

SPEECH



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Thoughts on technology and the economy*

Thank you for your invitation to visit Södertälje. Many people come here to spend hours playing with their children at the science museum Tom Tits Experiment, which can be found here in town. This is a place where you can experiment with the laws of physics, puzzle over medical phenomena and observe chemical effects. I dare say that many of today's and tomorrow's Swedish scientists had their first insights into science there.

My speech today does not deal with scientific laws but with how important technological advances are redesigning the playing field for the economy and thus the way in which economic policy is conducted. I will also discuss how the Riksbank assesses the current economic situation and its forecasts for the years ahead. Finally, I will describe how monetary policy can facilitate economic development in Sweden.

Technological breakthroughs transform our society.

We human beings constantly strive to make things a little better. When we achieve technological breakthroughs, lives and entire societies are revolutionised. Important examples include steam power, which made mechanised industries independent of water power possible, followed by rail transportation. The internal combustion engine enabled transportation independently of the rail network in the form of motor vehicles and aircraft, and electricity has given us light, warmth and the power of movement.

Now, at the start of the 21st century, we have to deal with all the opportunities, but also challenges, brought by the Internet, digitalisation, robotics, biotechnology and artificial intelligence. Experts often disagree over how revolutionary these technologies will turn out to be for the economy in the long run, but we can see how they affect us in our daily lives.

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Take, for example, digitalisation, which is impacting sector after sector.

How many record shops are there these days? Where's the nearest video rental store? How often do you find yourself keeping an eye on the time so as not to miss a certain TV or radio programme?

Increasing numbers of us subscribe to streaming music and film services, read the news on the Internet instead of in paper newspapers, listen to podcasts and use catch-up TV services and YouTube channels. It's quite fun being a consumer these days.

Also on the other side of the economy, the producing side, can we see markets being reshaped and both the number and nature of jobs being changed. My sector, the financial system, and my workplace, the Riksbank, are also being affected by these changes.

In our monetary policy assignment of maintaining price stability in Swedish kronor, specified as inflation of around 2 per cent, we need to understand not only cyclical developments but also structural transformations in the economy. This knowledge forms a precondition if we are to be able to make good forecasts and calibrate a well-balanced monetary policy, thereby fulfilling our mandatory task.

To make good forecasts, we need models, and models assume that economic relationships are stable. It therefore becomes complicated when structural changes delay or even transform old relationships. If important structural changes have occurred, they turn up as so-called shocks in the models. For example, new and better working methods should entail a positive shock in productivity. Another structural change, for example increased e-commerce, means that competition increases, putting pressure on companies' profit margins.

However, when data on productivity and companies' profit margins is studied, it is difficult to observe larger changes. Productivity growth in recent years cannot be described as remarkably high.¹ In turn, this has an effect on wage development, which I shall return to. My point, however, is that technological shifts do not necessarily change the way the economy works.

But it is nevertheless clear that technological breakthroughs can push forward changes in what have historically been fairly stable operations and open them up for new participants.

For example, technological developments in society have contributed to the use of cash, the money the Riksbank offers society, going into decline. If the present trend continues, cash could actually be phased out as a means of payment in a few years, as many banks and a growing number of retailers no longer offer services involving cash.

Sweden is a world leader in developing electronic means of payment. This is positive. But, at the same time, the public sector in a wide sense needs to ensure that

¹ Florian Maican and Matilda Orth (Ekonomisk debatt 1/2018) describe how measures of productivity are adapted for the manufacturing industry and how service industries, which are growing in Sweden, require other measures of productivity.

everybody who lives in Sweden will continue to have access to secure and efficient payment services. Consequently, over the last year, the Riksbank has prioritised the analysis and strategic development of the payment market. The Riksbank has also proposed that, via legislation, Sveriges Riksdag, the Swedish parliament, should clarify the banks' responsibilities for supplying cash.²

Financial crises, technology and competition have restrained wage increases

In a city like Södertälje, with, for example, the vehicle manufacturer Scania, the pharmaceutical manufacturer AstraZeneca and the Port of Södertälje, there is long experience of working in the global economy and of technological shifts. For you, change is nothing new.

If we zoom out to the entire Swedish economy, we have also been quite good, as a country, at managing change.

But let me start in the present day, where we can see that the international economy is growing increasingly strong. The United States is in one of the longest phases of rising GDP of the post-war period and, last year, the euro area had the highest growth in ten years. However, it takes time for the strong economic activity to affect inflation.

Although the recovery has come far after the years of financial crises and low growth, wage increases have been unexpectedly low in many advanced economies. In large economies such as the United States, Canada, Germany, Australia, as well as in Sweden, unemployment is close to or below levels at which wage growth, historically speaking, tends to pick up.

