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DEBT AND MACROECONOMIC STABILITY



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DEBT AND MACROECONOMIC STABILITY

Main findings

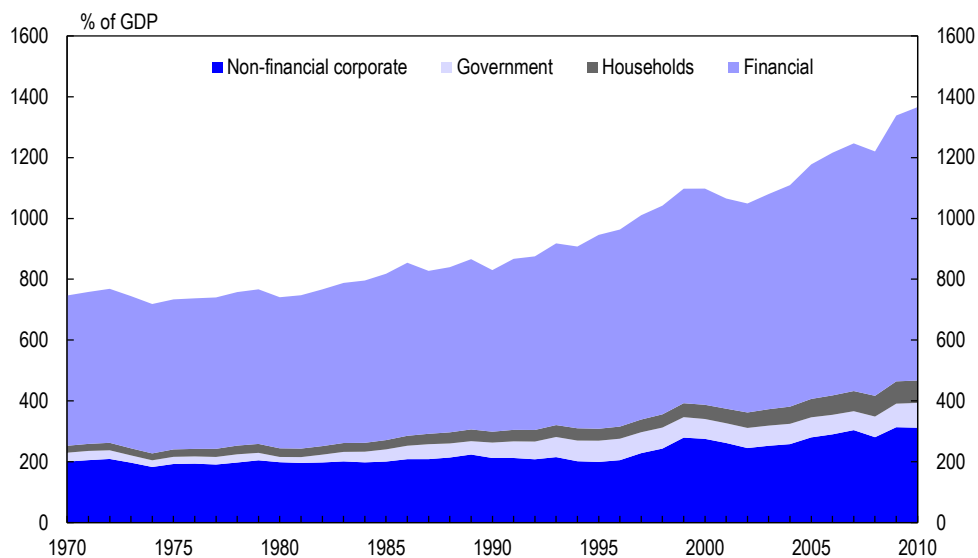
- Public and private debt levels are very high by historical standards. OECD-wide total financial liabilities now exceed 1 000% of GDP.
- High debt levels can create vulnerabilities, which amplify and transmit macroeconomic and asset price shocks.
- High debt levels hinder the ability of households and enterprises to smooth consumption and investment and of governments to cushion adverse shocks.
- When private sector debt levels, particularly for households, rise above trend the likelihood of a sharp economic downturn increases.
- Measures of financial leverage give less warning of an impending recession and typically only deteriorate once the economy begins to slow and asset prices are falling.
- During a recession debt typically migrates from the private sector to the government sector.
- Targeted macro-prudential policies would help in addressing future run-ups in debt.
- Robust micro prudential regulation and maintaining public debt at prudent levels can help economies cope with adverse shocks.
- Legal frameworks can facilitate debt write-downs, but this may come at the price of a higher cost of capital.

Debt has risen to high levels

Debt as a share of GDP has surged in the OECD since the mid-1990s. Average total economy financial liabilities have gone beyond 1 000% of GDP during the recent crisis (Figure 1). The degree of total economy indebtedness differs strongly across countries, largely reflecting the relative importance of the financial sector (Figure 2). The size of the financial sector varies considerably, being markedly higher in countries, which host financial centres. It also reflects differences in structure (for example, whether pension funds and insurance companies are well developed). Indebtedness of the other sectors also shows considerable cross-country heterogeneity. In the case of the household sector, some of the heterogeneity reflects differences in the importance of pension saving, which boosts household assets. In countries such as the Netherlands, high pension saving is accompanied by households borrowing more in order to purchase housing.

