SPEECH

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On the Riksbank's high threshold for asset purchases*

Thank you for the invitation to come here! These meetings are usually a good opportunity to take a break from the day-to-day business and discuss more academic issues and matters of principle relating to the Riksbank and monetary policy. And this is what I intend to do today as well.

Inevitably, sometimes one is surprised by the way the economy is developing. This is also true of central banks, who nevertheless put a lot of effort into trying to predict what will happen. Perhaps the clearest example in recent years was when inflation rose very sharply across the world. But even the period before that – which may be starting to fade into oblivion after all that has happened – was somewhat surprising. Instead, it was then difficult for a long period of time to bring *up* inflation to the target. As a result, policy rates were cut to very low levels, and many central banks had to start conducting monetary policy using other, more unconventional methods.

I would like to focus on one of those measures, namely asset purchases, or so-called quantitative easing. One reason for doing so is that in December last year the Riksbank essentially finalised the sale of the securities we had previously

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purchased.[1] Our balance sheet is now back at a more normal size, after a successful and smooth wind-down. In my speech here at the Swedish Economics Association in 2023, I also noted that more analysis of the consequences of securities purchases was needed.[2] A few years have now passed and in this time some research has been published on the policies pursued by central banks. It may therefore be a good time to take stock and try to summarise the current state of knowledge and some of the conclusions we have drawn from the experience we have gained.

Focus on asset purchases as a monetary policy instrument

It may seem a little strange to discuss this subject today, when policy rates are back at more normal levels and several countries are having problems bringing inflation back *down* to the target. So the policy rate is once again the main tool of central banks − we are thus back to business as usual. But just as we did not foresee the long period of very low inflation and low policy rates, we cannot know what the situation will be in, say, ten years' time. And it is precisely in forums such as the Swedish Economics Association that there are reasons to raise this type of more long-term and fundamental issue.

I would like to start with a demarcation. I intend to distinguish between measures taken for more traditional monetary policy purposes to bring up inflation and those taken to prevent a crisis. For example, the Riksbank purchased various types of securities to stabilise the financial markets in connection with the acute phase of the coronavirus pandemic in early 2020. I do not intend to talk about these measures. When a crisis threatens, you use what you have, but for a relatively limited time. Buying securities in times of crisis to stabilise markets is generally seen as less controversial than doing so in non-crisis periods.[3] So I will confine myself to 'normal' − but unconventional − monetary policy. To use medical terms, I will address policies that are conducted in the event of 'chronic conditions' but not 'acute injuries'.

For Sweden, this means the periods 2015−2019 and from approximately the end of 2020 to the end of 2021. During the first period, the stated aim of the asset

[1] In November 2024, the Riksbank decided to maintain a holding with a benchmark size of nominally SEK 20 billion – within a range of SEK 18-22 billion – in the long term, to maintain a good operational capacity to enable rapid trade in government bonds if necessary. The Riksbank also has some holdings of real government bonds, which we are continuing to liquidate.

[2] Thedéen (2023).

[3] However, it is important to be mindful of the risk of so-called moral hazard. If market participants expect the central bank to step in and support the market whenever stress emerges, this creates incentives to take on greater risk ex ante.

purchases was to stimulate the economy and bring inflation up to the target level. During the second period, the asset purchases were expanded and had a greater element of broad-based stimulus as the coronavirus pandemic subsided.[4]

Unclear how the normal level of interest rates will develop

Despite the passage of a number of years, many of the issues raised during the low-inflation and low-interest-rate period are still being debated in the academic community. Perhaps the most central discussion concerns what will happen to general interest rates in the future. One reason why policy rates were so low for several years – and why central banks started buying securities – was that what is known as the neutral interest rate was historically low worldwide.[5] The neutral interest rate is the rate at which monetary policy is neither stimulative nor contractionary, i.e. the interest rate in a kind of normal situation. For the sake of simplicity, I will henceforth refer to the 'normal interest rate environment'. That pretty much captures what it's all about.

What constitutes a normal level of interest rates is largely beyond the control of central banks. It is determined by deeper structural forces, such as the propensity to save relative to the propensity to invest globally.

There are currently two camps in the research. One view is that the normal level of interest rates has risen since the pandemic and will remain higher than the lows of the 2010s. If so, the likelihood that policy rates will need to be lowered to very low levels again − and that central banks will need to resort to other measures, such as asset purchases − diminishes. The other view is that the forces that previously pushed interest rates down remain strong. If interest rates have risen, it is therefore uncertain whether the increase will be sustained. In other words, there is no consensus, which, in all fairness, there rarely is on these types of issues.[6]

Let us assume that we cannot rule out that at some point in the future we will once again find ourselves in a situation of very low global normal interest rates. Then we will need to have a good idea of how the quantitative easing

[4] Flodén (2022) and Ravn and Wilkins (2026) make roughly the same periodisation.

[5] Other terms with similar meanings are natural rate or r* (or r-star).

