The dangers of debt: Lending weight

September 14, 2013 – *The Economist*

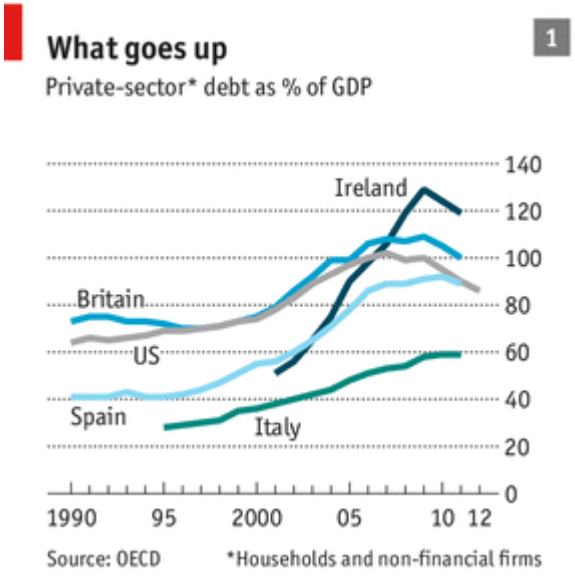
It was the growing rate of default on home mortgages in America that precipitated the financial crisis five years ago. These delinquencies, although not enormous in themselves, became impossible for some investment banks to bear, thanks partly to their own heavy debts. As the contagion spread throughout the financial sector in 2007-08, nervous or cash-strapped banks and other creditors stopped lending, thereby infecting the rest of the economy. Deep recessions and big financial rescues then led to a surge in government debt. That, in turn, raised fears about the solvency of various countries in the euro area, culminating in Greece's default in 2012. Debt was, then, both a cause and a consequence of the crisis, and remains a big reason for its continuance.

Economists tend to see debt as a useful means to get money where it is most needed, from creditors with an excess of it, to borrowers who are short of it. The broadening and deepening of international credit markets that preceded the financial crisis was considered a spur to growth, since it gave ever more borrowers access to bigger loans at lower rates of interest. When disaster struck, however, debt turned from a ladder into a chute. Working out what went wrong, and when debt turns dangerous, has become a preoccupation of economics in recent years.

Debt is possibly the oldest financial instrument, older even than money. Archaeologists have unearthed Babylonian tablets of sun-dried clay recording obligations incurred in the third millennium before Christ. But despite its venerability, debt is not much respected. In German, the word for debt (*Schuld*) also means sin (a view that many Germans still seem to hold). Those who run up debts are assumed to be profligate and those who chase them down mercenary and unfeeling. That is because debt is a peculiarly unforgiving instrument: it must be paid in full and on time, come what may. That distinguishes debt from some other financial liabilities, such as shares, which are more flexible, promising only a cut of the profits, whatever they may be.

Before 2008 most macroeconomic models made little room for debt (especially of the private, domestic sort), let alone default. At the level of the economy as a whole, after all, borrowers and lenders cancel each other out: every dollar owed by someone is also owed to someone. Thus the liabilities of all debtors and the assets of all creditors add up to zero. That makes debt seem trivial.

Clearly, debt is far from trivial, and its unwinding not always a zero-sum game. Yet including it in economic models requires macroeconomists to wrestle with awkward complications, such as "heterogeneity" (dividing the economy into debtors and creditors) and "discontinuity" (allowing for the abrupt breach of economic relations that default represents).



The alternative is to focus instead on empirical studies, poring over the historical record to find out when debt becomes dangerous. Those dangers, it turns out, differ depending on who owes the debt (governments, households, firms or financial intermediaries) and what kind of debt they owe (loans or bonds, short-term or long), as well as the currency in which they owe it.

Most empirical studies look at government debt. But the origins of the 2008 financial crisis lay instead in private-sector liabilities, especially mortgages, which account for a big part of household debt, and massive borrowing by the banks. The debts owed by non-financial firms played a big role in Japan's crisis in the early 1990s but not in the global crisis in 2008. Chart 1 shows the expansion of household and corporate debt in recent years for a variety of rich countries, expressed as a percentage of GDP; chart 2 shows all three kinds of debt.

Much of what companies, households and governments owe, they owe to banks and other financial firms, which extend loans and also buy securities. These financial firms, in turn, owe a lot of money themselves: to their depositors, their bondholders and a variety of other "lenders to the lenders". Banks are in essence middlemen (or "financial intermediaries") that borrow in order to lend. They hold a lot of assets and a lot of liabilities at the same time.

Leveraging the lenders

In fact, the debts of financial companies often dwarf the debts of governments, households and non-financial firms. According to the OECD, a club of rich countries, Luxembourg's financial sector had debts worth over 4,900% of the country's GDP in 2011. The dinky duchy is an extreme case. But the figures are also striking in other countries with prominent financial sectors, such as Ireland (where financial-sector debt amounted to 1,434% of GDP) and Britain (837%). The scale of these debts can seem alarming, although in theory financial firms are also supposed to hold assets of comparable value.

When firms or households hold a lot of debt, however, even a small fall in the value of their assets can bring them to the brink of bankruptcy. If a family owns a $100,000 home and owes $90,000 to the bank, their net worth is $10,000. But if the value of their home drops by 5%, their net worth halves. The steep fall in asset prices during the crisis caused even more severe losses: many families found their homes were worth less than their mortgages, while financial institutions that had borrowed heavily to invest found that their losses exceeded their equity (the money the owners put into the business).

