
Leaning against the leaners

There is no evidence the use of monetary policy in Sweden to keep household debt in check actually works. Such a policy only undermines employment and results in the Riksbank breaching its mandate.
By Lars Svensson.

There is much debate in Sweden and further afield about the use of monetary policy – rather than macro- and micro-prudential tools – to ‘lean against the wind’ as a way of preventing dangerous bubbles building up in economies. This article looks at whether, under a mandate of flexible inflation targeting, household debt should be introduced as an additional target for monetary policy. It also reviews how to conduct policy evaluation, drawing on six years of experience gained as a policy-maker at the Sveriges Riksbank.^{1 2}

Flexible inflation targeting involves both stabilising inflation around a target and stabilising the real economy.³ A clear objective for monetary policy contributes to it being systematic and not arbitrary. Furthermore, for central bank independence to be consistent with a democratic society, it must be possible to evaluate monetary policy and hold the central bank accountable for achieving its objective. This requires that the degree of achieving the objective can be measured. A numerical inflation target allows target achievement with regard to inflation to be measured and the central bank to be held accountable for its performance regarding inflation stabilisation. But if monetary policy also has the objective of stabilising the real economy, that part of the objective must also be measurable, if monetary policy is to be evaluated and the central bank held accountable. Given this, how should stabilisation of the real economy be measured?



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Stabilisation of the real economy can be specified as the stabilisation of resource utilisation around an estimated sustainable rate of resource utilisation, accepting the conventional wisdom that the sustainable rate of resource utilisation is determined by non-monetary factors and not monetary policy, and therefore has to be estimated. But how should resource utilisation be measured? More precisely, besides inflation, what target variable (or variables) should enter the monetary policy loss function? One can answer this question by interpreting the legislated mandate for monetary policy and examining what economic analysis suggests about a suitable measure of resource utilisation.

The Riksbank and Fed's mandates Let me start with the legislated mandate for monetary policy and compare the mandates of Sveriges Riksbank and the Federal Reserve. The Riksbank's mandate for monetary policy follows from the Sveriges Riksbank Act⁴ and the preparatory works of the Act, the Government Bill 1997/98:40⁵ to the Riksdag that contained the proposal for this legislation. In Sweden, the preparatory works of laws carry legal weight, since they contain guidance on how the laws should be interpreted. According to the Act, the objective of monetary policy is "to maintain price stability". The Bill further states (page 1): "As an authority under the Riksdag, the Riksbank should, without prejudice to the objective of price stability, support the objectives of the general economic policy with the aim to achieve sustainable growth and high employment."

The Bill indicates there is no conflict or trade-off between sustainable growth and high employment. For many years Swedish governments have emphasised full employment as the main objective for general economic policy.⁶ Note that, in this context, high employment should be interpreted as the highest sustainable rate of employment, and that the sustainable rate of employment is determined by non-monetary factors. According to this line of reasoning, the Riksbank's mandate for monetary policy is price stability and the highest sustainable rate of employment.

According to the Federal Reserve Act of 1913, the Federal Reserve should "promote effectively the goals of maximum employment and stable prices". Again, maximum employment should be interpreted as the maximum sustainable employment. Thus, according to this reasoning, the Riksbank and the Fed have the same mandate.

The Riksbank and the Fed have both specified price stability as a numerical inflation target.⁷ Their mandates then mean stabilising inflation around the inflation target and employment around an estimated long-run sustainable rate. Stabilising employment around an estimated long-run sustainable rate is, in practice – at least when the participation gap can be regarded as small or at least exogenous – the same thing as stabilising the unemployment gap, which is the gap between unemployment and an estimated, long-run sustainable rate of unemployment.⁸ Thus, in practice, flexible inflation targeting boils down to stabilising inflation around the inflation target and unemployment around a long-run sustainable rate.

Household debt ratio as a policy target? There is a lively current debate both in and outside the Riksbank about whether Swedish monetary policy should have an additional target variable, namely the household debt ratio (the debt-to-disposable income ratio). This has also been a source of deep division inside the executive board during my term there. Since



Sveriges Riksbank

October 2012, it has become clear that a majority of the executive board justifies a ‘leaning against the wind’ policy that results in both inflation considerably below target and unemployment considerably above any reasonable sustainable rate due to concerns about a high household debt ratio. It may at first not be obvious that the issue is about having a new target variable or not. But to allow poor current target achievement for inflation and unemployment with reference to the debt ratio must mean that for all practical purposes, the debt ratio has become an independent target variable.

