Monetary Policy & Financial Stability

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Cleveland Fed Panel
1. Risk sharing as an organizing principle for financial stability
   ▶ Arrow-Debreu contingent claims a useful benchmark
2. The Swedish pickle & recent Swedish history
3. Can the IT framework survive? Should it?
4. Broader institutional considerations

▶ I draw on work that Jim Nason & I are doing for Sveriges Riksbank
▶ My views cannot be blamed on the Riksbank or Jim
Grappling with the Issues

Many policy institutions are struggling to integrate financial stability with monetary policy.

Two examples:

1. Everything causes everything
2. Recursive causal structure
The interaction of monetary and macroprudential policies may give way, for example, to excessive leverage in the household sector, and vice versa. Liquidity conditions in domestic and international financial markets can change rapidly. It is therefore not yet possible to operationalize financial stability to the same degree as price stability.

12. The task of preserving financial stability nonetheless remains clear: mitigating financial distortions and the risks associated with them, with intermediate targets linked to the aggregate implications of these distortions (for example, leverage in the banking or household sectors, capital and liquidity positions of financial intermediaries, foreign exchange composition of assets and liabilities).

Source: IMF
The effects of monetary policy on household debt

A current issue in the monetary policy discussion is the attitude monetary policy should take to the build-up of financial imbalances. The financial crisis has demonstrated in several countries that such imbalances are often corrected in an abrupt and drastic way and that the real economic costs can be very substantial. In Sweden, the discussion has mainly focused on household indebtedness, which has increased substantially over the last 15 years. The Riksbank has previously discussed why there may be reasons for monetary policy to take imbalances into account and has presented a simple conceptual framework for how this can be done in practice. A first step in such an analysis is to estimate how changes in the repo rate affect household debt. A second step is to assess how much this in turn affects the risks of unfavourable outcomes in the future. This article focuses on the first of these steps and presents a quantification of the relation between the repo rate and household debt.

Monetary policy may need to take long-term risks into account

Since the 1990s, the Riksbank has conducted what is usually referred to as flexible inflation targeting. This means that the Riksbank aims to stabilise inflation around the target of 2 per cent and to stabilise production and employment around long-run sustainable paths of development. The question of whether monetary policy should also take into account the build-up of financial imbalances has now been discussed for some time. The financial crisis of 2008-2009 intensified this discussion in both Sweden and abroad.

An article in the Monetary Policy Report of July 2013 described how a high level of indebtedness can make the economy more vulnerable so that the effects of a shock are more severe. In the case of serious shocks and a rapid build-up of debt, financial stability may also be threatened, as was clearly demonstrated in several countries during the financial crisis. The article described a simple conceptual framework for how monetary policy may need to take account of the risks associated with imbalances that, among other things, can arise as a result of high indebtedness, see figure A15. An important question in this context is what impact monetary policy has on indebtedness. In this article we therefore discuss how we can measure the effects of the repo rate on household debt and how great these effects may be.

18 See Monetary Policy in Sweden, 2010 Sveriges Riksbank.
20 Another important question that was addressed in the article in the Monetary Policy Report of July 2013 was how much the risks increase as the level of indebtedness increases. However, this question is not taken up in this article.
The Need for Causality

- IMF’s schematic doesn’t take a stand on how the economy works
  - can provide little guidance to policy

- Riksbank’s schematic makes strong identifying assumption: inflation & real activity don’t affect probability of crisis
  - you can disagree with the identification
  - at least it offers a causal structure as a basis for policy analysis

- Both schematics illustrate how far we have to go
Risk Sharing

- Financial instability arises from incomplete risk sharing

- Absence of complete set of Arrow-Debreu contingent claims ⇒
  - financial contracts do not specify outcomes in every state of the world
  - states can occur in which the borrower’s only option is to default

- Incomplete risk sharing is a useful organizing principle
  - focuses analysis on source of incompleteness
  - can ask which policies—if any—can attenuate incompleteness
  - who has deep enough pockets to clean up *ex-post*?
Example of Risk Sharing Policies

- Government’s treatment of housing & mortgages
  1. In 1920s, risk shared between borrowers & mortgage holders
  2. Great Depression policy response: create Fannie Mae to take on risks of fixed-rate, long-term mortgages
  3. In recent year, banks underwrote MBSs assuming government’s deep pockets would backstop
  4. One interpretation of the Fed’s MBS purchases is that it shifted risk from banks to government
  5. Who backstops the Fed?

