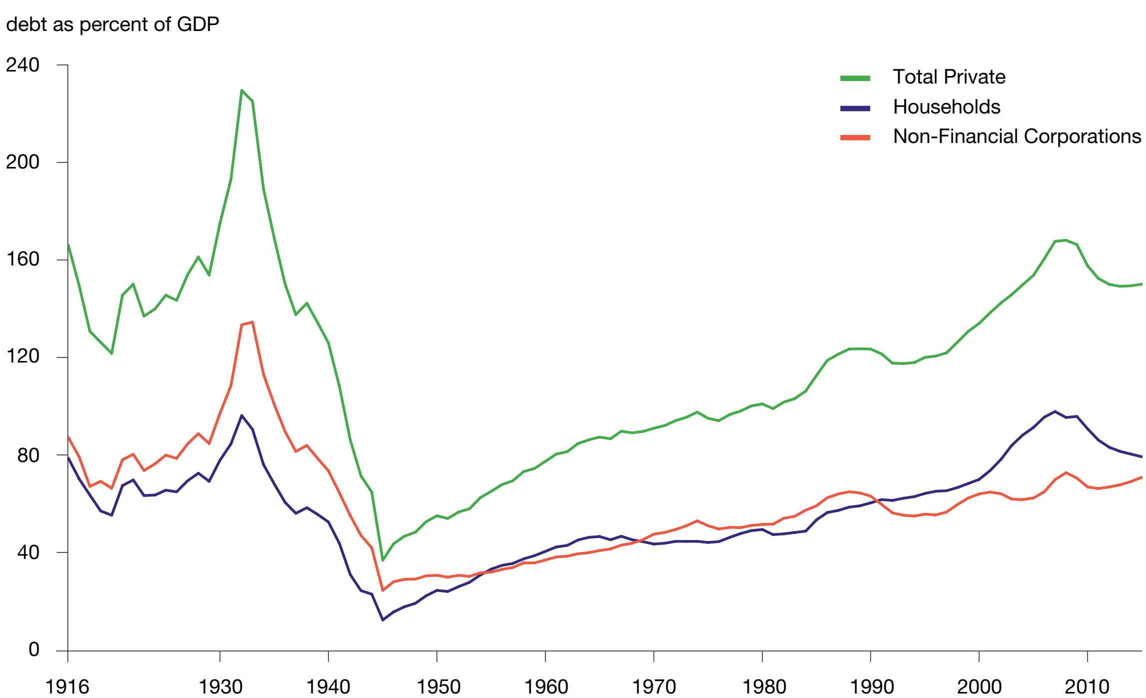
Private Debt: A Precarious Position

Richard Vague, author of The Next Economic Disaster, points to a common trend among the worst recessions and depressions of the past century: private debt totaling over 150 percent of GDP, and an increase in that ratio by at least 18 percent over the previous five years. This was true of the run-ups to the Great Depression, Japan in the 1990s, and the 2008 crisis.

Chart 2 tracks U.S. private debt, and its components household and nonfinancial corporate debt, over the last century. Private debt stands at 150 percent of GDP, but fell by 8 percent from 2010 to 2015. According to Vague's signals, overall private debt is high enough that if there were another run-up, there would be cause for concern. However, whether this level of private debt is problematic in and of itself is still an open question that we will examine below.

Since World War II, the trend in private debt has been almost uniformly upward, with two periods of deleveraging that were small relative to the overall level of debt. Private debt fell from 124 percent to 118 percent of GDP during the recession of the early 1990s, and from 168 percent to 149 percent in the Great Recession. That the latter event, which was such a massive shock to our economy, led to only a small adjustment in the level of private debt is perhaps a surprise.

Chart 2. U.S. Private Debt-to-GDP Ratio since World War I



Source: Bureau of Economic Analysis, Treasury

Dangers of Private Debt

Our modern economy could not function without borrowing and lending, and hence private debt. Moreover, short-term growth is commonly associated with the expansion of private debt, leading to constant upward pressure that is evident in chart 1. Knowing ex ante exactly how much private debt is too much is difficult, but excessive private debt leads to several problems.