In the July 2013 *Monetary Policy Report*,⁹ the Riksbank provides more detail in the section, ‘Alternative scenarios for the repo rate’. A lower repo rate (by 25 basis points during four quarters) would mean, according to the calculations described in the report, that CPIF inflation approaches 2% more quickly during the forecast period, compared with the main scenario (see Figure 2:19, page 28 of the report). Resource utilisation would also attain a normal level sooner (see Figures 2:21 and 2:22). “On this basis, one could justify a more expansionary monetary policy,” states the report.

Riksbank concerns led to a tighter policy

“But the monetary policy deliberations are also affected by other factors. One important factor is household debt. Experiences from other countries in recent years illustrate the risks of an overly rapid build-up of debt. A rapid increase in debt, even if it is not considered to threaten financial stability, could make the economy more sensitive to shocks. A less expansionary monetary policy, which dampens the rate of increase in debt, could then contribute to reducing the risk of major fluctuations in inflation and resource utilisation in the future.”

This raises several issues. For instance, should the addition of a new target

variable, with possible less target achievement for inflation and unemployment as a result, be preceded by an open and thorough analysis of and conclusions about whether this is justified for economic and economic policy reasons? This could include precisely what economic mechanism and channels of transmission are involved, including how the policy rate is supposed to affect the target variable and any risks connected with the target variable. And, importantly, is this addition

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consistent with the Riksbank Act and its preparatory works? I believe the legal argument should not be taken lightly, since it is through the Riksbank Act and the preparatory works that the Riksdag specifies the objectives for the Riksbank.

But let me here leave the legal argument aside, and look at the economics.¹⁰ To justify the introduction of the debt ratio as an additional target variable besides inflation and unemployment, it seems that three claims must all hold true:¹¹

- 1) the level of household debt in Sweden today entails sufficiently large risks that it needs to be restrained;
- 2) a higher policy rate could, by restraining the debt ratio, tangibly reduce these risks, and the reduction of the risks thus achieved is worth the lower inflation and higher unemployment caused by the higher repo rate; and
- 3) there is no better policy instrument available than the policy rate, with greater or the same effect on the risks and less effect on inflation and unemployment.

Let me here examine claims (2) and (3), starting with claim (2). It is crucial for this claim to hold true that the policy rate has a significant negative effect on the debt ratio – that is, that a higher policy rate significantly reduces the debt ratio. Without a significant negative effect, it is difficult to see how any risks associated with the debt ratio could be affected. Furthermore, the magnitude of the effect on the debt ratio should be reasonably large in relation to the effect on inflation and unemployment; otherwise it would be difficult to argue that the reduction in risks would be worth more than the increased unemployment and reduced inflation.

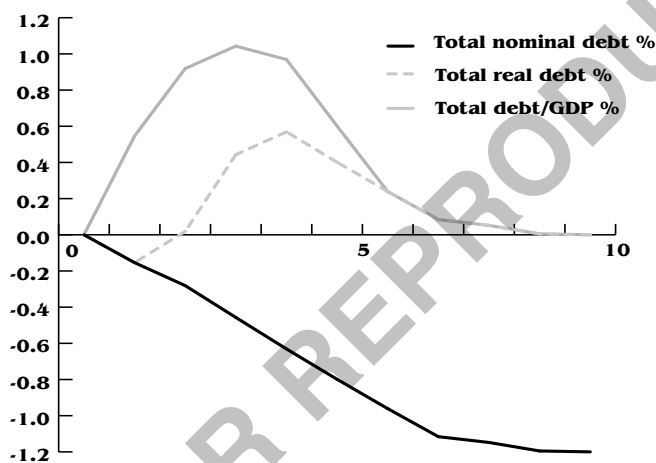
‘Leaning’ increases the debt ratio However, a closer study¹² of the issue actually reveals that a higher policy rate has a small positive effect, not a negative effect, on the debt ratio. That is, a higher policy rate increases the debt ratio rather than reduces it. Thus, ‘leaning against the wind’ is counterproductive, if the purpose is to reduce the household debt ratio. This result may be surprising to some, at least at the Riksbank, which may have made a ‘sign error’ in its assumptions. But the result is actually quite easy to understand once one carefully considers how debt, GDP and inflation are affected by a higher policy rate.