- With Arrow-Debreu markets, mortgage rates would shift with state of the world
  - the market is the backstop
Failure of Risk Sharing

- Several countries are worried about over-accumulation of debt by households
  1. Low-interest-rate environments discourage saving, encourage risk-taking
  2. Households may be expecting low rates to persistent indefinitely
  3. Can be states of the world for which debt contracts don’t plan
    - people discover their permanent income lower than expected
    - house prices don’t continue to rise as expected
    - interest rates begin to rise sooner than expected
  4. When debt contracts don’t cover these contingencies, defaults occur
- With Arrow-Debreu markets, these risks are shared between borrowers & lenders
A Brief History of Sweden

- A quick review of Sweden’s experience in the 1990s frames the Riksbank’s pickle today

- 1990s financial/banking/fiscal crisis was a doozy in Scandinavia
Sweden in the 1990s

Loss of Employment

Source: Jonung & Hagberg
Sweden: Permanent Effects from 1990s

The trend development. The difference in Sweden's GDP towards the end of the 1990s corresponds to 20 per cent of GDP each year, or SEK 50 000 per person in 1998 prices. The financial crisis of a few years ago, which was milder for Sweden, has cost the people of Sweden thousands of kronor more per year.

The real effects have a high social and economic price.

One of the more tangible effects of the crisis of the 1990s was its impact on the labour market. Having gotten used to a level of unemployment of a few per cent, we then saw unemployment increase to double figures over only a couple of years. Overheating at the end of the 1980s and the resulting financial crisis almost doubled long-term unemployment.

And, of course, shocks to the national economy of this kind do not spare us citizens in our role as taxpayers either.

Problems in the banking sector impact the country's citizens in several ways. A banking crisis thus impacts individual citizens in several ways.

Lower or even negative growth leads us, as employees, to run an increased risk of unemployment and to earn lower wages than would otherwise have been the case. When the growth path falls over the longer term, we also have to count on lower pensions.

Bank crises also risk being costly to us in our role as taxpayers. If the government is forced to compensate those who have put money into a bank, or even take over and capitalise a bank on the ropes, there will be less funding left for other purposes. Taxes will be higher or public welfare lower – or both.

As almost all citizens are also bank customers, they are also impacted more directly. A crisis in the Swedish banking system would lead to higher funding costs for the banks and thus higher lending rates. Customers in a bank needing

Source: The Riksbank
Fast-Forward to Sweden Today

- It is against this backdrop that the Riksbank is at the forefront in using monetary policy to ensure financial stability
  - rationale was household accumulation of debt
  - aim was to discourage further accumulation
Rising demand will lead to increased investment needs. Total fixed gross investment developed weakly in 2013. Although housing investment increased rapidly, developments were weak in other parts of the business sector. Capacity utilisation is low in the manufacturing industry (see figure 1:19), but is expected to rise in line with the acceleration in exports and production. The rising demand from both the domestic and international markets will lead to investment growth also accelerating. In addition, this will benefit from interest rates charged to companies having continued to fall, at the same time as conditions on the bond market are favourable for companies using market funding. The positive picture of investment is supported by Statistics Sweden's investment survey, which indicates a broad upturn in investment in 2014, compared with 2013. Housing investment is also expected to continue to increase rapidly.

All in all, total investment is expected to grow by almost 4 per cent this year and by just over 7 per cent in 2015. After that, investment growth is expected to slow down somewhat when investment volumes approach normal levels in relation to production.

General government net lending will improve going forward. This year, general government net lending is expected to show a deficit of 1.7 per cent of GDP. The fiscal policy measures announced will contribute to a decline in net lending of around 0.6 per cent of GDP and thus stimulate demand in the Swedish economy. At the same time, the stronger economic activity means that net lending as a share of GDP is somewhat lower than last year.

