Lars Heikensten: Monetary policy and potential growth

Speech by Mr Lars Heikensten, Governor of the Sveriges Riksbank, to the Swedish Economics Association, Stockholm, 28 March 2003.

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Let me begin by thanking you for the invitation to come here to the economic association. As a former secretary of this association it is a particular pleasure to be invited here.

My intention today is to discuss a broader question than I normally have reason to take up, namely the Swedish economy's capacity for long-term growth. The greater the economy's capacity for long-term growth, the better the development in welfare. And here I am not thinking merely of material aspects, but also of the possibilities of providing young people with a good education, elderly people with good quality care and the environment with a long-term sustainable development.

The long-term potential growth rate is also important for monetary policy. A high potential growth rate allows the economy to grow rapidly without inflation accelerating.

I shall begin with a brief description of the intellectual framework the Riksbank uses with regard to potential growth and how this affects the shaping of monetary policy. After that, I shall discuss two factors determining potential growth, namely productivity and labour supply. Finally, I shall round off with some conclusions. My hope is to be able to contribute to initiating continued discussions and in-depth analyses in this field, both among researchers and more policy-oriented economists.

The Riksbank's intellectual framework

According to the textbook model of macro economics, there is a level of production (GDP) that keeps the economy in balance, i.e. actual and expected inflation are in line with the target level, profit shares and wages are stable, etc. This level of production is often called the potential or long-term sustainable level of production. Despite the fact that the economy is balanced, the potential production level does not remain constant; it normally grows over time. The reason is, quite simply, that technical developments enable a higher production level to be achieved with the same amount of production factors, and that the production factors themselves often show an increase trend.

The actual inflation rate can deviate from the target rate (and the expected rate) if the production level of the economy, for some reason, deviates from the potential level. It is often said that there is a positive or a negative production gap. A positive production gap means that the actual production is higher than the potential level. In this case, of course, the resource situation is strained; bottlenecks begin to arise in the economy. The reverse applies with a negative production gap.

As the production gap is usually seen as a measure of the demand pressure in the economy and the demand pressure in turn affects inflation, monetary policy is in many respects a case of choosing a steering interest rate that will lead to the smallest possible production gap. If the production gap is completely closed and equal to zero - i.e. actual and potential production coincide - the inflation rate should be 2 per cent as long as a credible policy is pursued and no other shocks occur. Figure 1 illustrates in principle possible future developments.

An important insight in this context is that changes in the steering interest rate are significant for production and employment in the short term, but not in the long term. If prices and wages do not adapt immediately - i.e. there are nominal lags - changes in nominal quantities, including the Riksbank's repo rate, will entail changes in relative prices and real wages. These real price changes affect the economy's real aggregated demand and thereby both production and employment. If, for instance, wage agreements are signed for longer periods of time, while companies' pricing is more flexible, lowering the steering interest rate can have real economy effects in the short term, because companies' price increases will lead to lower real wages and higher profits and thereby increased production and employment. In the longer term, when new wage agreements are signed wage formation will take into account the higher price increases and be adapted to avoid changes in real wages.

By changing the steering interest rate, the Riksbank can affect the actual, short-term production level but not the potential, long-term level. The latter is determined, as I said earlier, by factors such as

technological developments, labour supply, etc. On the other hand, it is probable that monetary policy can indirectly, by contributing to a more stable economic development, create better conditions for good growth in the long term.

Reliable assessments of the potential growth capacity of the Swedish economy are very important for successful conducting monetary policy. Given this, it is perhaps not so surprising that we have spent a significant amount of our time in recent years making analyses of issues related to economic growth. This is demonstrated in our working report series, which contains a relatively large number of studies on this subject.

A complicating factor with regard to studies of potential growth is that they entail a quantity that cannot be directly observed and measured, but has to be estimated indirectly with the aid of another method. There are a number of statistical methods for this, each of which has both advantages and disadvantages. The estimated results have proved to be relatively sensitive to the method applied. This in turn means that there is good reason not to fasten on one individual method, but to use several methods and thereby increase the reliability of the estimates. At the Riksbank we apply three different methods for calculating the production gap and we regularly show and discuss the results of these in our Inflation Reports (Figure 2). Before we make our final assessment, on which we base our monetary policy, we also weigh in other information on resource utilisation, for instance from the National Institute of Economic Research's business tendency surveys or from publications of shortages in the labour market. This can also be a good idea as the macro data that forms a basis for the method-based estimates, such as GDP growth, is often changed afterwards as a result of revisions to statistics. The most recent revisions have led, for instance, to an upward adjustment in both GDP and productivity for the greater part of the 1990s.