As explained in the study, ‘Leaning Against the Wind’ Leads to Higher (Not Lower) Household Debt-to-GDP Ratio, a higher policy rate during a year relative

to a baseline leads to temporarily lower inflation, real GDP and real housing prices for a few years, relative to the baseline. After three to five years, however, inflation, real GDP and real housing prices have returned to the baseline.

The temporarily lower inflation leads to a permanently lower price level and permanently lower nominal GDP and nominal housing prices relative to the baseline. Lower nominal housing prices mean new mortgages will be lower. But a year's new mortgages are only a small share, perhaps about 14% of the total number of mortgages. Since the turnover of the mortgage stock is so small, the total nominal debt will fall very slowly. The price level and nominal GDP will fall much faster to their new, lower permanent level.

Figure 1. The response of total nominal debt, total real debt and the debt-to-GDP ratio over 10 years to an increase in the policy rate of one percentage point during year one relative to the baseline



Source: Lars Svensson

Since the nominal debt falls so slowly and the price level and nominal GDP fall much faster, the real debt will rise almost as much and as fast as the price level falls, and the debt-to-GDP ratio will rise almost as much and as fast as the nominal GDP falls. After a few years, when the price level and nominal GDP have reached their permanent lower levels, real debt and the debt-to-GDP ratio start to slowly fall back towards the baseline. After more than a decade, they have returned to the baseline and the level they would have had in the absence of the temporary policy rate increase. Figure 1 shows the response over 10 years of total nominal debt, total real debt and the debt-to-GDP ratio, relative to the baseline, to a one-percentage-point higher policy rate than the baseline during year one.

Disposable income moves in the same direction as GDP, but not as much. This means the ratio of debt to disposable income, the debt ratio, also first rises for a few years; more than real debt but less than the debt-to-GDP ratio. Then it slowly falls back to the baseline. Thus, as a rule of thumb, a one-percentage-point higher policy rate than a baseline during a year results in an increase relative to the baseline in the debt ratio of about 1% in three to four years, after which the



debt ratio starts to fall back towards the baseline. After about eight years, it has returned to the baseline.

Riksbank's justification for tight policy is invalid The conclusion is that a higher policy rate increases the household real debt and the debt-to-income ratio. The higher policy rate indeed reduces nominal housing prices and new mortgages, but since the new mortgages are such a small share of total mortgages, the total nominal debt falls slowly. At the same time, nominal GDP and nominal disposable income fall much faster. The debt-to-GDP and the debt-to-income ratios rise. The effect on the debt-to-income ratio, about a 1% increase in the ratio after a few years for a one-percentage-point increase in the policy rate, is too small to have any effect on any risks associated with the debt ratio. And, importantly, it has the opposite 'sign' to what the Riksbank has assumed. The policy rate clearly does not have a significant negative effect on the debt ratio. Thus, claim (2) is simply wrong!

With regard to claim (3), in Sweden the Finansinspektionen (the Swedish Financial Supervisory Authority) and the government have previously taken or announced several effective measures, namely a mortgage loan-to-value cap (which has a clear effect on the loan-to-value ratio for new mortgages according to Finansinspektionen's *Swedish Mortgage Market Report 2013*), higher capital-adequacy requirements for systemically important banks and higher risk weights on mortgages. The Finansinspektionen also thoroughly monitors that mortgage lending standards are strict, that borrowers' debt-service capacity is good, and that borrowers' resilience to disturbances in the form of increased mortgage rates, increased unemployment and housing price

falls is sufficient. Thus, it seems difficult to argue that claim (3) holds true.

In particular, in August 2013, the Swedish government announced a new strengthened framework for financial stability.¹³ The Finansinspektionen will have the main responsibility for micro- and macro-prudential policy and control of the micro- and macro-prudential instruments. Assigning the main responsibility and control of both micro- and macro-prudential instruments, including instruments such as the counter-cyclical capital buffer, to a single authority allows for both efficiency and accountability. A Stability Council will be created, with the financial markets minister as the chair and the director-generals of the Finansinspektionen and the National Debt Office, and the governor of the Riksbank, as additional members. The council will assess financial stability, manage crises and publish their positions and assessments. Sweden should now have an effective framework for financial policy and financial stability.