The Riksbank's forecast for public sector net lending is in turn based on announced measures and is complemented by an assessment based on how fiscal policy is usually adjusted to the state of the economy and the policy objectives set by the fiscal-policy framework. As economic activity improves, general government net lending is expected to strengthen in 2015 and show a deficit of 0.6 per cent of GDP. The strengthening will continue in 2016, when net lending is expected to be 0.1 per cent of GDP. Compared with the forecast in the December Monetary Policy Update, general government net lending has been revised down by between two and three tenths of GDP (see table 3). The lower net lending is because the forecast for corporate tax revenue has been revised down and the forecast for expenditure on transfers has been revised up.

Substantial but falling surplus on the current account. Sweden has had substantial surpluses on its current account since the mid-1990s. The current account is equivalent to total general government net lending, that is, total saving minus domestic investment. The surplus on the current account thus means that net lending in the economy as a whole is high (see figure 1:20).
Low interest rate until inflation picks up

It is considered appropriate to hold the repo rate at the current low level for the whole of 2014, to support economic activity and contribute to CPIF inflation picking up. Economic developments both in Sweden and abroad have been well in line with the Riksbank's most recent forecasts. The adjustments now being made to the forecasts are therefore minor. The repo rate is expected, as was forecast in December, to remain at 0.75 per cent until the beginning of 2015. Inflation will then have picked up and the recovery will be on firmer ground. After that, the repo rate will be raised gradually to 2.7 per cent at the end of the forecast period (see figure 1:4).

Household debt as a percentage of disposable income is currently at a historically-high level and is expected to grow somewhat further during the forecast period. Households' high indebtedness remains a risk to sustainable long-run development. Several policy areas need to cooperate to manage this risk.

Higher global growth

Currency turbulence and continuing expansionary monetary policy

The financial markets have recently been affected by the currency turbulence in emerging markets. However, it is mainly countries with large current account deficits, funded by short-term capital flows that have been hit, although stock markets in developed economies have also been affected. No major contagion effects are expected to arise as long as growth prospects continue to improve in the developed economies.

Central bank communications since the Monetary Policy Update was published in December have confirmed that short-term interest rates abroad will remain at the current low levels for a long period to come. The Federal Reserve has announced that its policy rate may well remain at the current level for a longer period of time, even after unemployment has fallen below the stated threshold level of 6.5 per cent. However, the Federal Reserve has begun tapering its monthly bond purchases. So far, decisions have been made to reduce these purchases by a total of USD 20 billion, to USD 65 billion a month. Market participants are expecting the Federal Reserve to reduce its bond purchases by a further USD 10 billion at each coming MPC and to phase out the purchases completely during the second half of 2014. The normalisation of monetary policy, primarily in the United States, means that financial conditions abroad will gradually become less expansionary, despite the low policy rate. This means in the long run that interest rates will rise globally.

The ECB, on the other hand, has communicated that it is prepared to cut its policy rate further if inflation prospects in the medium term fall too far, or if short-term interest rates in the euro area rise too much. The President of the ECB has also made...
The Riksbank’s Response

- June 2010—when unemployment was 9%—began to raise repo rate: “A low interest rate for too long could lead to a troublesome situation... as a result of a credit expansion.” (Riksbank Minutes, June 2010)

- “A stable financial system is a prerequisite for the Riksbank to be able to conduct effective monetary policy.” (Riksbank, February 2013)

- “As financial crises are very costly for the citizens of a society, we should try to avoid them at almost any cost.” (Stefan Ingves, March 2012)

- The law instructs Riksbank to promote “a safe and efficient payment system”
  - they see no conflict between this and stable inflation
  - high & volatile inflation creates financial inefficiency
Interest-Rate Policies

- Can interest-rate policies be framed as addressing market incompleteness?
  - maybe...

- Norway is instructive (from the Norges Bank):
  - “The interest rate should be set so that monetary policy mitigates the risk of a build-up of financial imbalances...”
  - “A reduction in the key policy rate at present may increase the risk of a renewed build-up of financial imbalances.”

- Why would a country as wealthy as Norway worry that households are over-indebted?