The development of productivity and the labour supply

I implied in my introductory discussion that the potential growth capacity of the economy is determined by the constant developments in technology that occur in a market economy and by the trend increase in production factors. A central element in this context is the labour productivity trend measured as GDP per hour worked. This increases through technological progress (e.g. as machines become more modern) or through the addition of real capital (a long-term extension of the production apparatus). If the labour supply itself also shows a change trend over time, this must be taken into account. The potential growth rate of the economy can therefore be calculated as the total historical growth in labour productivity and labour supply. As I will soon show, however, it is often difficult even afterwards to distinguish lasting trends from those of a more temporary nature, e.g. those caused by fluctuations in economic activity. This applies both to the development of productivity and the labour supply. At the same time, distinguishing between processes that are lasting and those of a temporary nature is one of the most important aspects with regard to the discussion of a country's capacity for long-term growth.

Let us then study the determining factors one by one.

Signs of a better growth in productivity

My third slide shows the development of labour productivity, measured as GDP per hour worked, together with an estimated trend (Figure 3).

We see that productivity growth varies strongly, but also that it shows a tendency to increase over time, particularly during the 1990s. This is a marked difference compared with developments in the 1970s, when the trend was instead a downward one. During the 1980s the actual productivity growth levelled out at a low level and was often around 1 per cent or below - with the exception of a few individual years. During the 1990s, on the other hand, there was a rapid increase and productivity growth stabilised at a level above 2 per cent.

We don't know exactly what was the driving force behind this development. But allow me nevertheless to indicate some factors that may have played an important role.

The economic crisis at the beginning of the 1990s probably played a not so insignificant role in raising productivity growth during the first half of the 1990s. During the crisis years production with a low level of productivity was put out of business and unemployment increased which led to an increase in the labour productivity measured. This one-off effect raised the level of productivity growth but at the same time meant that a large percentage of society's available resources was not utilised.

In connection with and directly after the crisis there were also a number of changes in the Swedish economy that have affected developments since then. New regulations were established for fiscal policy, with an expenditure ceiling and surplus target. At the same time, monetary policy was successfully aimed at safeguarding low inflation. Also during the 1990s a number of markets were deregulated and opened to domestic and international competition. In addition, Sweden joined the EU. This development entails an increased international integration of product and labour markets, which should have had a favourable effect on productivity growth.

A further explanation is the shifting between sectors in the Swedish economy. During the 1960s and 1970s there was a rapid growth in employment in the public sector, while the private sector declined. Following the crisis at the beginning of the 1990s the situation was reversed (Figure 4). As productivity growth in the public sector is probably lower than productivity growth in the private sector, this development results in a rise in productivity for the economy as a whole. These effects are reinforced by the fact that the National Accounts are based on the calculation assumption that there is no productivity increase in the public sector at all.

During the second half of the 1990s in particular, there was a rapid development in information technology, which entailed greater efficiency in knowledge transfer between individuals and companies and between companies. The expansion of the IT sector was one of the corner-stones of this "new economy". The effect this actually had on productivity has been much discussed. It is clear that the IT sector itself, and in particular the telecom industry, was responsible for a significant part of productivity growth at the end of the 1990s. Developments were very uneven among the different industries, with the increase in productivity in "IT user" industries being much less impressive, despite large investments in IT products, than that in the "IT producer" sector.

The latter is also clearly illustrated when the productivity increase in trade and industry is adjusted for the increase that took place in the telecom industry (Figure 5). When this sector is excluded, productivity during the second half of the 1990s increased by only 1.9 per cent a year, compared with 2.8 per cent if the sector is included. The telecom sector has now greatly declined in importance and there is apparent confusion over its future development.

The important question for the Riksbank is what all of this entails for the development of long-term productivity growth in future. The figure shows that the trend increase has not been as large at the end of the 1990s as during the period up to 1995. It should also be remembered that the method used to calculate the trend has the characteristic that it reflects changes in the actual underlying trend at a slower rate. In addition, the very high rates of increase for productivity during the latter part of the 1990s reflected both a relatively rapid growth in the private sector relative to the public sector and a strong growth in the IT-producing sectors, particularly the telecom industry. It is not likely that future developments will follow the same paths. Nevertheless, there are many indications that the long-term increase in productivity now is higher than it was during the 1970s and 1980s. Factors in favour of this are the fairly comprehensive changes that took place during the 1990s, particularly the introduction of the new stabilisation policy regime and a greater degree of openness in the Swedish economy.

