

How Debt Drove the Great Recession

The financial crisis that triggered a huge global downturn began in the United States. But the debt structure of various countries meant the impact was far from uniform.

by **Polina Vlasenko, PhD, Research Fellow**

The recession of 2007-2009 was worldwide. The timing and sequence of events across major industrialized countries correlated to an extent not seen in the postwar period. But the severity of the recession in different countries was far from uniform. These differences provide insights into what can be done to alleviate the impact of future downturns.

In comparing the experience of the United States, Canada, Japan, and the Eurozone of 16 countries, two conspicuous findings emerge. One of these, which we address on the back page, is the relationship between different regulations governing employment and the unemployment rates during both recession and recovery. The other, discussed here, is the relationship between debt financing and the decline of output during a recession.

The primary differences in the severity of this recession across nations can be explained by the levels of debt each had going into the downturn. Countries that had built up high debt loads suffered deeper and longer recessions. The immediate implication is that nations that run up high debt-to-GDP levels through deficit spending now may be compromising their ability to

survive the next recession.

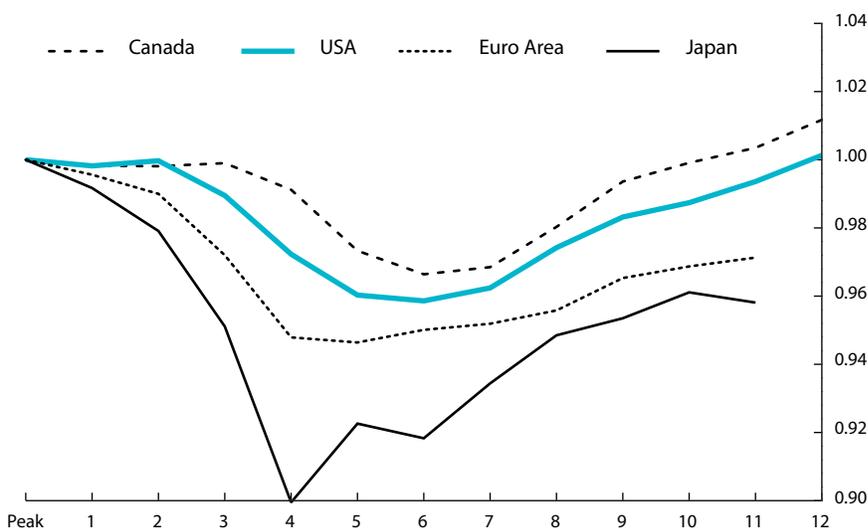
The financial crisis originating in the United States triggered the latest global downturn through highly integrated capital markets. But as Chart 1, below, shows, America did not suffer the greatest decline in output as measured by GDP. Both Europe and Japan posted more severe declines (and more shallow recoveries). Canada, which has an economy that is closely linked with that of the U.S., suffered the least of the four industrialized economies that we examined.

So far, only the United States and Canada have surpassed their pre-recession levels of output, however lackluster the recovery may seem. Output in both Europe and Japan, in contrast, remains below the pre-recession peaks.

The key to the differences lies in the mechanisms through which a financial crisis damages the larger economy.

A financial crisis inhibits financial flows by heightening risk and uncertainty. Individuals and businesses cannot get their hands on the money