[6] See, for example, Schnabel (2023) for a discussion of how increased investment needs, geopolitical fragmentation, and larger fiscal deficits may contribute to a higher long-term real interest rate than in the past. See also Rogoff (2023). Christensen and Mouabbi (2025) find empirical evidence that r* has increased in the euro area. By contrast, Blanchard (2023) and Obstfeld (2023) argue that a persistent rise in the normal level of interest rates is not a given.

programmes that central banks carried out last time worked and what their advantages and disadvantages were. Research has now had a few years to evaluate them, and I thought I'd go through how I interpret the current state of knowledge. I will also make some personal reflections on what I think are the most important lessons learnt, well aware that these are my personal opinions and that others may have a different view.

QE works through several different channels

For the sake of simplicity, I shall continue to use the established abbreviation QE for quantitative easing.

In theory, QE works through several different channels.[7] One is the portfolio balance channel: by buying bonds, the central bank pushes down long-term interest rates and risk premiums, causing investors to reallocate their portfolios towards riskier assets. This puts downward pressure on risk premiums across the economy, driving up asset prices and making it cheaper to borrow and more attractive to invest, which in turn can stimulate the economy. Rising asset values also mean that the value of the collateral that households and companies may need to pledge to obtain credit increases, making it easier for them to borrow. In addition, in times of crisis, purchases can strengthen the banks' financial position and their willingness to lend.

Higher asset prices also increase household wealth and may encourage more consumption. Moreover, if QE results in lower interest rates relative to the rest of the world, this tends to weaken the currency, which favours exports and contributes to higher inflation, partly through increased aggregate demand and partly through higher import prices.

Finally, there is a signalling channel. By conducting large-scale bond purchases, the central bank is signalling that it plans to keep monetary policy expansionary for an extended period.[8] The market interprets this signal in its expectations of future interest rates, which − via the expectations hypothesis of the yield curve − is pushing down long-term interest rates today. One concrete example of how signalling can work is that market participants expect the central bank not to raise the policy rate while the QE programme is ongoing.

[7] For a more detailed review, see Andersson et al. (2022).

[8] See, for example, Bernanke (2020), who argues that this is one of the main transmission mechanisms of QE.

More empirical research on QE has been published

That's the theoretical part. So what does the empirical research say about the effects of QE, a few years on? My interpretation is that, taken together, this suggests that QE has clear and well-established effects on financial variables – prices of bonds, equities, property and other assets rise – but that the effects on GDP and inflation are a little more uncertain and contingent.[9]

The early studies, often based on event studies of the first QE programmes during the financial crisis, tended to be relatively optimistic. More recent research has provided a more nuanced picture: the effects on the real economy appear to be strongest when QE is used as an acute crisis tool in situations of market dysfunction, and they are weaker when used in more normal conditions at the policy rate's lower bound.[10] There are also indications that the effects may diminish over time as the market becomes accustomed to the central bank's presence as a buyer. This could be summarised as QE is working – but in more limited circumstances than early studies suggested, and with effects on inflation and the real economy that are harder to establish empirically than the effects on financial prices.

As regards Sweden, I have been particularly influenced by an analysis by my former colleague on the Executive Board, Martin Flodén (2022). His review suggests that the purchases of government bonds in the run-up to the pandemic caused government bond yields across the yield curve to fall by at least 30 basis points. This effect is low in relation to the scope of the purchases and there are no clear signs that the Riksbank's purchases of government bonds during the period 2015−2019 reduced financing costs for households and companies. More specifically, he raises questions about the importance of the portfolio balance channel in Sweden. The idea behind the channel is that when the central bank buys government bonds, it reduces the supply in the market, forcing investors to look for other securities – such as covered bonds and corporate bonds. This pushes down interest rates on these too. Funding costs for banks and companies

[9] Bhattarai and Neely (2022), in a broad review of the literature, provide support that unconventional monetary policy affected asset prices and financial variables in the desired direction, and that calibrated models suggest positive macroeconomic effects – albeit with the caveat that these are primarily identified via model-based analyses rather than direct empirical identification. Andersson et al. (2022) argue that while asset purchases contribute to a more expansionary monetary policy even in more normal times, there is room for different views on how the purchases work and what their macroeconomic effects have been.

[10] Fabo et al. (2021) find that the effects are on average estimated as larger in studies produced by central banks than in independent academic studies, suggesting that the macroeconomic effects may be more uncertain than the early literature indicated. Despite their relatively favourable conclusions, Bhattarai and Neely (2022) recommend reserving unconventional monetary policy for crises and/or when the policy rate's lower bound limits conventional monetary policy.

then fall, and ultimately this makes borrowing cheaper for households and companies.

Martin Flodén believes that this chain was broken at an early stage in Sweden. While government bond yields fell, covered bond yields − the banks' most important source of funding for mortgages − did not fall to a corresponding degree. They should have done so if the portfolio balance channel worked well. Moreover, Swedish households and many companies borrow primarily at variable rates with short fixation periods, which makes them more sensitive to the policy rate than to long-term bond yields. Therefore, even if the portfolio balance channel had worked and pushed down longer-term interest rates, the impact on households' and companies' actual borrowing costs would likely have been limited.