Private debt can lead to or exacerbate economic crises. It can do so by leaving households and businesses more exposed and vulnerable to economic shocks, as in the case of excessive mortgage debt when home prices began to fall in the 2008 crisis. It can also trigger crises, if lender concerns cause them to stop rolling over debt, leading to liquidity and ultimately solvency problems for households and businesses.

Private debt can also slow the economy even in times of overall growth. As Vague notes, "Money that would otherwise be spent on things such as business investment, cars, homes, and vacations is increasingly diverted to making payments on the growing debt—especially among middle- and lower-income groups that compose most of our population and whose spending is necessary to drive economic growth. Debt, once accumulated, constrains demand."

Finally, perhaps the most concerning aspect of private debt is what it takes to lower it. As Vague and others note, a reduction in private debt almost always comes with at least one of four events: an increase in public debt, high inflation, a trade surplus, or a recession or depression. The United States has not had a significant trade surplus in almost 100 years. This means the options for private deleveraging are to substitute government debt, inflate it away, or let households practice their own version of austerity by spending less and slowing the overall economy.

Table 1 confirms these stark choices. Since World War I, there have been only six instances where private debt has fallen as a percentage of GDP for two or more years. In each case, the reduction came with one of the undesirable choices above. If one believes that private debt cannot simply rise forever, it follows that we will face these difficult choices down the road.

What Can Be Done?

The need to significantly reduce private debt is not obvious, but it is noteworthy that we are hovering around 150 percent of GDP, the risky threshold in Richard Vague's analysis. As already discussed, private deleveraging involves no painless choices. Vague proposes various types of debt restructuring, which might be particularly effective for underwater mortgages, but such plans are politically difficult to implement.

What can be done is for the government to not encourage disproportionate run-ups in private debt in the future. When the Fed keeps interest rates artificially low, as it has ever since the 2008 financial crisis, it encourages households and businesses to borrow more. Furthermore, the Austrian theory of the business cycle predicts that governments' inflationary policies will encourage private debt higher than the equilibrium level by interfering with individuals' and businesses' economic calculations. When governments and central banks pump more money into the economy, it appears to businesses that there are more funds available for production and investment, leading to overcapacity, debt, and ultimately recessions.

Table 1. Private Deleveraging in the U.S. Since World War I

Years	Decline in private debt-to-GDP %	Notes
1916–1920	-44	14.7 percent annualized inflation
1932–1940	-104	Great Depression
1941–1945	-71	Public debt increased 55 percent of GDP
1974–1976	-4	8.6 percent annualized inflation
1989–1992	-6	Public debt increased 12 percent of GDP
2008–2013	-19	Great Recession; public debt increased by 32 percent of GDP

The government's policies to encourage home ownership have had perhaps the most unintended consequences of any policy with respect to private debt. Since the early 1990s, government-backed mortgage lenders like Fannie Mae and Freddie Mac were required to make a quota of their loans (originally 30 percent, raised to 50 percent under President Clinton and 55 percent under President Bush) to borrowers below the median incomes in their communities. By 2008, 70 percent of the outstanding subprime mortgages were on the books of these government enterprises rather than the private sector. To appreciate the significance of these policies in causing the Great Recession, recall Vague's signal of a private debt-to-GDP ratio run-up of at least 18 percent in the five years before a crisis. From 2002 through 2007, the ratio increased by 22 percent of GDP; household mortgage debt alone was responsible for a 20 percent increase. Policies designed to help low-income Americans own homes ended up disproportionately harming them as they became stuck with underwater mortgages or joining the ranks of those made unemployed because of the recession.

Debt is a necessary and inevitable part of our economy, but history shows that high levels and sudden increases bring about significant risk of economic crises. While it remains to be seen whether our current level of private debt is problematic, we are not likely to deleverage without other significant negative consequences. Since public debt has also risen, there is not much room for government borrowing to substitute for private borrowing. In the future, policy makers should be mindful of the medium- and long-term consequences of action meant to help people in the short run.

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