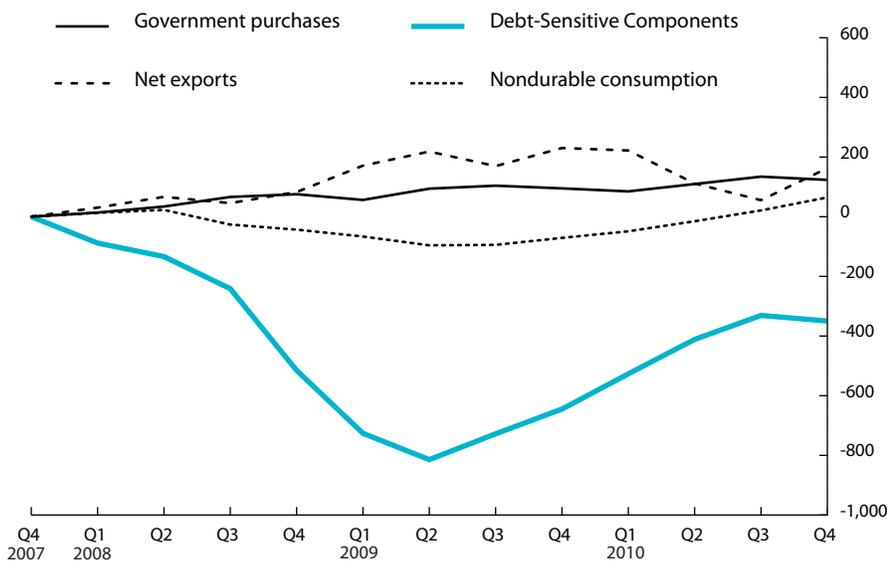
Chart 1: Different Recessions, Different Recoveries
(GDP at peak, normalized to 1; quarters after business-cycle peak)



Inside this report Declines in output lead to unemployment. But the relationship is far from identical across countries. Labor market institutions impact both recession and recovery and can slow necessary, but often painful, adjustments. Research Fellow Polina Vlasenko looks at how different economies fared during the recent downturn. See back page.

Also With tax season just behind us, now is the time to organize for next year. See Ask the Expert. Page 3.

Chart 2: Changes in Real U.S. GDP
(billions of chained 2005 dollars)



they need to engage in all of their planned financial activities. There simply is not enough credit available to support a robust economy.

Part of the reason for this lies in the way that agents react to risk and uncertainty. Lenders must build a hedge into interest rates and loan charges to protect themselves against potential defaults. Some borrowers may not repay their loans, and lenders must charge a premium to insure that, across their entire loan portfolio, they will remain profitable. Whenever the likelihood of default rises, lenders either raise this premium or stop lending altogether.

The likelihood of default depends on the wealth of the borrower—wealthier borrowers will find it easier to meet their obligations in the face of disruptions to income—and on any number of (random) factors that influence the future income or profit of the borrowers.

Any event that decreases wealth or worsens the outlook for income and profits will tend to result in higher interest rates and less lending. This happens at every stage of the lending chain, amplifying the effect.

As Robert Hall, Stanford University professor and Hoover Institution senior fellow, pointed out in a

2010 essay in the *Journal of Economic Perspectives*, modern economies have many stages in the linkage that separates saving from production. Risk and worry arise at each link.

Savers worry about the default of the financial institutions that hold their deposits. The institutions worry about the default of the businesses that borrow from them. Businesses worry about the default of other businesses they may sell to. And so forth.

At each step, greater risk means lenders and savers demand a higher premium for their money. While the premiums are usually small during normal times, Hall writes, they suddenly can become large when “an adverse shock depletes wealth in many of the links.”

Here is a simple, stylized account of how the financial crisis of 2008 precipitated a worldwide recession.

Extent of Recession versus Debt Load in 2007

Economies with higher debt loads going into the recession suffered greater declines in GDP. The source of the debt seems to be irrelevant.

	Change in GDP (%) (Peak to Trough)	Total Domestic Debt (GDP%)	Household Debt (Disp. Inc.%)	Central Gov't Debt (GDP%)	Gross External Debt (GDP%)
Canada	-3.4	233	124	33	53
United States	-4.1	329	126	65	90
Euro Area	-5.4	388	102	56	110
Japan	-10.0	572	125	163	39

A drop in the market prices of real estate holdings reduced the wealth of a large number of individuals and businesses that held real estate or financial securities linked to real estate.

Lenders perceived that this loss of wealth increased the likelihood that borrowers might default on their existing loans. This, in turn, made lenders and savers less willing to lend exactly at a time when many desperate borrowers needed to borrow. Lending and borrowing—both of which are financial flows—contracted sharply.

Certain kinds of expenditures are most often financed through debt. Businesses borrow to finance a new factory. Households borrow to buy a house or a new car. Following a contraction in credit, these sectors of the economy contracted sharply as well.