As well as being vulnerable to declines in asset prices, the highly indebted are also more exposed to fluctuations in their incomes. Their past borrowing leaves them less room for further borrowing to cushion financial blows. Thus highly indebted households find it harder to "smooth" their consumption and similarly burdened firms find it harder to invest when their revenues dip.

To assess the threat debt poses to economic stability, Douglas Sutherland and Peter

Hoeller of the OECD have calculated trend rates of debt to GDP, smoothing out the cyclical ups and downs. They note that financial-sector debt tends to exceed its trend during big, long booms of the kind most rich countries enjoyed before the crisis.

But the build-up of this financial-sector debt makes it more likely that the boom will come to an end, Messrs Sutherland and Hoeller find. And the busts are often deeper, as has been the case this time. Much the same is true of household borrowing. They calculate that the odds of a recession are about one in ten when household debt is in line with its trend. But when it exceeds that trend by 10% of GDP, as it did in some of the worst afflicted countries before the crisis, the chances of a recession rise to about 40%.

Rather than looking at borrowing, other economists look at lending. They worry when credit from banks and other lenders to households and firms grows much faster than GDP, as it did before America's crisis in 2008, Japan's in 1991 and the Asian crisis of 1997. Economies can succumb to long "financial cycles", according to Claudio Borio and his colleagues at the Bank for International Settlements. Whereas a traditional business cycle manifests itself in the rise and fall of growth and consumer-price inflation, the financial cycle consists of longer, wider swings in credit and asset-price inflation.

Credit growth as a canary

Why does credit sometimes depart from its prior trend? It may depend on what it is spent on, argues Richard Werner of Southampton University. When a bank makes a loan, it credits the money to the borrower's deposit account. In so doing the loan adds to the money supply. If that money is spent on a new car, factory or other freshly produced good, it contributes to demand, helping the economy to make fuller use of its productive capacity. If the economy is already near full capacity, it will probably just raise prices instead. But either way, the bank lending will add both to debt and to nominal GDP, the money value of economic output, leaving the ratio of debt to GDP largely unchanged.

However, loans can also be spent differently. They can be used to buy existing assets, such as homes, office-blocks or rival firms. Since the asset already exists, its purchase does not add directly to GDP, which measures only the production of new goods and services. As a consequence, debt increases, but GDP does not.

Furthermore, the purchase of an asset, such as a home, will help push up the market price of that asset. Other homeowners will then become more willing to take on debt (because they feel wealthier) and more able to do so (because their home's value as collateral has risen). In the years before the crisis, the net worth of American households continued to rise despite their accumulation of debt, because their home and other assets appreciated even faster. Borrowing to buy assets thus has a self-reinforcing effect: one person's purchase makes another's borrowing both more desirable and feasible.

Eventually the financial cycle peaks. Borrowers realise they do not have the income required to service further debt. At that point the cycle goes into reverse: as asset prices fall, collateral constraints tighten, squeezing borrowing, which results in further falls in prices. Unfortunately, one thing does not fall: the size of the debts that households and firms have incurred. The value of their liabilities remains obstinately fixed, as if written in sun-dried clay, even as the value of their assets plunges.

Households and firms will respond by "deleveraging", seeking to lighten their debt burdens. They can do this in three ways: by defaulting, by selling assets or by spending less than they earn (and using the proceeds to repay debt).

Although deleveraging helps repair household and corporate finances, at the level of the economy as a whole it can make things worse. Since one person's outlay is another person's income, depressed spending will hurt incomes, resulting in what Richard Koo of Nomura Research Institute has called a "balance-sheet recession". Even if incomes and prices do not actually decline, they will fall short of their previous trajectory, while the money value of debts remains unchanged. The economic weakness caused by debt can thus make debt even harder to bear, a trap that Irving Fisher, a Depression-era economist, called "debt deflation".

The deleveraging of the financial sector can be particularly deep, quick and nasty. Deep because banks hold a lot of debt relative to their equity (they are highly "leveraged"). Quick because those liabilities are typically of shorter maturity than their assets, giving banks little time to put their balance-sheets in order. Nasty because the process hurts their rivals and their customers alike. In 2007 and 2008 fire sales of securities by investment banks and other dealers depressed their prices, devaluing the portfolios of other banks with similar assets. Banks and other lenders also started calling in loans or at least withholding new ones, inflicting a credit crunch on the broader economy.

Is such a wrenching balance-sheet recession avoidable? In principle, as debtors spend less, savers could spend more, helping to sustain demand. To encourage this, the central bank can cut interest rates, easing debt-servicing costs for borrowers and discouraging saving by the thrifty. The Federal Reserve cut its policy rate from 5.25% in the summer of 2007 to 0-0.25% in December 2008 and the Bank of England followed suit.

In addition, the government can spend more than it collects in taxes, so that the private sector can earn more than it spends. In another paper Mr Sutherland and his co-authors show that run-ups in borrowing by firms (especially financial firms) tend to cause subsequent increases in public debt. That is precisely what happened in many rich countries in the aftermath of the crisis, when heavy government spending helped to compensate for severe cuts in corporate and household budgets—and sparked a fiery debate about the risks that entails.