Figure 1. Financial liabilities have risen

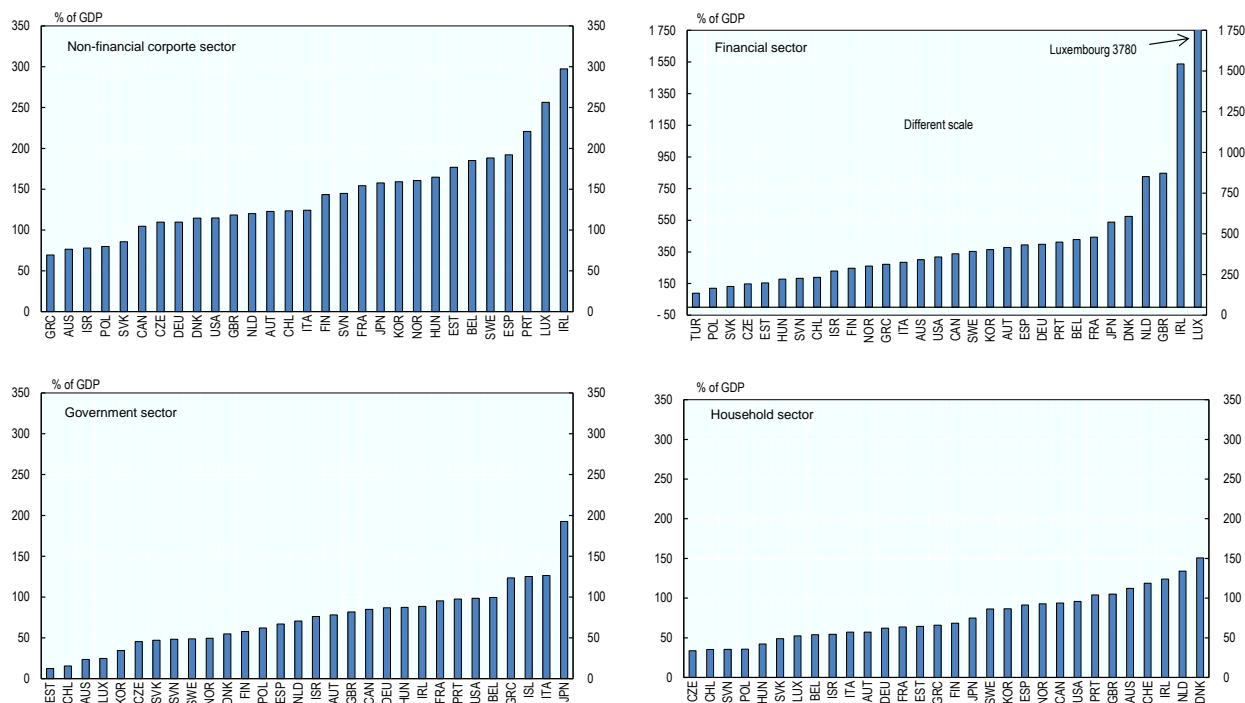
Total OECD area financial liabilities, non-consolidated debt, per cent of GDP



Source: OECD, National Accounts.

Figure 2. Debt as a share of GDP varies across countries and sectors

Gross financial liabilities (less financial derivatives and shares), non-consolidated, per cent of GDP, 2010