This is illustrated, at left, in Chart 2. Virtually the entire decrease in GDP in the United States came from a decrease in debt-sensitive expenditures—business investment, housing, and consumer durable goods (which includes things like cars and appliances).

The impact on an economy of an interruption in financial flows is directly related to the extent that the economy relies on lending. A financial crisis would trigger a more severe recession in an economy heavily reliant on debt, as compared with an economy that uses debt financing less extensively.

In the recent recession, economies that rely more heavily on debt, such as Japan and Europe, experienced a larger drop in output, as shown in the table below.

There is no easy way to measure the reliance on debt in a complex economy. The table presents various measures of debt outstanding as of the end of 2007, right before the financial crisis hit. It also lists the size of the decline in GDP from the start of the recession to the lowest point for each country.

The broadest measure of debt, the total debt outstanding in the domestic economy, is the gross value of the debt carried by households, businesses (both financial and nonfinancial), and government.

The table next breaks out the debt carried by households (people as opposed to businesses) and the debt carried by government. Finally, it shows how much of the total debt in the economy is financed by borrowing from other countries—the gross external debt.

Canada, the country that relied least on debt financing, experienced the smallest decline in output. Canada began the recession with total debt at 233 percent of GDP and saw a drop in output of 3.4 percent.

Japan, the country that relied most heavily on debt, experienced the greatest decline in output. Japan's total domestic debt was 572 percent of its GDP, nearly 2½ times greater than Canada's. Its decline in output—fully 10 percent—was three times greater.

Debt and decline numbers for the United States and Europe are in line with this pattern, although the European data does not fully reflect the experience of the individual countries.

Within the Eurozone, Greece and Ireland both held much larger debt than other countries and experienced a much larger output drop. Also unlike their neighbors, they have not seen a recovery in output as of yet.

More restrictive measures of debt—household debt, government debt, or external debt—do not show the same correlation to the decline in output.

Household debt varies the least across economies. External debt may give a distorted view because of wide differences in domestic saving rates.

While Japan has the highest central government debt as a percent of GDP, the frugal Japanese tend to buy up most of their own debt with their savings. This reduces their dependence on foreign savers, and hence Japan's gross external debt is low. A higher saving rate did not appear to reduce the impact of the financial crisis. Total debt seems to be the driving factor.

As far as financial crises go, the data says that it does not matter *who* borrowed the money. What matters is *how much* was borrowed. It does not matter if the debt is sovereign debt, business debt, or household debt.

Leverage is leverage, and leverage always brings with it increased risk. Every investor knows that leveraging multiplies profits when markets rise, but it also multiplies losses when markets fall.

If leveraging is treacherous ground for an individual investor, imagine the implications for an entire economy. Before the recent crisis, when real estate and other asset prices were rising, debt loads were less problematic. When asset prices began to fall, high debt loads became destructive. The financial crisis ensued. Recession followed.

All this implies that an economy can be made less susceptible to the devastating effects of a financial crisis if the reliance on debt financing is kept at a reasonable level.

At the outset of the financial crisis, debt levels in the United States were relatively low. While the effects of the recession were devastating, our experience was less severe than Europe and Japan.

We have come through this by the skin of our teeth. But with government budget deficits spinning out of control, what about next time?

ASK THE EXPERT Tax-Time Resolutions

Another tax season is behind us, except for people who extend their returns, like me. Planning ahead for 2011 could make the next tax season easier.

If you make estimated tax payments, be sure the amount you pay meets the safe harbor, which is 110 percent of your prior year tax liability. This prevents any underpayment penalty.

Review your retirement plan. How much are you contributing? Can you increase it? Have you considered a Roth IRA rollover? Although people who converted to Roths in 2010 could defer taxes on the conversion for two years, the rollover is still something worth looking into.

It's a good time also to look at your health plan. If you are covered by a high-deductible plan, you may be eligible for a Health Savings Plan, which allows you to use pre-tax dollars for medical expenses. Flexible Spending Accounts also offer similar advantages.