Martin Flodén also argues that the Riksbank's purchases during the coronavirus crisis were important and contributed to the restoration of financial market functioning, a rapid economic recovery, and the avoidance of a prolonged downturn. However, he expresses scepticism regarding the subsequent expansion of the purchase program at a time when the economy was already recovering and the financial markets were functioning again.

Thus, he finds little support for the view that the purchases affected households' and companies' financing costs via the interest rate channels. Both theories and empirical research on QE focus to a significant extent on large economies, especially the United States. The fact that the purchases in Sweden have had somewhat different effects than expected may have to do with the fact that we are a small country whose capital markets are largely influenced by international players. Of course, the portfolio balance channel can also work in other ways than via interest rates on bank loans. Over the entire period 2015–2021, data from the Swedish financial accounts show that foreign investors sold a significant share of the government bonds, municipal bonds and covered bonds purchased by the Riksbank.[11]

During the same period, foreign investors thus rebalanced their portfolios of Swedish assets away from bonds issued by governments and banks towards riskier assets such as corporate bonds, but also equities issued by Swedish non-financial corporations, including property companies. It is not possible to answer the question of how much of this was a direct result of portfolio substitution

[11] Beechey Österholm (2022).

following the Riksbank's asset purchases and how much was the result of a general hunt for yield in a global low interest-rate environment.

New research also suggests that the QE exchange rate channel may have played a more important role than previously recognised.[12] The results indicate that the Riksbank's QE and its related communication in 2015 and the years thereafter contributed to lower yields on Swedish government securities and to a weaker krona exchange rate, compared with if the Riksbank had never launched QE. It is reasonable to assume that the lower interest rates, via the so-called interest rate parity relationship, caused the krona exchange rate to weaken. But QE may have affected the exchange rate via other mechanisms as well, for example via capital flows driven by fluctuating risk premiums and different investment strategies in the foreign exchange market.[13] A weaker exchange rate stimulates inflation and output.

One reflection that can probably be made in this context is that the exchange rate can be affected by structural factors that have little to do with monetary policy. Exchange rate movements have proven to be notoriously difficult to forecast. The QE exchange rate channel thus operates in practice together with a variety of other factors that can dominate for long periods and counterbalance the impact of the exchange rate through this channel.[14]

The signalling channel has been reassessed

Another lesson learned is that the QE signalling channel has had to be reassessed somewhat. In short, the signalling channel is theoretically elegant but empirically fragile. The idea is that QE programmes communicate an implicit commitment that short-term interest rates will remain low for a long time. According to the expectations hypothesis, long-term interest rates reflect expected future short-term interest rates, which means that a QE sends a signal that short-term rates will be low going forward, which directly pushes down long-term interest rates – without the central bank having to make excessive purchases.[15]

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[12] Kolasa et al. (2025) and Laséen and Lindé (2025).

[13] A theory of how risk premiums in the foreign exchange market affect the exchange rate is described in Itskhoki and Mukhin (2021). See also "The krona will strengthen in the medium term", article in the Monetary Policy Report, September 2023,

[14] Another reflection is that if the exchange rate is central, an alternative could instead be to influence it directly via currency interventions. Kolasa et al. (2026) note that a foreign exchange intervention has very similar effects to QE (in the absence of frictions in the foreign exchange market).

[15] Flodén (2022) emphasises a slightly different signalling mechanism for Sweden. During 2013 and 2014, it became increasingly common for various agents in the Swedish debate to question whether the Riksbank placed sufficient emphasis on bringing inflation up to the 2 per cent target. According to Martin Flodén, the combination of asset purchases and a negative policy rate appeared very powerful and changed the

The signalling channel requires the central bank to communicate, through QE, a sufficiently clear and specific commitment to the future path of interest rates. It also requires the market to believe that the commitment is real. Central banks have had mixed success with the first premise – QE programmes have typically been communicated in terms of volumes and time-frames, making it difficult for the market to interpret what the programme is actually signalling about the future path of interest rates.

The second condition is undermined by the time consistency problem: if the central bank deviates from the implicit promise when conditions change, the market learns to discount the signal from the outset. That is what happened when inflation soared in 2021−2022 and central banks raised interest rates quickly and sharply. So this is not just a theoretical problem but has materialised in practice. The rate hikes showed that the signalling channel's premise of a protracted period of low interest rates did not hold when conditions changed. The large interest rate hikes also led to significant losses on central bank bond holdings, as bond prices fell when interest rates rose. I'll talk more about this later.

So far about the *intended* effects of QE. Research and practical experience also suggest that the *side effects* of QE may need to be taken into account to a greater extent than perhaps previously thought. These are both effects that were known from the outset and those that may not have been anticipated – at least not fully. I will discuss some of these side effects and the findings of recent research.

Large-scale asset purchases can impair the functioning of the market

Some of the more obvious negative side effects are that QE can create disruptions in the markets that are central to government and bank debt financing, and which are a prerequisite for QE to work.