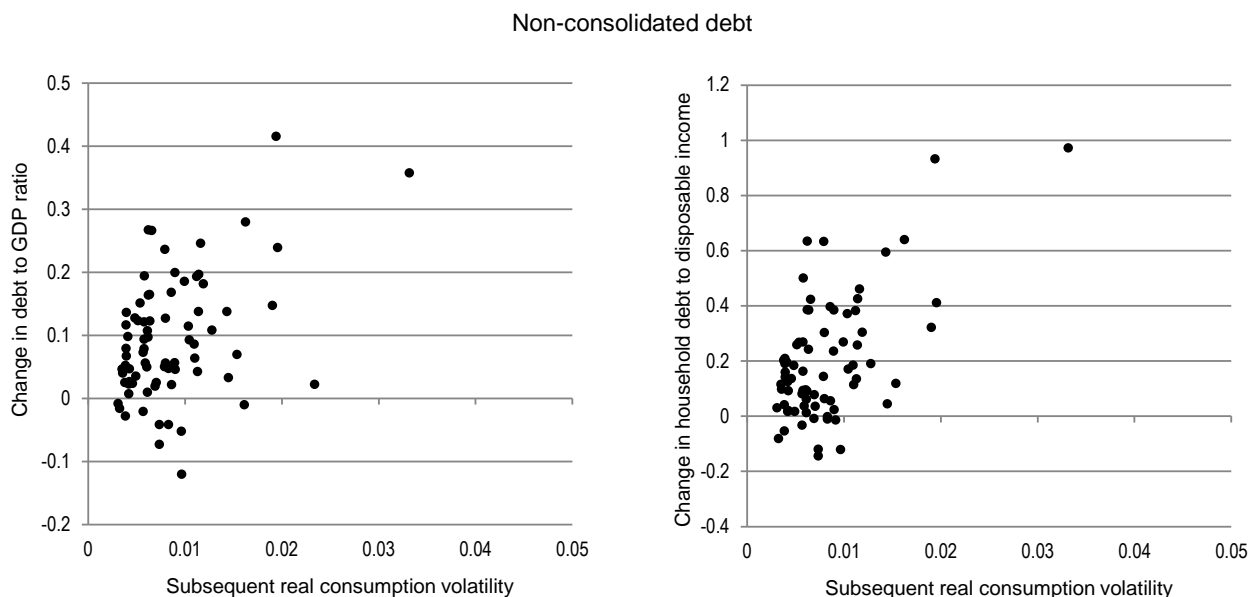


Source: OECD, National Accounts.

High debt levels create a number of vulnerabilities

Debt can affect macroeconomic performance through several channels. In some cases debt may directly transmit or amplify shocks, in other cases it may undermine the capacity to damp shocks. For example, relatively high debt levels may increase the sensitivity of households or firms to changes in macroeconomic conditions which can induce adjustments in borrowing, consumption and investment behaviour. Indeed, the empirical evidence suggests that when household debt is rising and reaches high levels consumption becomes more volatile (Figure 3).

Figure 3. Real consumption volatility rises when household debt is rising



Note: Consumption volatility is the average of the standard deviation of quarterly real consumption growth over the subsequent 5 years. The figures show non-overlapping five-year periods.

Source: OECD, National Accounts, OECD Economic Outlook 91 database.

High indebtedness can create vulnerabilities, exposing households, firms and governments to mismatches, such as having loans due for repayment in the short-term but assets that mature later, as well as creating potential solvency problems. Furthermore, high indebtedness can make the economy vulnerable to asset price movements, which can amplify shocks and macroeconomic instability. Shocks can be amplified, particularly when asset price boom-bust cycles act through the value of collateral and associated margin calls, which accentuate cyclical fluctuations and generate debt-deflation pressures. Borrowers using assets as collateral are limited in their ability to borrow if the market value of collateral declines, which can thereby induce deleveraging. As experienced in the financial crisis, a shock to the apparently small sub-prime market was transformed into a full-blown crisis in large part due to balance sheet vulnerabilities.

High debt levels in the financial sector create additional vulnerabilities, which can reverberate throughout an economy. When bank funding relies less on bank deposits, the greater role for securities markets creates a new set of vulnerabilities arising from abrupt changes in liquidity and corresponding difficulties of valuation. In addition, counterparty risks have been prominent during the economic crisis. When they materialise, they can cause spill-over and contagion effects because a default leads to falling asset prices, which then lead to losses that depress financial institutions' equity. Consequently, they are forced to sell assets in fire sales, which, in turn, further depress asset prices and increase losses.