Labour supply a major cause for concern

Let us now move on to study how the labour supply has developed during the same period of time. My next slide shows the actual growth and trend for the number of hours worked (Figure 6). To begin with, one can conclude that developments have been relatively adverse during the greater part of the 1980s and 1990s. According to the trend, we can actually only detect an increase during the second half of the 1990s, which was broken recently both due to economic activity and to more structural causes. Several factors lie behind this development.

Once again it is natural to go back to the crisis years in the early 1990s. At that point the number of hours worked declined significantly as a result of the large fall in demand that took place. Parallel with this, structural changes were implemented. Young people on the verge of working life chose to continue studying, partly because of the lack of jobs, partly because developments on the labour market meant that higher educational demands were made. Another explanation could be that the number of older persons in the labour force also declined considerably during the same period. The labour supply in the age group 60-64 years fell by approximately 40,000 persons during the 1990s, despite the fact that this group's percentage of the population did not change significantly. In addition, the number of people taking early retirement increased at an alarming rate. Recently, as we are all aware, the amount of sick leave has increased.

Another factor that appears to have had some significance is that the Swedish labour market has not been able to make adequate use of the labour reserve comprised of inhabitants who were born abroad. The employment frequency among these people has been much lower than the employment frequency among people born in Sweden. This applies in particular to those who have arrived here quite recently. The efficiency in matching on the labour market also appears to be lower for these people. One indication of this is that many with a university education are either unemployed or have jobs below their competence levels.

Contrary to what many people believe, however, demographic developments have been relatively favourable during the 1990s, from a labour force perspective. The population growth in the age group 20-64 years developed weakly during the entire 1970s and most of the years up to the 1980s (Figure 7). However, towards the end of the 1980s the rate of increase began to accelerate. Since then it has been relatively high, with the exception of a few individual years in the mid-1990s.

The fact that growth in the number of hours worked at the end of the 1990s began to take off was mainly due to the rapid expansion in the private, and to some extent also the public, services sector. I mentioned earlier the discussions of the significance of the "new economy" for productivity increases during the 1990s and as I said productivity growth fell heavily at the beginning of the new millennium. The same applies to the number of hours worked. This raises the question, similar to the case of productivity development, of whether the calculated trend growth in the diagram overestimates the real long-term trend increase. To shed further light upon this we need to go through the causes for the development in the number of hours worked in recent years.

The number of hours worked in the economy is determined partly by the number of persons working and partly by average working hours, i.e. how many hours each person works. One factor that has clearly pulled down the average working hours in recent years is the rise in sick leave. It is uncertain to what extent this is an effect of a transitory nature. Various studies have shown that the amount of short-term sick leave taken tends to increase when the situation on the labour market improves and unemployment declines. If sick leave is divided up according to length, it can be seen that the long-term sick leave has increased most over the past years. To the extent that this development is the result of incentive effects, the increase may be of a more structural nature, which means sick leave will not automatically decline when the economic situation deteriorates. In the general debate it has been implied that changes in various institutional factors accounted for this interpretation, e.g. that the rules for qualification for early retirement pension had become tighter and the remuneration level in sickness benefit had been raised. Another important factor here could be that the percentage of older people on the labour market has increased somewhat recently.

Is an increase in sick leave the only explanation for the decline in average working hours? No, it is not. And we can see this clearly when we study developments adjusted for absence due to sickness (Figure 8). Here we can see that the average working hours have shown a declining tendency even when adjusted for people who have not worked due to illness. Compared with the period 1994-1995, average working hours have declined by around 3 percentage points and the negative tendency is particularly strong after 1999. Moreover, the other curve in my diagram - for the number of employed - shows that the growth in working hours last year was curbed by a lower increase in employment. This was in turn a result of the economic slowdown no longer affecting just manufacturing, but also the services sector.

The decline in working hours appears to depend on three main factors, apart from increased absence due to illness. The first factor is an increase in other types of absence than illness, e.g. holidays or looking after sick children. The second is a decline in the amount of overtime worked and a reduction in the working hours agreed between employers and employees. The third factor is a shift where more people choose to move over from full-time to part-time work. The relative significance of structural and economic factors in this context is again difficult to assess. There are many indications that variations in overtime are particularly affected by economic activity. Although it is more difficult to determine how this relates to the other factors. The assessment made by the Riksbank so far is that average working hours will show a tentative rise when economic activity improves.