A concrete expression of this is given in an empirical study on Swedish data.[16] It shows that the Riksbank's bond purchases initially improved liquidity in the government bond market. But a scarcity effect gradually took over as the Riksbank's holdings grew; with fewer bonds available to private agents, the depth and pricing power of the market deteriorated.

perception of the Riksbank's priorities. This signalled that the Riksbank was prepared to do "whatever it takes" to safeguard the credibility of the inflation target. He also questions why market participants would rely more on central banks' communication on future asset purchases than on their communication on future interest rate decisions.

[16] Blix Grimaldi, Crosta and Zhang (2026).

This is often referred to as a material shortage and can create a range of interacting problems. Bid-ask spreads can widen, price volatility can increase and trading volumes can fall. Buying and selling bonds becomes more expensive and market makers withdraw when there is too little to trade. The repo market − that is, the market for short-term borrowing against securities − is also disrupted when the availability of government bonds as collateral decreases. It makes short-term liquidity management difficult for banks and other financial institutions.

Government bond yields are also the risk-free rate at various maturities and thus indirectly underpin a large number of other financial contracts, such as mortgages, corporate bonds and derivatives. For other assets such as equities and property, the risk-free rate is also a key reference point, as it is part of the required rate of return used by market participants to present future cash flows from the assets and to price them in the market. More generally − and not specifically documented for Sweden − shocks to government bond market pricing may thus risk spreading to the entire financial system, so that risky assets are overvalued on the basis that the risk-free yield curve is 'doped'. Capital allocation then becomes inefficient and, in a context of already rising asset prices and concerns about over-valuation, the risk of future price corrections, possibly with sharp falls in value, increases. Thus, in a bad scenario, the impact of QE on asset valuations could be particularly problematic.

A further potential problem, which is also of a more general nature, is that both the central bank and the political system may eventually lose important information. A well-functioning bond market continuously aggregates market participants' expectations about future inflation, growth, government savings and the central bank's interest rate path. The central bank uses this information to shape its policies. If market functioning deteriorates sufficiently, the yield curve in this sense may cease to be informative, so that it becomes more difficult for the central bank to assess how well-balanced its monetary policy is.[17]

Similarly, if long-term interest rates are increasingly affected by QE, market signals about the long-term sustainability of fiscal policy may weaken. In a well-functioning bond market, government bond yields rise if deficits and public debt risk becoming excessive. Higher interest rates in turn create incentives for political decision-makers to reduce budget deficits and repair credibility. This corrective mechanism is commonly referred to as 'bond market vigilance'. If QE contributes

[17] QE can also disrupt markets in other ways. Blix Grimaldi, Schneider and Vestin (2026) show that the shortage of government bonds as a result of the Riksbank's purchases fuelled demand for the Swedish National Debt Office's securities lending facility (SLF), via which primary dealers can borrow government bonds temporarily. This pushed the repo rate down towards the level of the SLF rate, where it became stuck as a floor – below what the policy rate justified. The same mechanism is noted by Erikson (2021).

to weakening this mechanism, there is a risk that the central bank's actions will ultimately lead to rising government debt and increasingly unsustainable public finances.

It is worth noting that these problems mainly arise when QE is used over a long period of time and not primarily as a crisis instrument, i.e. to try to cure a 'chronic condition' and not an 'acute injury', to use my earlier analogy. In an acute crisis – when markets are already dysfunctional and pricing is severely constrained – the picture is different. The central bank can then restore a market that has already stopped functioning rather than impairing the functioning of a market that is basically working well.

Risk of getting stuck with a large security holding

There is also another negative side effect of QE linked to the bond market: the central bank may find it difficult to unwind the securities holdings it has built up. If the central bank increases its holdings at each QE without unwinding in between, it will end up with a very large stock. We have succeeded in avoiding this in Sweden. We have followed a consistent unwinding strategy from 2022 onwards and, as I noted earlier, the reduction of the holding has been both swift and smooth.

This has not been the case in all countries. In the United States, for example, the large stock of securities accumulated by the Federal Reserve under the QE policy has become the subject of a rather intense debate. Critics argue that the Fed has painted itself into a corner, among other things by making the market dependent on the liquidity created by the asset purchases.[18] Any attempt to shrink the balance sheet risks triggering market disruption. The so-called 'taper tantrum' of 2013 – when the mere signalling of future tapering of Fed purchases triggered sharp movements in yields without a single bond being sold – illustrates how sensitive the market can be to signals that central bank support will be reduced. There is thus an asymmetry inherent in QE as an instrument. It is easier to launch a programme than to wind it up, and the longer and more extensive the programme, the more difficult and costly its winding up becomes.[19]

The debate in the United States has also focused on the institutional risk posed by large-scale asset purchases in the form of increased politicisation. When the Fed

[18] Acharya et al. (2024) empirically show that during the QE period banks reduced their own liquidity buffers as a result of the excess liquidity created by central bank asset purchases.

[19] The Federal Reserve reduced its balance sheet between March 2022 and December 2025 by USD 6.5 trillion. However, this was only half as much as it increased during the coronavirus pandemic (Labonte, 2025).

or other central banks become dominant players in specific markets, their decisions can be perceived as political. There is thus a risk that the boundary between monetary policy and fiscal policy will become blurred, which in turn could jeopardise the independence of the central bank.