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As noted, once claims (2) and (3) do not hold, it does not matter for the issue of whether monetary policy should try to restrain household debt whether claim (1) is true or not. However, for those that advocate such use of monetary policy – and believe claims (2) and (3) are true – it would seem important to show that claim (1) is true. As far as I can see, the analysis of the risks connected with debt to which the executive board majority has referred to mainly consist of superficial comparisons with other countries, without a proper discussion of the causes and triggers of crises in other countries. ‘The Swedish debt ratio is at a level that has caused problems in other countries’ is a typical statement, without further details. This does not seem sufficient to justify a policy that has had large consequences for unemployment and inflation. Claim (1) is further discussed in ‘Some Lessons from Six Years of Practical Inflation Targeting’ (see note 1).

With clear objectives and enough information from the central bank, policy can be evaluated both *ex ante*, in real time, that is, considering only the information available at the time of the decision, and *ex post*, that is, when information about what happened after the decision is available.¹⁴

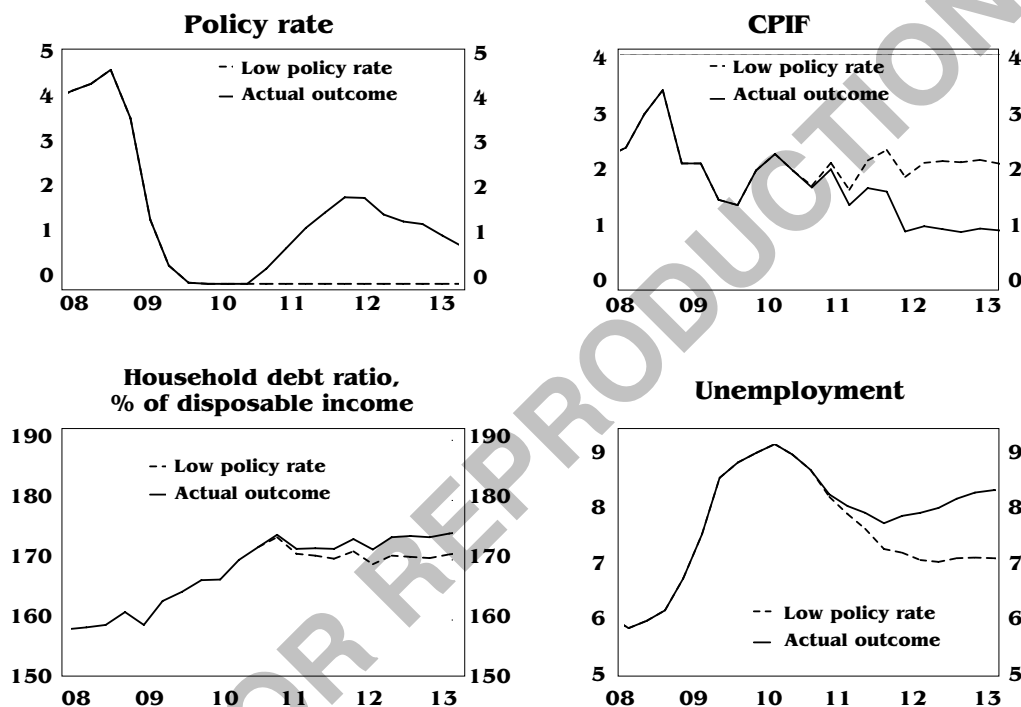
Evaluating monetary policy

Suppose the central bank publishes the policy rate path and the forecast of inflation and unemployment, as well as estimates of how these forecasts shift when the policy rate path shifts. Then it is possible to evaluate policy in real time and to judge whether a different policy rate path would be better or not.¹⁵

Ex post, given information about how the economy evolved after the policy decision, it is possible to evaluate how appropriate monetary policy has been in the light of the actual outcome for the economy. In particular, it is possible to analyse what kind of policy would have been required to achieve a good target goal. Such a counterfactual analysis is possible, although the results have to be interpreted with some caution.