To summarise, there is reason for considerable concern regarding the future labour supply. If there is reason to be slightly more optimistic over productivity growth, the opposite applies to the labour supply. A number of factors, such as demographic developments, absence due to illness and the proposal for shorter working hours all indicate a decline in the labour supply over the coming decade, unless there is a change in policy.

Future potential growth

What does all this mean for the assessment of the economy's potential growth capacity right now and in the coming years?

If we uncritically assume the simple model I outlined earlier, we could calculate an estimate of potential growth by simply adding together the trend values I showed in the diagram on productivity growth and the number of hours worked. I have done this in my next diagram (Figure 9). Measured in this way, potential growth was just over 1.5 per cent up to around 1992. Since then it has risen gradually to approximately 3 per cent in 2001. However, my discussion of the causes of the decline in actual growth in recent years showed that there are good reasons to believe that 3 per cent is an overestimate of the growth potential in the Swedish economy today. One way of subduing the effect on the trend of variations in individual years is to estimate the trend as a mean value of the period's actual growth. This procedure gives a trend growth of 2 per cent, which I have also indicated in the diagram. If one believes that the truth lies somewhere midway between the growth rates we had before and after the changeover in our economic policy, one can instead calculate the mean value of the mean values during the periods 1980-1992 and 1993 onwards. The result is then 2.2 per cent.

No procedure is perfect, of course. As I mentioned initially, the estimate results vary significantly depending on which method is applied and this is one of the reasons why the Riksbank has chosen not to specify an exact figure for potential growth. We have instead chosen to work with an interval of 2 to 2.5 per cent, which has emerged gradually as we have endeavoured to refine our analyses and improve our knowledge. The interval indicates that we have been influenced by the strong growth figures during the latter part of the 1990s, but that we have been cautious in stipulating to any great degree our assessments of some form of "new economy".

A further reason for not specifying potential growth in more detail than this is that new information is received continuously and this affects our assessment. As I mentioned earlier, the National Accounts have recently been revised and the new results indicate a strong growth in both GDP and productivity in Sweden during the period 1993-2002. Such revisions show that there is considerable uncertainty in the statistics and that it is important not to overreact to the most recent figures.

When we make assessments of inflation in connection with monetary policy decisions we normally look two years ahead. In this context we also calculate potential growth with the aid of more detailed data. This includes labour market data, for instance, to assess labour force developments with reference to developments in the working population, people in regular education and labour market policy training and the number of people on sick leave or early retirement pensions.

A digression on demography

Allow me, before I finish, to comment further on demographic developments. One factor that we, like many other countries, will need to grapple is the adverse demographic development that will take place in few years' time. This will entail the percentage of elderly people in the population increasing significantly and resulting in a considerable reduction in labour force participation. Large demands will be made on public finances and the labour supply and growth trends will be subdued.

My last slide shows the growth in actual hours worked during the period 1981-2001, together with a calculation for growth during the period 2002-2050 (Figure 10). The calculated growth in working hours is based on Statistics Sweden's forecast of the Swedish population up to 2050 and fixes other determining parameters at the 2002 level. The average increase in working hours amounted to approximately 0.4 per cent during the period 1981-2001. The calculated series' average increase 2002-2050 stops at a modest 0.01 per cent; in practice almost no increase at all.

Conclusion

I shall conclude with a summary. A high long-term growth rate is one of the most important objectives of economic policy. It becomes easier to achieve almost all other political objectives if economic growth is good. There is greater scope for private consumption and wage formation is made easier. It becomes easier to finance public sector services such as health and welfare. Higher growth also gives greater scope in other political areas, such as environmental policy.

In addition, the potential, long-term growth rate is a variable of essential significance for monetary policy. The Riksbank cannot itself influence the development of the economy's long-term growth rate;

this is governed by other factors, primarily by how much we work and how efficient the economy is. But the potential growth rate to a great degree sets the framework for monetary policy. Simplified, one can say that our task is to keep actual production as close to potential production as possible. Then inflation will also come close to the target level. Following on from this, the higher the potential growth rate, the faster the Swedish GDP can grow without putting the inflation target at risk.

A natural starting point for calculating potential growth in the economy is the growth trend for productivity and the labour supply. Productivity growth has shown tendencies towards improvement during the 1990s. It is probable that factors such as the new low-inflation rate regime and greater openness with stiffer competition have played an important role in this development. However, it is far from certain that the high rates of increase at the end of the 1990s will continue. They mirrored both a rapid growth in the private sector relative to the public sector and a strong growth in the IT/telecom sector. Nevertheless, it is probable that the long-term increase in productivity is higher now than it was during the 1970s and 1980s.