The relatively rapid reduction in the Riksbank's securities holdings and the Fed's still large balance sheet partly reflect different structural conditions, but probably to some extent also fundamentally different views on the role of the central bank. On the structural side, Sweden's low government debt and the limited government bond market have been important components. They have meant that the Riksbank relatively quickly reached the limit of what was possible to buy without adversely affecting the functioning of the market. The incentives to shrink the balance sheet were therefore already strong for practical reasons. Operating in the world's largest bond market, the Fed has never faced the same constraint.

But the difference is probably not just structural. In recent years, the Riksbank has clearly signalled an ambition to return to the policy rate as the primary monetary policy instrument. Instead, asset purchases should be seen primarily as a crisis tool with a high threshold for use as a pure monetary policy instrument. This view of the central bank's role is consistent with the original design of the Swedish monetary policy framework.[20] The Fed has been moving in a different direction for quite some time: QE has gradually normalised as a standard tool and the balance sheet has grown with each crisis without fully normalising in between – from the financial crisis through the pandemic to today.[21] In this sense, the current debate in the United States on the Fed's balance sheet can be said to be about a principle that the Riksbank has already put into practice.

Exit strategy important but difficult

Ending a QE programme and unwinding securities holdings may face opposition from market participants who may see benefits from the central bank's presence, politicians who want low financing costs and commentators who warn of tightening effects.

The time consistency problem is also inherent. The central bank may promise a smooth exit from the QE programme, but when it comes to implementing it, the

[20] See, for example, Sveriges Riksbank (2026). In Thedéen (2025), I emphasise the importance of the central bank staying within a well-formulated and delimited mandate and avoiding 'mission creep' or 'mandate creep', i.e. gradually expanding its tasks or responsibilities beyond its original mandate, and without formal legislative support.

[21] Newly appointed Fed Chair Kevin Warsh (2025) criticises this pattern and advocates a strategy similar to that of the Riksbank (without explicitly mentioning the Riksbank): a permanently smaller balance sheet, a higher threshold for future QE and a return to the policy rate as the central instrument.

central bank may be in a macroeconomic situation where it is rational to postpone it. The market understands this in advance and discounts the promise – which is one of the explanations for the taper tantrum I mentioned earlier. The market had never fully believed the Fed's implicit promise of normalisation.

The exit strategy needs to be designed with these conditions in mind – and that is no easy task. Nevertheless, an important lesson from the experience of recent years is that the exit strategy should be designed and communicated as far as possible at the time of the launch of the programme.[22] If the exit conditions are specified upfront – what triggers the exit, at what pace and via which instruments – the risk of political and institutional incentives prolonging it beyond what is macroeconomically justified is reduced. A clear exit strategy also has communication benefits. It reduces the risk of taper tantrum-like overreactions, as the market is not surprised by signals of an exit but has been able to price the exit process in advance.

The conditions that should trigger an unwinding depend on the purpose of the QE programme. If asset purchases are used as a monetary policy tool at the effective lower bound of the policy rate, the exit can be linked to macroeconomic developments. If, on the other hand, the purchases are justified as a crisis tool to restore market functioning, the exit conditions should instead be related to indicators of market functioning, such as liquidity, risk premiums and the size of trades.[23] Failure to clearly distinguish between these objectives risks delaying resolution, as macroeconomic objectives and market functioning are normalised at different times.

The implication of what I have said here − and a lesson from the QE period, as I see it − is that it is not a good idea to specify a QE programme as a commitment by the central bank to buy a certain amount of securities over a certain period of time. During that time, many things can happen that may make it appropriate to interrupt the programme. Like the interest rate path, a QE programme should be a forecast, not a promise.

[22] In their evaluation of the Riksbank's policy 2015-2024, Ravn and Wilkins (2026) recommend that the Riksbank specify in advance principles for exiting from QE programmes.

[23] Under the Sveriges Riksbank Act, the Riksbank may, in the event of a serious disruption to the financial system and if there are exceptional grounds, purchase financial instruments with the aim of temporarily supporting the functioning of systemically important markets. Unwinding should therefore take place once market functioning has been restored and such exceptional grounds no longer apply.

Unexpectedly large losses on securities

I mentioned at the outset that central banks were surprised by the rapid rise in inflation a few years ago. At the time, many central banks were holding significant stocks of securities built up under the QE programmes that had already been implemented. As interest rates rose, bond prices fell and central banks suffered losses − either on an ongoing basis as the interest costs of financing the holdings exceeded the interest income on the bonds, or all at once via falling market values of the bond holdings.