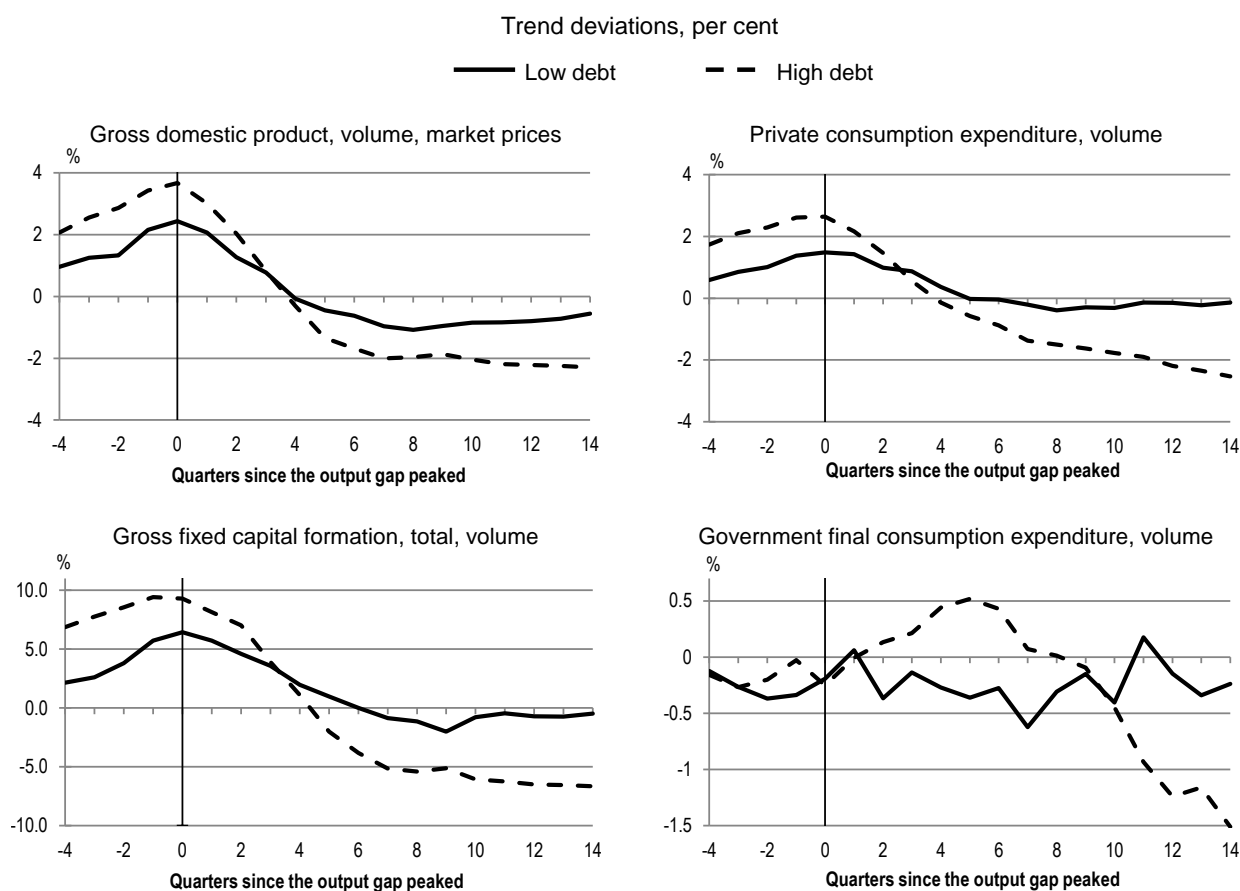
Concerns about the health of balance sheets in one sector can have implications for others. Household, corporate or government balance sheets affect the banking system, particularly when the banking sector has too little capital cushion. For example, as seen in the euro area crisis fears about

sovereign solvency can threaten to unleash runs on the banking system. Balance sheet vulnerabilities can also lead to self-fulfilling runs or sudden stops, when foreign capital flows dry up. Moreover, when corporate and household debt is high, a shock can induce forced cuts in investment, employment and consumption with implications for government revenues and spending. In this light, when private sector balance sheets are in poor health the effect of an adverse shock is likely to be felt more widely.

The implications of the vulnerabilities created by debt and the interconnections between sectors suggest that high levels of debt can migrate and cascade across sectors. Typically, debt builds up most rapidly in the private sector and when the economy enters recession private-sector debt as a share of GDP decelerates or declines. On the other hand, government debt tends to rise. Increased government borrowing during a downturn helps cushion the effects of large, adverse shocks. Ultimately, as seen in the recent crisis, governments can be forced to rescue the financial and parts of the non-financial corporate sector. More indirectly, but usually quantitatively more important, government budgets are affected by cyclical weakness as other sectors deleverage, through automatic budget reactions as well as counter-cyclical fiscal policy. However, at high government debt levels fiscal policy is less able to stabilise the economy. Recent experience demonstrates that high initial government debt levels can force fiscal policy to become pro-cyclical during economic downturns.

Empirically, and consistent with these vulnerabilities, debt developments affect business cycle characteristics. To illustrate this, a dataset of business cycles for OECD countries since 1980 was split into high and low-debt business cycles. When considering total debt, real activity moves further above trend at the peak of high-debt than low-debt cycles (Figure 4). Real GDP at 4% above trend is roughly double the above-trend figure experienced at the peak of low-debt cycles. While the subsequent slowdown sees activity dropping below trend after four quarters in the case of both high and low-debt cycles, it remains depressed for the high-debt cycles whereas it returns to trend during low-debt cycles. Government consumption reveals a pattern of initially supporting the economy during a “high-debt” downturn, but from about one year after the turning point it starts to decline swiftly and drops sharply below trend.

