DEBT RIGIDITY CRISIS

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Abstract

The paper demonstrates that debt crises are caused by debt rigidity. It is noted that similarly to wage and price rigidity debt rigidity makes markets unable to adjust quickly and adequately to the shocks in economy. It is justified that to make companies and banks more flexible and resistant to shocks, companies' liabilities similarly to income and assets price should be flexible. Paper argues that crisis in Japan and banking fragility in US and euro area countries are caused by debt rigidity, and these problems can be solved by liability flexibility which can be provided by profit participating financing.

Keywords: debt crises, debt rigidity, profit/loss sharing financing, banks, liability flexibility.

JEL classification: G01

Introduction

One of the main factors of effectiveness of firms and economy in whole is its flexibility or ability to adjust quickly and adequately to the shocks in economy. In particular the key factor of flexibility of firms is price and wage flexibility. The presence of nominal rigidity is an important part of macroeconomic theory since it can explain why markets may not reach equilibrium and face crisis.

Rigidity exists in financial sector too. This is debt rigidity which similarly to wage and price rigidity makes markets unable to adjust quickly and adequately to the shocks in economy. Debt rigidity can be expressed in the following way: though income and asset price of economic agents are flexible and decrease during recession, their debts don’t decline. This downward debt rigidity restricts the ability of debtors to fulfill debt obligations and leads to debt crisis.

Debt rigidity causes a debt crisis not only during recession but during economic rise too. So during economic rise when companies’ incomes and asset prices increase but they liabilities remain, the value of external financing becomes less than value of internal financing that increases demand for credit. And this credit boom as it was shown by Austrian school creates the prerequisites for debt crisis.

To make real sector more flexible and able to adjust quickly and adequately to the shocks, companies’ liabilities similarly to income and assets price should be flexible. Liability flexibility can be provided by profit/loss sharing. Profit participating financing will strengthen stability of banks too as money attracted by banks are not debt but trust account or money transferred to bank in trust.

Debt rigidity negatively influences lending too. It can be seen in Japan where, on the one hand the companies, because of the fear that incomes and value of assets in the future will be insufficient for repayment of debts, reduce demand for credits. On the other hand banks also because of risks to face insolvency to depositors tighten the requirements for debtors and so decrease the lending. Thus the reluctance of both firms to borrow and banks to lend may be overcome by profit participating financing.

We start in this paper with a description of how debt crises occur. We then show that Japanese crisis is caused by debt rigidity. Then it is argued that because of debt rigidity banking sector in US and euro area is also vulnerable to crisis.

Debt rigidity as the cause of debt crises

Why do debt crises take place? It is obviously that debt crisis is the inability of debtors to fulfill obligations to creditors. There are some reasons why debtors face debt problems. Among them decline in asset prices, "malinvestment" induced by credit boom, using of short-term debts for long-term assets can be shown.

Description of how debt crisis occurs is suggested by Minsky (Minsky,1980). According to Minsky at the beginning of the boom phase of the business cycle firms in order to finance their investment projects use mostly internal financing, while the role of loans is low. The companies' incomes allow them to repay the interest on the loan and principal. With the growth of the economy and favorable forecasts firms are beginning to step up investment and firms are actively moving to external financing of capital investments. After a while there comes a situation where incomes of many firms are sufficient only for the payment of interest, but they cannot repay the principle. Such firms need to issue new debt to meet commitments on maturing debt. In case of rising interest rates or reduction of incomes firms cannot fulfill either the repayment of principle or the interest on debts. Such units can borrow or sell assets to pay interest. But borrowing to pay interest increases debts and debt services in future, and selling assets lowers the equity of a unit that decreases their future incomes.

Note that the cyclicity of economy are due to the law of diminishing returns that is a fundamental principle of economics, according to which as total investment increases, the total return on investment as a proportion of the total investment (the average product or return) decrease.

Thus, debt crises are due to the cyclical nature of economic development and are caused by downward debt rigidity: though business incomes are cyclical and decreases in the phase of the economic downturn, debts of companies on the downward phase of the economy doesn't decline, and even increase because of the interest rates that restricts the ability of debtors to fulfill debt obligations.