The losses incurred by the Riksbank were not particularly large in an international perspective.[24] On the other hand, the Riksbank's accounting principle − that the bond holdings are recognised at market value − meant that the losses were immediately recognised in the Riksbank's profit and loss account and had a direct impact on equity. This meant that the equity became negative and the Riksbank needed to petition the Riksdag for a capital injection.[25]

Many other central banks instead value their bond holdings at cost, i.e. at the price they paid when they bought the bonds. As long as they do not sell the bonds but hold them to maturity, no capital loss appears in the accounts, as the loss is unrealised. This means that while other central banks had larger underlying losses in the value of their QE portfolios when interest rates rose, they did not show up in the income statement in the same immediate and dramatic way. Instead, the burden on earnings arose over time in the form of a protracted negative net interest income as higher policy rates increased the funding cost of the bonds.

A rather important aspect in this context is also that the Riksbank's earning capacity is weak because cash is used to such a small extent in Sweden compared with most other countries. The so-called seigniorage – the return on the banknotes and coins issued by the Riksbank – is small. This means that it takes longer to rebuild equity in the event of losses. In this sense, the Riksbank is more vulnerable.

The losses can be seen as a negative side effect of QE. Of course, the fact *that* central banks can make losses on their securities holdings is no surprise. However, few would have expected the losses to be so large.

[24] See Nordström and Vredin (2022) for a comparison with other countries and what the central bank's earnings and equity mean for the possibility to conduct monetary policy.

[25] Sveriges Riksbank (2024) and the Committee on Finance (2024).

Less research on political economy aspects of QE

One area where there does not seem to have been much empirical research, but which I believe is both interesting and relevant, is what one might call the political economy aspects of QE. Political economy is, in short, a field of research that focuses on how politics and economics interact and influence each other. More specifically, I am thinking here of the extent to which the use of QE may cause the central bank's principals – governments or parliaments and, ultimately, the general public – to reassess their views on the tasks and mandates of the central bank.

It is perhaps not surprising that there is little empirical research in this area. The effects of political economy are often difficult to quantify, and the effects are long-term and institutional in a way that does not fit standard macroeconomic research models.

This does not mean that there has been no discussion on these issues. As I have already mentioned, there is a fairly lively debate in the United States about the Federal Reserve's large holdings of securities that have gradually built up through various QE programmes. The newly appointed Chair of the Federal Reserve, Kevin Warsh, believes that these holdings should be reduced quite drastically. He argues, among other things, that the Fed, through its extensive bond purchases, has become increasingly involved in fiscal policy and has facilitated the build-up of the United States' large national debt.[26] Warsh argues that the Fed has deliberately chosen this path and advocates that it return to more traditional tasks, in order to maintain its confidence. However, many observers are sceptical about whether it is possible to shrink the Fed's balance sheet very quickly, without significant market disruption.[27] Either way, it will be interesting to see how this develops in the coming years.

We have not needed such a discussion on bond market disruptions in the context of the Swedish unwinding. The Riksbank has essentially been able to unwind its securities holdings without negative effects. There are signs that the government bond market is functioning better when what is known as 'free float' has increased, i.e. there are more papers that can be traded. Excess liquidity in the

[26] In Warsh (2025) he states that "[t]he line between the central bank and the ostensible fiscal authority has grown harder to identify".

[27] Critics also point to problems with Warsh's idea of 'QT-for-Cuts' – that the Fed should be able to cut the policy rate to compensate for 'quantitative tightening' (QT), i.e. a reduction in bond holdings that raises long-term interest rates. Inflation in the United States has been above the target for a long time and is about to pick up again (although this seems to be an appropriate condition for QT). Many analysts believe that in this situation it is unrealistic that the policy rate can be lowered.

banking system is also declining as a consequence of the Riksbank's portfolio unwinding, and without major strains on the short-term money market.

As I have already touched on to some extent here, we have in a way benefited from our internationally low government debt, which has limited the supply of government bonds. This meant that the Riksbank quickly reached a limit where market liquidity deteriorated – and thus also a natural limitation on how large the portfolio could be. It is essential that our fiscal framework continues to help keep government debt at a manageable level. The larger the government debt, the larger the central bank's portfolio of bond purchases will inevitably be – and the more difficult it will be to maintain a monetary policy that is independent of the government's financing needs. I do not see buying covered bonds, for example, where the outstanding volume is larger than for government bonds, as a suitable option for monetary policy purposes. I will return to my views on the purchase of private securities in a moment.

Difficult to evaluate the overall economic effects of QE

However, one discussion we *have* had is about the losses the Riksbank made on its securities when inflation and interest rates rose a few years ago.

To begin with, the losses illustrate an asymmetry that is analytically interesting, but also difficult to manage. The costs of QE, i.e. the losses on the bond portfolio, are concrete, quantifiable and booked at a well-defined point in time. The profits are of a completely different nature. They are diffuse, delayed and counterfactual − they are to be seen in relation to a scenario that never happened. To make a fair assessment, one must try to estimate how the economy and inflation would have developed *without* the QE programme.

This asymmetry plays a central role in, for example, the Swedish National Audit Office's evaluation of the Riksbank's asset purchases.[28] It concluded – based on the book losses, among other things – that asset purchases had been an expensive and ineffective attempt to influence inflation, which will burden government finances for years to come. But there was no comprehensive, quantified analysis of the effects and costs of the Riksbank's QE.