- Norwegians are illiquid & susceptible to bad financial shocks
  - have plenty of pension wealth
  - but cannot access it
Interest-Rate Policies

One rationale for keeping policy rate high, despite below-target inflation:

- With complete markets, households would be able to borrow against future income
- No securities exist to permit these trades
- Norges Bank may think households are not discounting the future at a high enough rate
- With a high interest rate, central bank is inducing households to shift consumption to the future
- But high rates produce collateral damage
- Alternative is for government to permit households to borrow against future income
  - this directly addresses market incompleteness
Central banks using interest-rate policy for financial stability could enhance their communication:

- Need to articulate the problem with household debt accumulation or house-price inflation
- Whether monetary policy can help depends on the nature of the problem
  - what is the source of the market incompleteness?
  - why does complete risk sharing break down?
  - what are the states of the world that are worrisome?
  - how likely are those states?
  - what scenarios are envisioned that lead to crises?
- Without this articulation, how can policy decide...
  - appropriate actions to take?
  - criteria for & likelihood of success?
Whither the IT Framework?

- Advocates of IT are scrambling to salvage original construct
- I think the issue is more fundamental
- Central banking has now come full circle
  - financial stability $\Rightarrow$ high employment $\Rightarrow$ inflation targeting $\Rightarrow$ financial stability
- Need to revamp or shed much of the theoretical apparatus surrounding IT
  - apparatus deeply rooted in new Keynesian thinking
  - reflected in academic literature & central bank models
  - not sufficient to graft jury-rigged financial frictions onto existing models
1. The natural rate of interest, $r^n$

- Optimal policy: set $i_t = r^n$
- What is the natural rate when
  - there are multiple interest rates?
  - spreads do not move in lockstep?
- How do we decide from which interest rate to derive the natural rate?
  - analogous arguments apply to defining output gap (whatever that is)
- The model’s policy prescription hinges on this completely arbitrary choice
2. Choosing the Inflation Target

- Unlike sticky wages & prices, financial imperfections do not disappear in the long run.

- A core premise of IT—there is no long-run Phillips curve tradeoff—implies choice of $\pi^*$.
  - can be arbitrary
  - made separately from decisions about how to keep $\pi_t$ close to $\pi^*$

- But if financial decisions are constrained by limited risk sharing & are affected by average inflation.
  - central bank can no longer justify choosing target separately from other choices

- Fundamentally disturbs IT framework
3. Subversiveness of Heterogeneity

- Plausible financial sector models contain heterogeneity
  - types of households, firms, financial institutions
  - with financial frictions, get incomplete risk sharing

- Puts distributional consequences of MP front & center

- When MP keeps rates high to discourage borrowing...
  - not just reducing demand—removing the punchbowl from the party
  - purpose is to affect one group—self-indulgent borrowers—differently

- IT framework silent about this
4. Is Monetary Policy Now About Relative Prices?

- Financial stability often seems to focus on getting the price of a specific security to be well behaved
  - reducing (or raising) mortgage interest rates
  - propping up (or tamping down) house prices

- History is not kind to this strategy
  - Greenspan put: explicitly about financial stability
  - Burns Fed: cost of disinflation deemed to be $\approx \infty$

- Flies in the face of IT, which is solely about the aggregate price level
In pursuit of financial stability, central banks conducted fiscal policy during the crisis. CB balance sheet operations that create federal government liabilities backed by tax revenues are fiscal policy. Revenue generation is a fiscal action. Friedman & Tobin taught us that MP & FP are inextricably intertwined. Despite this, our institutions create The Great Wall of Policy to separate MP & FP. Bringing financial stability into the picture expands interactions among policies. Lender-of-last-resort actions are fiscal policy. Financial institution bailouts are fiscal policy. Deposit insurance is fiscal policy. Purchases of private assets are fiscal policy.
Broader Institutional Considerations

- Interactions among MP, FP & financial policy call for rethinking our policy institutions
  - Do our institutions assure that the requisite fiscal backing—deep pockets—exists?
  - Does it continue to make sense to have an "independent" unelected monetary authority?
  - Does the monetary authority require taxing capacity?
  - Does the agency in charge of financial stability need taxing capacity?

- These are fundamental questions that need to be addressed
  - tweaking IT cannot answer them