Debt crisis may be triggered by asset prices collapse too. In case individual's assets (capital or financial assets) are financed through debt, debtors' ability to fulfill debt depends not only on debtors' income, but on asset price too. So in case asset prices collapse value of assets is not sufficient to fulfill debt and debtors face loan default. Thus, debt crisis is triggered not only by decrease in debtors' income (as Minsky said) but by asset price collapse too.

To make real sector resistant to shocks, companies' liabilities similarly to income and assets price also should be flexible. Liability flexibility may be provided by profit/loss sharing financing. As a result of flexibility of liabilities, companies and real sector in whole will be more flexible and respond to economic shocks better. Profit participating financing will strengthen stability of banks too as money attracted by banks are not debt but trust account or money transferred to bank in trust, and yield from operation is divided between owner of money and manager (bank).

Thus profit/loss sharing will provide more equitable distribution of risks and losses between companies, banks and depositors and so prevent the concentration of risk, which will make the financial system more stable.

Debt rigidity causes a debt crisis not only during recession but during economic growth too. So during economic growth when companies' incomes and asset prices increase but they liabilities remain, the value of external financing becomes less than the value of internal financing (i.e. comparative value of external financing decreases) that encourage them to borrow more. And credit boom as it was suggested by the Austrian school creates the prerequisites for debt crisis.

According to the Austrian business cycle theory the boom-bust cycle is generated by excessive credit expansion by the banks which offer loans at low interest rates. Due to the availability of relatively inexpensive funds, companies invest in capital goods for "longer process of production" technologies, but later when economy enters recession and borrowers' become unable to fulfill debt they are forced to discounted sale of the capital assets which were purchased with such bank credit (Mises, 1912).

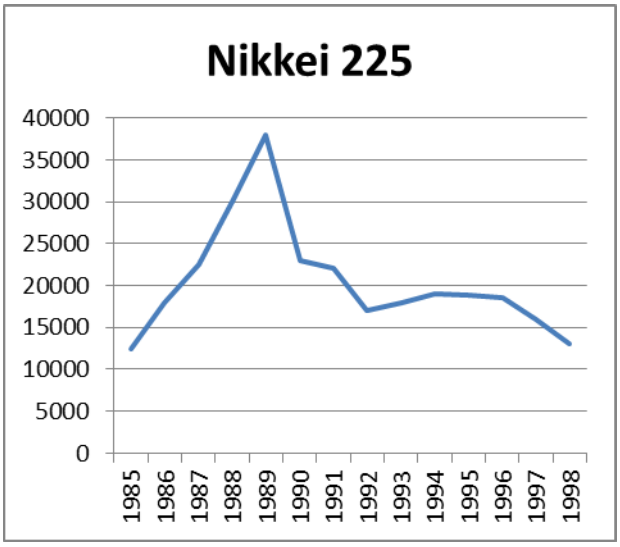
Debt rigidity, credit crisis and Japanese crisis

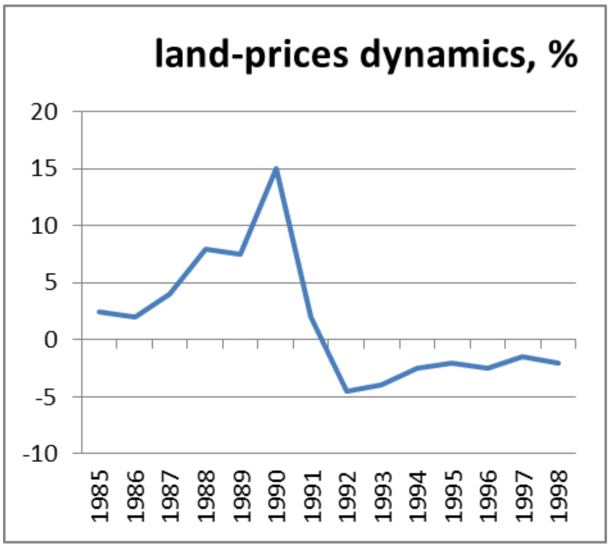
Above mentioned allows us to look at Japan crisis in a new way. According to Richard Koo this crisis is caused by balance sheet distress that forces the debtors to pay down debt (Koo, 2011). He notes that when a debt-financed bubble bursts, asset prices collapse (figure 1) while liabilities remain, leaving households' and businesses' balance sheets underwater. In order to regain their financial health and credit ratings, households and businesses to repair their balance sheets are forced to pay down debt and refuse new borrowing. Moreover, Koo notes that even after companies' and households' balance sheets are fully repaired they refuse to borrow money and he connects it to debt "trauma".