In the only study that to my knowledge addresses this question, various simulations are conducted within a model calibrated using reasonable and very conservative assumptions. [29] The study examines the asset purchases carried out

[28] Swedish National Audit Office (2023).

[29] Kolasa et al. (2025) and Laséen and Lindé (2025).

between 2015 and 2019 and finds that, taken together, they had a non-negligible effect on GDP and inflation, thereby playing a role in stabilising the economy and improving target attainment. The main reason is the exchange-rate channel, which, as noted earlier, is particularly important for small open economies. Monetary policy stimulus weakens the exchange rate and raises inflation through both stronger demand and higher import prices.[30]

However, the study also notes that the post-pandemic period shows that unconventional monetary policy in the form of asset purchases poses significant risks to central bank balance sheets – especially when strong demand and negative supply shocks lead to rapid recovery and high inflation.

Political economy aspects of losses must be considered

A prerequisite for the legitimacy and credibility of monetary policy is that it can be explained in an educational and convincing manner. QE is difficult to communicate from the outset. When the Riksbank changes the interest rate, Swedes can read about it in the newspaper and what it might mean for their personal finances. Changes in interest rates have a fairly direct impact on the cost of borrowing for both households and companies. It is much less clear what it means that the Riksbank buys securities for a particular sum. Of course, it does not help if the best way to illustrate the benefits of QE policy is to do so with hindsight, using counterfactual simulations in econometric models. It is therefore probably difficult to use this type of analysis to nuance the picture that QE was not particularly effective, and that the Riksbank and indirectly the government lost money in the process. In other words, QE has a rather large communicative challenge that can hardly be ignored.

This is where political economy aspects come in. A fundamental condition for the operational independence of the central bank is that it should not be dependent on the government to finance its activities. Financial independence is not an end in itself but a prerequisite for credibility − a central bank that risks having to ask the government for money cannot fully guarantee that its decisions are taken solely on the basis of the price stability target rather than on the basis of

[30] Another simulation in the same study examines what it would have cost the public finances if fiscal policy had instead been used to generate the same GDP path as that achieved by the Riksbank's QE and negative policy rates between 2015 and 2019. In this case, the exchange-rate effect from expansionary monetary policy is absent. Instead, fiscal policy strengthens the exchange rate through wider interest-rate differentials, leading to lower import prices. The study finds that the cost would have been higher than that of the Riksbank's unconventional monetary policy. Public debt would have been higher at the end of the period, as a share of GDP, while inflation would have been significantly lower.

government finances or political preferences. In any case, one cannot rule out the possibility of such suspicions arising.

As I noted earlier, the Riksbank made a loss in 2022 and needed to petition the Riksdag for a capital injection. While the problems with this should not be exaggerated, it is not without controversy.

On a more general level, there are several potential problems. One is that a central bank that has to publicly ask for money may find it harder to maintain the image of competence and independence that is central to its credibility. For example, markets and the public may start to question whether the central bank really dares to take decisions that are politically uncomfortable if it knows it may have to ask for money.

Another, and perhaps bigger, problem is that the central bank becomes dependent on the political process and the 'good will' of politicians. If it is a one-off event, it need not be particularly problematic. But if it were to be repeated, things could be different. The next time the central bank makes a decision that is perceived as controversial and leads to losses, the politicians may be less favourably disposed.[31] It is conceivable that in such a situation the political system would make financial support to the central bank conditional, which would be at odds with its independence.

I am not saying here that I believe that these are directly acute problems for the Riksbank and Sweden. As a result of the Riksbank's request for a capital injection, the Riksdag in 2024 adopted amendments to the Sveriges Riksbank Act that strengthen the Riksbank's self-financing by allowing it to introduce interest-free deposits for credit institutions. My best guess is that the capital injection after the large loss was actually just a one-off or at least something that will not be repeated in the foreseeable future. The risks in the Riksbank's balance sheet are significantly smaller today than in 2022. But given how often we have been surprised in recent years, this is a political economy aspect that one would do well to at least keep in mind, should we find ourselves in a situation where QE could once again become relevant.

It is crucial that both the Riksbank's management and the Riksdag and its Committee on Finance are fully aware of the increased loss risks that inevitably

[31] In its petition to the Riksdag (Sveriges Riksbank, 2024), the Riksbank states (p. 19) that "repeated restorations would be problematic, as a situation where the Riksbank regularly needs to request capital contributions from the treasury in submissions may be considered to be in conflict with independence."

occur with QE. There may also be reason to review whether the Riksbank may need to temporarily increase its risk buffers.

High threshold for QE

In light of what I have covered so far, the Riksbank has said that it now has a high threshold for QE.[32] We've been using the term for a few years − for example, I used it here at the Swedish Economics Association in 2023. I think the experiences and research since then emphasise that this was a rather wise formulation.

So what do we actually mean by that? What we *don't* mean is that QE should *never* be used − that QE should be completely removed from the monetary policy toolbox. As I said earlier, we cannot rule out the possibility that at some point in the future we will find ourselves in a situation of persistently very low inflation, despite the fact that we have lowered the policy rate as far as we consider possible. Then we would need to do *something*, and QE is not ineffective after all.