Figure 4. Real activity falls deeper and longer after a peak when debt is high



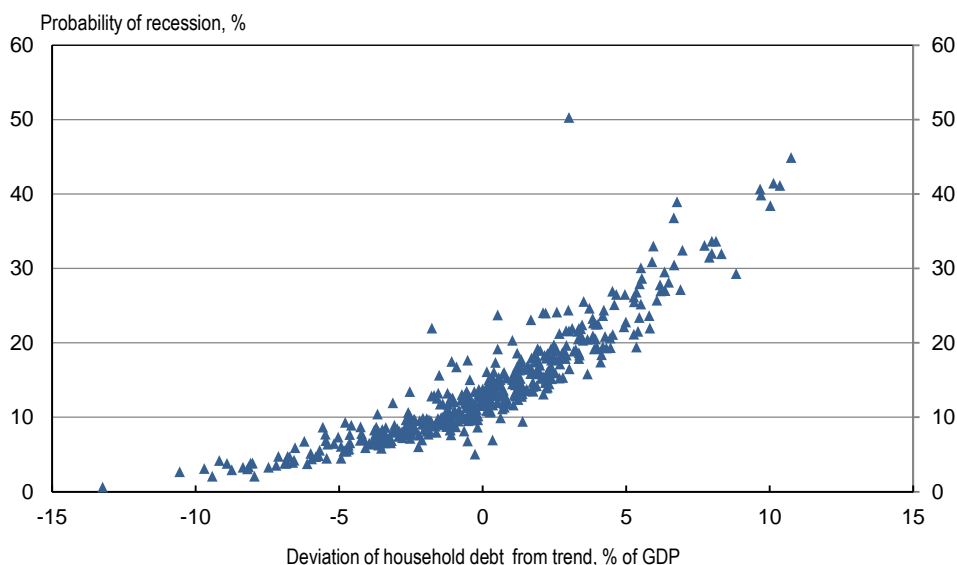
Note: The vertical line denotes the peak of the business cycle. Low and high debt cycles are determined at the peak of the cycle by the level of debt relative to trend. The lines correspond to average percentage deviation paths for the corresponding variable relative to the long-term trend.

High debt levels raise the risk of recession

When total economy debt levels rise strongly above trend the probability of entering a recession (defined as at least two quarters of falling output) increases significantly. This is even stronger when private sector debt, particularly of the household and the non-financial sector, is high relative to trend. For example, when household debt is around its trend value there is around a 10% probability that the economy will enter recession within the next year. But when household debt rises above trend by 10% of GDP there is a 40% probability of the economy entering recession in the following year (Figure 5). While the effect is large, such an increase above trend is relatively rare, although such levels were reached in Estonia, Spain, the United Kingdom and the United States on the eve of the recent crisis. The effects of debt being above trend for the other sectors of the economy and for total economy debt are less powerful, though rising non-financial corporate debt seems to have a somewhat stronger negative effect than either rising total economy or financial sector debt.

The expansions before high-debt recessions are typically longer and larger, which facilitates debt levels rising above trend, and the recessions themselves are on average more severe. This is particularly true when household and corporate sector debt is high. For high private-sector debt a correlation exists between the length of the expansion and the severity of the subsequent recession, which was especially pronounced in the case of the recent cycle.

Figure 5. The probability of a recession rises when household debt is high relative to trend