But we think that as borrowing assumes the fulfillment of debt in future, Japanese lending crash is caused not by deterioration of balance sheet, but by fears of companies that their future incomes and assets value will be insufficient to repay debt: as companies' income and asset value decline during recession, debts in periods of recession don't decrease; and it is downward debt rigidity that explains why private sector in Japan pays down debts and refuses new borrowing. Banks also during recession are less willing to lend as banks because of risks to be unable to pay debts to depositors tighten the requirements for debtors and so decrease the lending.

Thus low lending activity in Japan is caused by downward debt rigidity that on the one hand, makes companies less willing to borrow, and on other hand, makes banks less willing to lend.

Thus the only way to overcome the reluctance of both firms to borrow and banks to lend is profit participating financing. It will prevent fears of companies to face loan default and so will make them more willing to take loan. Banks also will be more willing to lend as participation of debtors in profit/loss of banks will diminish the fears of banks to face insolvency to depositors and thus will make banks more tend to lending.



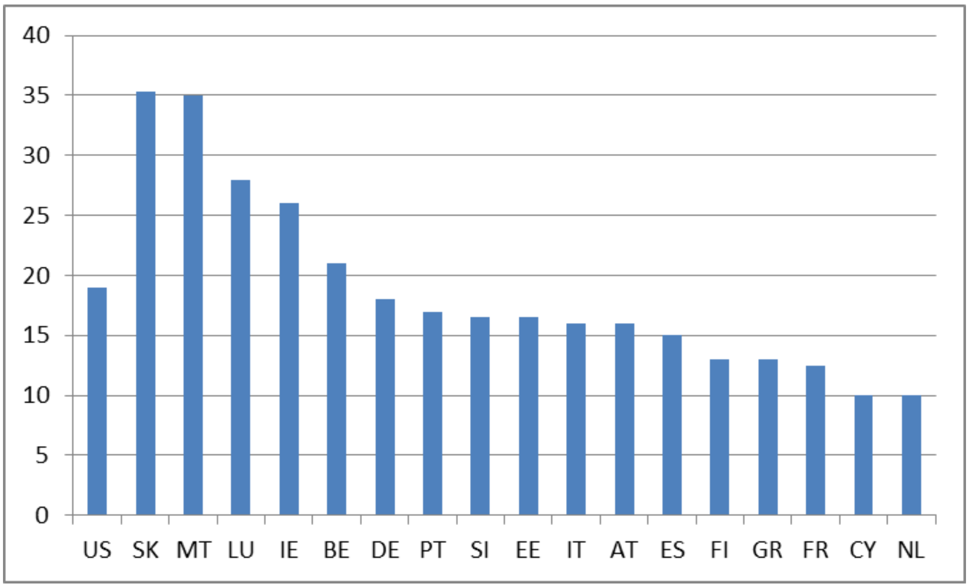


Source: Bank of Japan

Figure 1. Nikkei index and the dynamics of land prices in Japan

Debt rigidity and banking problems in US and euro area countries

Debt rigidity problem is urgent for US and European countries too. As it can be seen from figure 2 the share of securities in banking assets in US is 19%, in some euro area countries this figure is about 35%. Taking into consideration record low interest rate in US and euro area (figure 3 and 4) it is obvious that expected rise in interest rate will have negative effect on banking sector, because rise of interest rate will decrease the value of securities banks hold and so will make difficulties for them to fulfill their obligations towards depositors and other creditors.