From and including the monetary policy meeting in June 2010, the majority on the executive board steadily raised the policy rate at every monetary policy meeting, from 0.25% in June 2010 to 2% in July 2011, an increase of 1.75 percentage points. Since December 2011, the majority on the executive board has lowered the policy rate to 1% in December 2012, a cut of one percentage point. On average, the policy rate has been approximately 1.5 percentage points higher than if it had remained at 0.25% until now.

Figure 2. Policy rate, CPIF inflation, unemployment and the debt ratio; actual outcome and low policy rate path from 2010



Sources: Statistics Sweden, the Riksbank and own calculations.

One might ask what would have happened if the policy rate had remained at 0.25%. This can be examined using a standard method to calculate the effects of alternative policy-rate paths.¹⁶ Figure 2 shows the result of such a calculation. In the upper left panel, we see the actual (dark line) and counterfactual (light line) outcome for the policy rate. In the right panels, we see the corresponding actual (dark) and counterfactual (light) outcome for CPIF inflation and unemployment. (CPIF inflation is CPI inflation less the direct effect on housing costs of changes in mortgage rates.) We see that, for the counterfactual policy rate path, CPIF inflation would have remained fairly stable at around 2% instead of falling to 1% and below. Target achievement for CPIF inflation would then have been as good as possible. Unemployment would have been lower and would, in the first quarter of 2013, have been about 1.2 percentage points lower, at around 7% instead of at 8.2%. Target achievement for unemployment would have been much better than at present. These calculations are of course uncertain, but they

are not more uncertain than other analysis of the effects of alternative policy rate paths. They provide a clear indication of the magnitudes we are talking about and allow an assessment of how much better the situation would have been if the Riksbank had not begun to increase the policy rate in the summer of 2010.¹⁷

The conclusion of this counterfactual analysis is that the actual monetary policy conducted has led to much lower inflation and much higher unemployment than a policy that would have held the policy rate unchanged at 0.25%. As mentioned, concerns about the debt ratio were cited as a justification for the policy conducted. Therefore, one wants to examine what the consequences for the debt ratio would have been with the policy rate unchanged at 0.25%. This is shown in the bottom-left panel, using the rule of thumb mentioned earlier (Some Lessons from Six Years of Practical Inflation Targeting, see note 1, provides more details). The debt ratio would have been about 171% of disposable income instead of 174%. This is a small reduction in the debt ratio and arguably would not tangibly affect any potential risks connected to household debt. But if one thinks that any risks vary with the debt ratio, since there is a reduction in the debt ratio, there would certainly not be any increase in the risks, but rather a reduction in the risks.

In summary, the policy tightening that the Riksbank undertook from summer 2010 has led to much lower inflation than the inflation target, much higher unemployment than a reasonable estimate of the long-run sustainable rate, and a somewhat higher debt ratio. The increase in the debt ratio is too small to have any tangible effect on any risks connected with household debt, but it has certainly not lead to any decrease in risks that might be worth higher than necessary unemployment and lower than needed inflation.

Some of my lessons from my six years of practical inflation targeting as a policy-maker at the Riksbank are as follows:

Lessons for the future

Regarding the mandate, be clear about, and do not deviate from, the mandate for flexible inflation targeting: price stability and the highest sustainable unemployment. This means stabilising inflation around the inflation target and unemployment around a long-run sustainable unemployment rate.

Regarding household debt, do not include household debt as an additional target variable besides inflation and unemployment, especially since ‘leaning against the wind’ may actually increase rather than reduce the household debt-to-GDP and household debt-to-disposable income ratios. Leave any problems with household debt to the Finansinspektionen and its micro- and macro-prudential instruments, especially since the Swedish government in August 2013 announced a new strengthened framework for financial stability in Sweden, where the Finansinspektionen is assigned the main responsibility for financial stability and the control of all the micro- and macro-prudential instruments.

Regarding policy evaluation, use counterfactual experiments as one element in such evaluations *ex post*, meaning taking into account information available after the policy decision. Such counterfactual experiments can also assess claims about the effect of monetary policy on household debt. □

Notes

1. This paper builds on the more extensive discussion in Svensson, Lars EO, “Some Lessons from Six Years of Practical Inflation Targeting”, *Sveriges Riksbank Economic Review*, 2013:3.
2. These are lessons mainly for central banking and monetary policy in Sweden, with its small,

very open economy and its special and oligopolistic financial sector. Things are very different in different economies. So the lessons may apply to varying degrees for other economies, depending how similar they are to Sweden in relevant aspects.