Review your estate plan and will. If you don't have one, look into it now. If you are currently making gifts to your children or paying for their education, find out about the available credits and deductions.

Make a commitment to keep better records. This is especially true for business income and expenses if you are self-employed. Keep track of child care and education expenses.

I have personally made this commitment for many years with little success, but that doesn't mean you can't.

Finally, if you have topics you would like me to address, please send them in.

—Kevin T. McGrath, CPA, is a tax partner with BST Advisors, LLC.

To submit questions for future columns, e-mail asktheexpert@aier.org. For guidance on specific situations, consult your lawyer or financial advisor.

Jobless Rates Differ During Recessions

A fall in an economy's output results in higher unemployment. Just how much higher depends on labor market rules and institutions.

by Polina Vlasenko, PhD, Research Fellow

Falling output and rising unemployment are the two unpleasant realities of recessions. Economists summarize the connection between them as Okun's Law, an empirical relationship proposed in 1962 by Arthur Okun, former chairman of the Council of Economic Advisors. It is now a standard analytical tool. According to a popular textbook coauthored by Fed chairman Ben Bernanke, for example, Okun's law (for the United States) tells us to expect an increase in the unemployment rate of 0.5 percentage points for every 1 percent decrease in GDP.

In the 2007-2009 recession, the same decrease in GDP generated more unemployment in the United States than it did in Europe or Japan. This can be explained by cultural and regulatory differences.

Recessions typically are spurred by misallocations of resources. In the most recent recession, for example, too many people and resources were involved in housing construction and financial activities relative to the value these sectors produced. Adjustments were unavoidable.

During these adjustments, some sectors and businesses shrink, others expand. In this process, businesses have to cut their costs and possibly reinvent themselves. They may have to fire workers whose skills are no longer needed and hire workers with new sets of skills. But businesses do not have the same latitude to do this in every country.

Countries vary in their regulations and cultural biases toward unemployment, which create differing degrees of labor market rigidity. Unable to cut their costs by cutting employment, firms in countries with more rigid labor-market rules have to cut costs in other ways. They may

postpone investment or economize on materials to a greater extent than they would have done otherwise.

This depresses the demand for products of other businesses, forcing them, in turn, to economize on capital and materials. As this effect propagates through the economy, output falls. Countries with more rigid labor markets would end up with a more severe decline in GDP, but a smaller increase in unemployment.

Had businesses been able to fire workers more easily, output would fall anyway because workers who lose income would reduce their consumption. But the crucial difference between workers and equipment is that workers do not stay unemployed forever.

Unemployed people move from industries, locations, and businesses that are shrinking to those that grow. This movement facilitates the reallocation of resources in line with changing demand. Without such adjustment, no recovery is possible.

Adjustments go more slowly if labor market regulations restrict workers from moving to new industries.

The table above shows our estimates of Okun's Law coefficients for four economies, the United States, Canada, Japan and the Eurozone of 16 countries. The coefficients tell us the expected increase in the unemployment rate for every 1 percent fall in output.

In Europe, where labor markets are more heavily regulated, when output decreases by 1 percent, the unemployment rate rises by about 0.42 percentage points. In the United States, where labor markets are more flexible, the unemployment rate typically rises by 0.56 percent-

Okun's Law Estimates

	Okun's law coefficient	Average unemp. rate
Canada	0.83	8%
United States	0.56	5.7%
Europe (Euro area)	0.42	9.2%
Japan	*	4.2%

*There appears to be no significant relationship between the change in output and the unemployment rate in Japan.

age points. This is why, in the recent recession, the unemployment rate in Europe did not increase as much as it did here.

Japan, with its tradition of life-long employment, is a special case. Output does not appear to influence the unemployment rate at all.

Even though the United States experienced the largest *increase* in the rate of unemployment during the recession, its current *level* of unemployment, at 8.8 percent, remains below that of Europe, at 9.9 percent. As the table also shows, countries with more highly regulated labor markets tend to have a higher average level of unemployment over the long term.

When regulations make it difficult to fire workers, businesses are reluctant to hire them even in good economic times.

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Price of gold, April 28, 2011, London PM fix.