In Sweden, we have had a number of years with a combination of low productivity and low expectations of inflation and wages, which partly explains the low wage demands up to now. Even if Sweden has had a strong employment trend in recent years, technological innovations and international competition will entail a transformation in which jobs will disappear and need to be replaced by new ones. These forces, in combination with long-term stagnation in the euro area after the financial crisis, are also leading to employees becoming more cautious with their demands.³

It is feasible that the upheaval these forces cause at workplaces may also make it difficult for individuals to assess whether they risk becoming unemployed and, if so, what their position might be on the labour market. Low wage expectations are a global phenomenon and can contribute towards those already in employment becoming less interested in looking for a better-paid job. Thus, even in an economic boom, employers can hold back wage increases without the risk of losing valuable labour. Of course, these changes in wage formation may vary considerably in different economies. But they interact with each other due to the global

² Read more at: <https://www.riksbank.se/sv/finansiell-stabilitet/det-finansiella-systemet/betalningar/>

³ The risk of unemployment is one of many factors behind wage expectations. The experience of unpleasant macroeconomic events characterises the behaviour of different age categories, as discussed, for example, by Malmenier and Nagel in "Depression babies: Do macroeconomic experiences affect risk taking?" (The Quarterly Journal of Economics 2011)

market for goods and to a growing part of the service sector also being traded globally.

The increase in the number of self-employed people, the many part-time positions and the changed wage composition are factors that tend to crop up as explanations for low wage growth in other economies but which I consider to be less important for understanding wage formation in Sweden. On the other hand, what is special for Sweden is that we have become many more on the labour market. The number of persons between 15 and 74 in the labour force increased by just over half a million between 2006 and 2016. This increase is largely due to high immigration but the labour force is also growing due to changed rules and reforms on the labour market and to tax, benefits and pension rules.⁴ A higher labour supply leads to greater competition for vacant jobs, thus restraining the rate of wage increases.

My assessment is that there are overarching cyclical forces that suggest wages will rise during the forecast period, but that the rate of increase may remain low despite the high level of resource utilisation.

When the effect on the economy from upheavals such as technological advances, demographic changes or increased cross-border trade has worn off, employees should be able to increase their pay again. However, this can take time and, during the transition, the best contribution monetary policy can make is to facilitate, via high resource utilisation and as far as is compatible with the inflation target, the various adjustments demanded by structural transformation and demographics.

Education and oversight of competition – to meet the future

However, if Sweden as a country is to be able to meet these challenges over the long term, other policy areas than monetary policy will have to be used. Here, I would like to name two important areas: education and oversight of competition.

In light of technological developments and population increases, opportunities for life-long education and professional development will be completely decisive. Even well-educated professional groups that have previously had low unemployment have started to become aware of a growing risk of being automated out of work. This applies, for instance, to investment advice, financial accounting and legal support. Other experts can describe this area better and in more depth than I do here, but to me it seems obvious that increasing numbers of us will have developed our skills further several times in the courses of our professional lives.

The other important policy area is that of competition oversight and regulation. New technology brings new actors and some of these have become very large global actors. In markets characterised by high entrance barriers, synergies and network effects, far too much power can easily be concentrated in the hands of a

⁴ Flodberg and Löf, Staff Memo, December 2017. https://www.riksbank.se/globalassets/media/rapporter/staff-memo/svenska/2017/staff_memo_171220_1_sv_sfx829la.pdf

few dominant actors. National politicians play an important part here: in cooperation with other countries, they must oversee and, when necessary, regulate different markets to safeguard the public interest.

The contribution of monetary policy

At present, we can observe that the very low level of interest rates and the Riksbank's asset purchases have had clear effects. Inflation, which has shown a rising trend since 2014, was around 2 per cent last year and long-term expectations are anchored to the target.

The Swedish labour market is moving in the right direction and employment has increased by 240,000 over the last three years. But unemployment for those born abroad remains high. Refugees settling in Sweden often lack a strong link to the labour market when they arrive. Only half of refugees are in employment after eight years in Sweden. But it is positive that their establishment on the labour market looks like it is starting to go faster.

As you know, there are no guarantees in the forecasting business. It has taken a decade, but it seems as though the global economy has finally recovered enough from the after-shocks of the financial crisis to start a new chapter and that central banks in our part of the world will gradually be able to raise interest rates again. For the small Swedish economy, with its reliance on foreign trade, altogether premature or rapid rate rises would jeopardise the strong economy and development of inflation.

For the Riksbank, it is a question of remaining vigilant. A prerequisite for inflation to continue to develop in line with the target is that economic activity remains strong and has an impact on price developments. Monetary policy therefore needs to remain expansionary for a while. But if everything goes as expected, the time to start normalising monetary policy will come closer. The assessment we made in February was that it is probably time to slowly start raising the repo rate during the second half of this year. But such a turnaround requires considerable caution, in my opinion.

I occasionally hear somebody say that it feels wrong to have a negative policy rate when the economy is going as well as it is now. But the Riksdag has assigned the Riksbank to conduct a monetary policy that contributes to suitably low inflation. Therefore monetary policy cannot be governed by how one or another interest rate level might feel.

To finish where I began: In an experimental world, with many uncertainties, clear game rules are needed so that all parties in the economy can take well-founded decisions on economic transactions. Reliable price stability, in terms of purchasing power, is one such game rule. The alternative, which would lead to inflation developing more unsteadily, would be a poor contribution from monetary policy to Sweden's changeable society.