Source: Fed; Banking structures report, November 2013, European Central Bank

Figure 2. Share of debt securities in total assets of banking sectors in US (July 2014) and euro area (2012), percentage of total assets, 2012

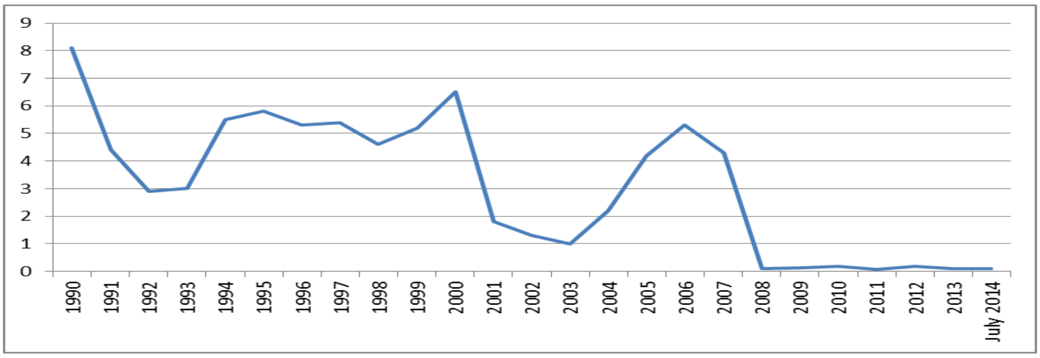


Figure 3. Federal Funds Rate, end of period, %

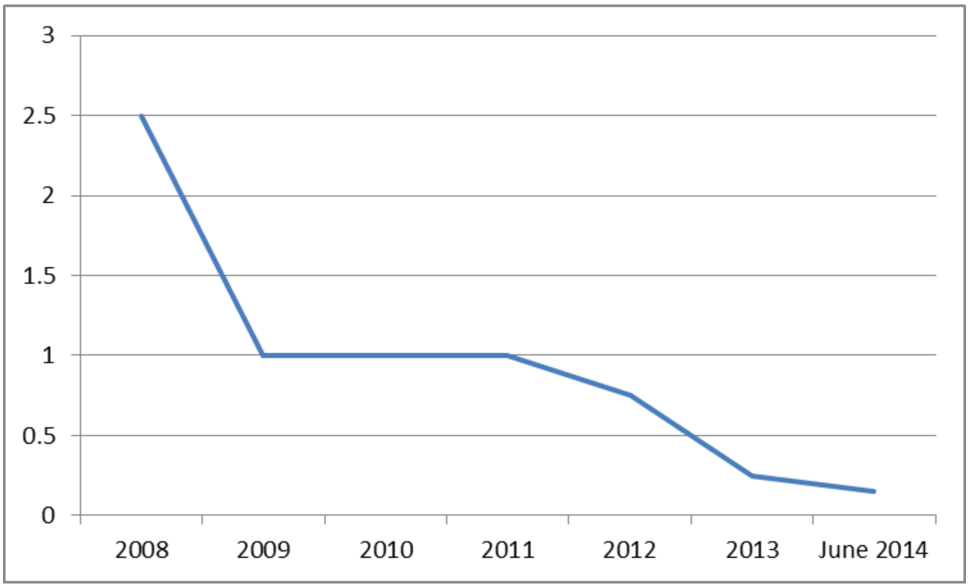


Figure 4. ECB interest rate

Conclusion

Similarly to wage and price rigidity debt rigidity restricts flexibility of markets and makes them unable to adjust quickly and adequately to the shocks in economy. To make real sector more flexible and resistant to shocks, companies' liabilities similarly to income and assets price should be flexible. Liability flexibility can be provided by profit/loss sharing. Profit participating financing will strengthen stability of banks too as money attracted by banks are not debt but trust account or money transferred to bank in trust.

Debt rigidity negatively influences lending too. On the one hand the companies, because of the fear to face insolvency on loans, reduce demand for credits. On the other hand banks also because of risks to face insolvency to depositors tighten the requirements for debtors. Thus the reluctance of both firms to borrow and banks to lend may be overcome by profit participating financing.

Debt rigidity problem is urgent for US and European countries too. Taking into consideration near-zero interest rate in US and euro area it is obvious that expected rise in interest rate will decrease the value of securities banks hold and so will provoke banking crisis.

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