3. Svensson, Lars EO, 2010, "Inflation Targeting", in Friedman, Benjamin M, and Michael Woodford, eds., *Handbook of Monetary Economics*, Volume 3B, chapter 22, Elsevier.
4. Sveriges Riksbank Act (1988:1385), Sveriges Riksbank Act in its wording as of July 1, 2011, www.riksbank.se.
5. Swedish Government, 1997, *Riksbankens ställning* (the position of the Riksbank), Government Bill 1997/98:40, www.regeringen.se.
6. For instance, the Spring Fiscal Policy Bill 2013 states that "the goal of the Government's policy is full employment", Swedish Government, 2013 Spring Fiscal Policy Bill, Government Bill 2012/13:100, page 23.
7. Federal Open Market Committee, 2013, "Statement on Longer-Run Goals and Monetary Policy Strategy", amended on January 29, 2013, www.federalreserve.gov.
8. The employment gap between the rate of employment and a long-run sustainable rate of employment equals the labour-market participation gap less the unemployment gap, where the participation gap is the gap between the actual rate of labour-market participation and a long-run sustainable rate. In Sweden, the participation gap is currently considered to be small and stable. For the US, see Erceg, Christopher J, and Andrew T Levin, 2013, "Labor Force Participation and Monetary Policy in the Wake of the Great Recession", working paper, who argue that the participation gap is significant and endogenous, and has fallen in response to the recession. Then the unemployment gap needs to be adjusted for the participation gap in order to be consistent with the employment gap.
9. Sveriges Riksbank, *Monetary Policy Report*, July 2013.
10. In spite of the Government Bill (Swedish Government, 1997, page 54) stating, regarding monetary policy in a crisis, that "[t]he monetary policy instruments shall however, according to the Government Bill, only be used to maintain price stability".
11. Svensson, Lars EO, "Monetary Policy, Debt, and Unemployment", speech at SNS, Stockholm, November 14, 2012.
12. Svensson, Lars EO, "'Leaning Against the Wind' Leads to Higher (Not Lower) Household Debt-to-GDP Ratio", working paper, 2013, larseosvensson.se.
13. Swedish Government, "A Strengthened Framework for Financial Stability" (Förstärkt ramverk för finansiell stabilitet, in Swedish), Press Release, August 26, 2013, www.regeringen.se.
14. Svensson, Lars EO, "Evaluating Monetary Policy," in Koenig, Evan F, Robert Leeson, and George A. Kahn, eds., *The Taylor Rule and the Transformation of Monetary Policy*, Hoover Institution Press, 2012, 245–274 pages. Sveriges Riksbank, Account of monetary policy 2012, www.riksbank.se.
15. This can be done in terms of four-panel figures, with alternative policy-rate paths, corresponding inflation and unemployment forecasts, and so-called mean squared gaps, summarising the target achievement for inflation and unemployment. See "Some Lessons from Six Years of Practical Inflation Targeting" cited in note 1.
16. The method calculates with the Riksbank's macroeconomic model the impact on inflation and unemployment of the anticipated or unanticipated shocks to the central bank's reaction function that result in a given alternative policy-rate path. It builds on Leeper, Eric M, and Tao Zha, 2003, "Modest Policy Interventions", *Journal of Monetary Economics* 50, 1,673–1,700 pages) and Laséen, Stefan, and Lars EO Svensson (2011), "Anticipated Alternative Instrument-Rate Paths in Policy Simulations", *International Journal of Central Banking* 7(3), pages 1–35, and is discussed in general terms in Svensson, Lars EO, "Why a lower repo-rate path?", speech at Umeå University, February 24, 2010. For Figure 2 unanticipated shocks are used.
17. If this counterfactual experiment were to be repeated with a zero repo rate from June 2010 instead of a repo rate of 0.25%, then CPIF inflation would be a couple of tenths higher and unemployment a few tenths lower. The counterfactual outcome would thus be even better.