However, for private securities – corporate bonds and covered bonds – the threshold should be particularly high, especially with regard to purchases for monetary policy purposes. When the central bank buys private securities, it effectively chooses which issuers and sectors to favour, and this is a role that the market normally has and should have. The Sveriges Riksbank Act also draws a clear line between government securities, which are regarded as a relatively normal monetary policy tool, and other financial instruments. The purchase of private securities requires exceptional circumstances.

The high threshold for QE can best be interpreted as a way of saying that today we are generally more aware of the limitations and side effects of QE. This suggests that the Riksbank should be somewhat more patient when inflation is below target, and the policy rate has reached its lower bound.

Combined with thoughtful and clear communication, it should be possible to wait for some time before launching QE. However, this makes relatively high demands of our communication. The Riksbank must clearly signal that patience is conditional on the inflation target remaining unchanged, that we are actively monitoring inflation expectations and are prepared to act if they show clear signs of de-anchoring. It should also be made clear that the fact that we are waiting is not due to a lack of instruments or willingness, but because we judge it to be

[32] See, for example, Sveriges Riksbank (2026).

economically reasonable. Especially if, at the same time, the economy is not clearly weak, such a strategy should be quite possible, as I see it.

Personally, I think it would take quite a lot before long-term inflation expectations moved downwards in a way that would threaten the credibility of the inflation target in a situation where the economy is growing at a good pace – depending, of course, on the exact circumstances. But there are five of us on the Executive Board, and we can all make slightly different assessments. For the same reason, it is difficult to operationalise 'patience' in any kind of rule, for example that the Riksbank should start QE when inflation has been below target by so much for a certain number of months. But in any case, if QE were to be reintroduced, it is important that we recognise as clearly as possible the potential costs, financial risks and side effects of the purchases. As I said, we know a little more about this today. In addition, it is important to communicate in advance how we are thinking with regard to the duration of the purchases and the principles of unwinding.

In this context, it may be worth noting that in recent years there has been a discussion about the need for fiscal policy to support monetary policy when it runs out of ammunition. It now seems to be fairly widely accepted[33]. That is a positive thing, but there is a little ambiguity about this that I think might be worth drawing attention to. In most of the petitions to parliament, fiscal policy is proposed to provide support to monetary policy in downturns caused by major negative demand shocks. But inflation can undershoot the target for long periods – and inflation expectations can risk de-anchoring – without demand and economic activity being particularly weak. In such situations, it is not obvious that fiscal policy will intervene, in which case QE may still be the most obvious choice for the Riksbank. This is an issue that I believe warrants further discussion.

Summary

Allow me to round off and summarise. I have reviewed how I interpret the current state of empirical research on QE, its effects and consequences. I have discussed both Swedish and international studies. It is clear that QE has had broadly expected effects on financial variables such as long-term interest rates and various types of risk premium. This makes it a suitable tool for stabilising financial markets in times of turmoil and crisis. The effects on the real economy and inflation are generally less clear – although new research results on the Riksbank's QE suggest that the exchange rate channel has been important. In Sweden, households and companies borrow primarily at variable interest rates, which

[33] See, for example, the Government (2025).

means that the direct effect of QE on borrowing costs is weaker than in countries where fixed-rate loans are much more common. Overall, some questions arise about the appropriateness and effectiveness of QE as a purely monetary policy tool when there is no obvious crisis.

I have also talked about the side effects of QE. The empirically proven negative side effects that I have discussed are that QE can cause the markets where the central banks make their purchases to start functioning less well, that the central bank can get stuck with a very large stock of securities that is difficult to unwind and that central banks can make significant capital losses on the holdings of securities if the interest rate needs to be raised quickly.

Large stocks of securities and substantial losses can in turn create political economy-related problems. If the central bank gradually builds up very large securities holdings – which we in Sweden have taken active steps to avoid – critics argue that this helps to keep down the government's financing costs in a way that reduces the pressure for fiscal discipline. The boundary between the two policy areas can thus become blurred. Moreover, market participants may gradually become accustomed to the central bank's presence in the market and resist normalisation, creating political pressure towards unwinding.

Losses on the securities portfolio that require the central bank to request capital injections from the government potentially create an institutional vulnerability: the central bank risks becoming dependent on the political process, which in the long run could jeopardise its independence, or at least be perceived to do so. It is important to communicate openly about the risks of losses from QE even before the losses materialise.

Finally, I mentioned the Riksbank's now high threshold for QE. This should be regarded as a sign that we are now more aware of the limitations and side effects of QE. There should be room to be a little more patient in starting QE if inflation were to fall below target despite a low policy rate. My own view is that this can, at least at the margin, reduce the drama of policy changes when circumstances change – that the pendulum does not necessarily have to swing from one extreme to the other.

Whether asset purchases will be used as a monetary policy tool again remains to be seen. And if so, we are in a better position than last time, thanks to the constructive criticism we have received in various evaluations and through the experience of QE gained in the period from 2015 to the present day.

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