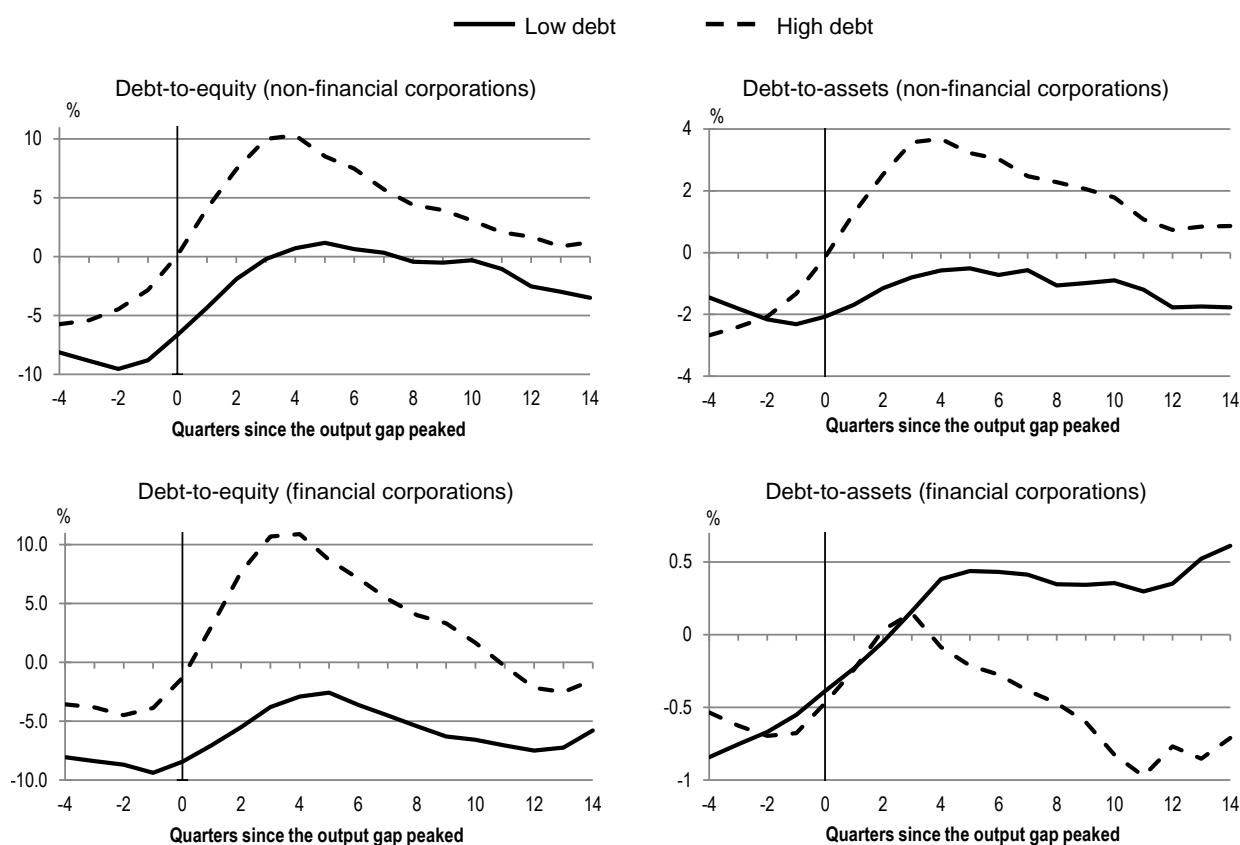


Note: The triangles show the predicted probability of recession for different deviations from trend of household debt. When the debt measure is zero, household debt levels are at the trend value. Household debt is measured relative to potential GDP.

Warning signals come from high debt levels, not leverage

While private sector debt levels relative to disposable income or GDP give warning signals before a recession, measures of leverage (debt to equity and debt to asset ratios) typically only deteriorate around the start of a recession, in large part due to asset price movements. During high-debt business cycles, asset price developments have typically made asset-based leverage measures difficult to interpret. Bank lending can rise significantly in the run up to a turning point, boosting bank balance sheets relative to GDP, and financial sector equity prices also surge. In part due to this growth, leverage may even appear to be below trend at a turning point. After the peak, when asset and equity prices often fall more quickly and further than debt, measures of financial leverage begin to rise above trend (Figure 6). A similar process occurs in the non-financial corporate sector.

Figure 6. Measures of financial leverage only rise above trend after the economy begins to slow



Note: The vertical line denotes the peak of the business cycle. Low and high debt cycles are determined at the peak of the cycle by the level of debt relative to trend. The lines correspond to average percentage deviation paths for the corresponding variable relative to the long-term trend.

Polices can address debt biases and reduce vulnerabilities

A challenging issue for policy is whether it should lean against the build-up of debt towards high levels or clean when a recession strikes. As the costs of downturns during high-debt business cycles are generally larger than during low-debt business cycles, and the recent crisis highlights just how costly they can be, the question arises as to whether and how monetary and financial market policy should react to the build up in debt. Micro-prudential regulation represents a first line of defence. By enhancing the resilience of the financial sector, sound micro-prudential regulation can help damp shocks and short-circuit the transmission of debt-induced problems across sectors. Macro-prudential regulation, by identifying systemic threats to financial and economy-wide stability, which may be missed by micro-prudential regulation alone, offers a second line of defence. The final line of defence is monetary policy. Monetary policy can influence desired debt levels by altering the price of leverage. While in principle monetary policy can have a considerable effect it is a blunt tool and misinterpreting the effects of financial innovation and mis-timing interventions could incur heavy costs. For example, tightening monetary policy, without knowing when the build-up in debt peaks, could see the economy being hit simultaneously with higher interest rates and falling credit, so aggravating the economic downturn.

Government borrowing rises during a downturn due to the automatic stabilisers and, possibly, discretionary fiscal policy, thereby damping the propagation of the shock. In this context, temporarily increasing government debt helps ensure macroeconomic stability. However, there appear to be limits to the ability to stabilise the economy, when government debt is high. In fact, government financial liabilities and output volatility are correlated which suggests that the stabilising role of fiscal policy becomes weaker

at higher levels of debt. This reflects that debt dynamics may threaten to become unstable and that household behaviour – expecting that greater government debt will eventually result in higher taxes – will reduce the effectiveness of fiscal policy in smoothing economic fluctuations. When debt levels are high, fiscal policy may even be forced to become pro-cyclical. Hence the need to bring down government debt levels to prudent levels during good times. Institutional frameworks, such as fiscal rules and fiscal councils, can help maintain prudent government debt levels, which allow fiscal policy to react to shocks. However, getting the constellation of rules and institutions right is difficult. In practice, institutional settings often allow rules to be waived in the face of large shocks and then let bygones be bygones. As such, the asymmetrical treatment of fiscal outcomes, by not requiring an offsetting effort during the subsequent upturn, tends to favour debt levels creeping upwards.

Finally and in light of the potential for macroeconomic instability, dealing with high debt levels is a considerable challenge. In this context, legal frameworks and procedures for writing down debt are important. Debt write-downs can hasten deleveraging and spur a more vigorous recovery from a high-debt recession and internalise social costs of disorderly bankruptcy. But they may also be anticipated by creditors and debtors and hence increase the cost of capital. A higher cost of capital is likely to depress investment which in turn will lower long-term growth.

There are considerable differences in how write-downs are implemented across countries. For the corporate sector differences in creditor protection vary substantially across countries. However, whether the creditor renegotiates the debt burden or takes the debtor firm through bankruptcy or liquidation does not appear to depend on formal requirements to protect viable firms. Instead, factors such as whether creditors are less protected claimants in the case of bankruptcy or whether structures to prevent the uncoordinated disposal of distressed assets, as in the case of British banks, exist appears to influence debt write-downs. There have been a number of reforms to personal insolvency since Denmark introduced a new system in 1984 and this approach has spread across continental Europe. The aim is to address households whose debt levels are clearly unsustainable, while maximising returns to creditors by putting reasonable claims on debtors. In the United States there are differences in the ability of borrowers to walk away from mortgages. Where this is possible, default rates on loans are higher.

Suggested further reading

The papers providing the background to this note are:

Sutherland, D., P. Hoeller, R. Merola and V. Ziemann (2012), “Debt and Macroeconomic Stability”, *OECD Economics Department Working Papers*, No. 1003, OECD Publishing.

Merola, R. (2012), “Debt and Macroeconomic Stability: Case Studies”, *OECD Economics Department Working Papers*, No. 1004, OECD Publishing.

Ziemann, V. (2012), “Debt and Macroeconomic Stability: Debt and the Business Cycle”, *OECD Economics Department Working Papers*, No. 1005, OECD Publishing.

Sutherland, D. and P. Hoeller (2012), “Debt and Macroeconomic Stability: An Overview of the Literature with some Empirics”, *OECD Economics Department Working Papers*, No. 1006, OECD Publishing.

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