The number of hours worked has also developed relatively favourably since the mid-1990s. However, this development has largely depended on demand, influenced by the fact that there were considerable unutilised resources in the economy after the crisis at the beginning of the 1990s. With regard to the labour supply, there is less reason for optimism, partly because the demographic situation will be adverse in a few years' time, with more departures from the labour force relative to entries. Nor are there clear signs that economic policy has been organised to contributed to an increase in the labour supply in future. The incentives to work have rather been reduced in the social insurance system in recent years. There are also discussions now of reducing working hours.

The Riksbank has earlier spoken of a potential growth rate in the economy in the interval of 2-2.5 per cent. We have not considered it possible to be more precise than this. Of course, we are constantly examining our view in the light of new data and analyses. When we look ahead two years, there is no reason to change this view now; it is important that no one misunderstands me here. But if the current trends for the labour supply persist, it is likely that we will have to assume in the longer term a potential growth rate closer to 2 per cent than 2.5 per cent.

Thank you!

Fig. 1. Essential outline, actual and potential GDP

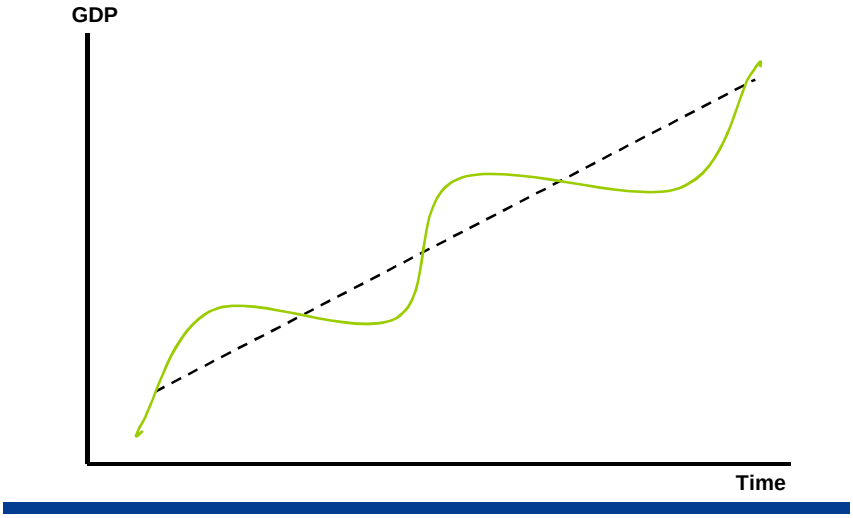
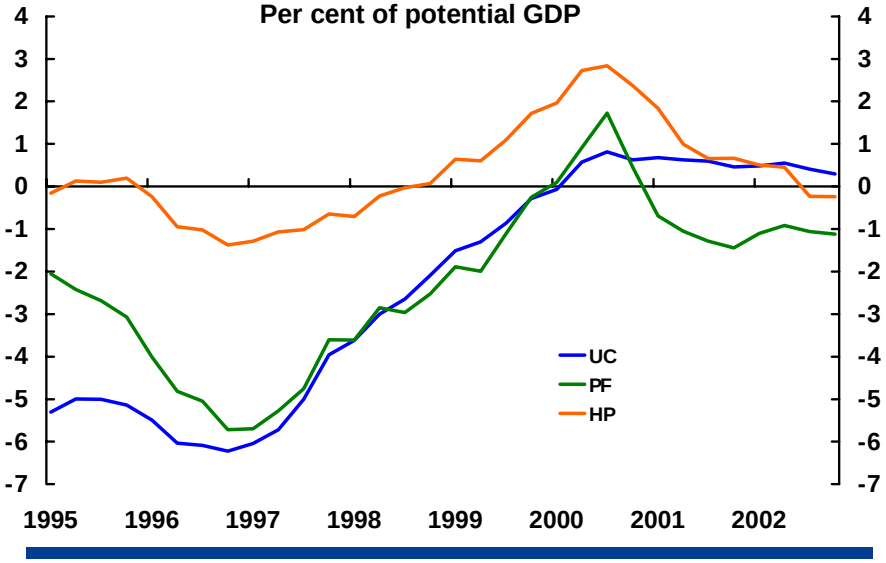
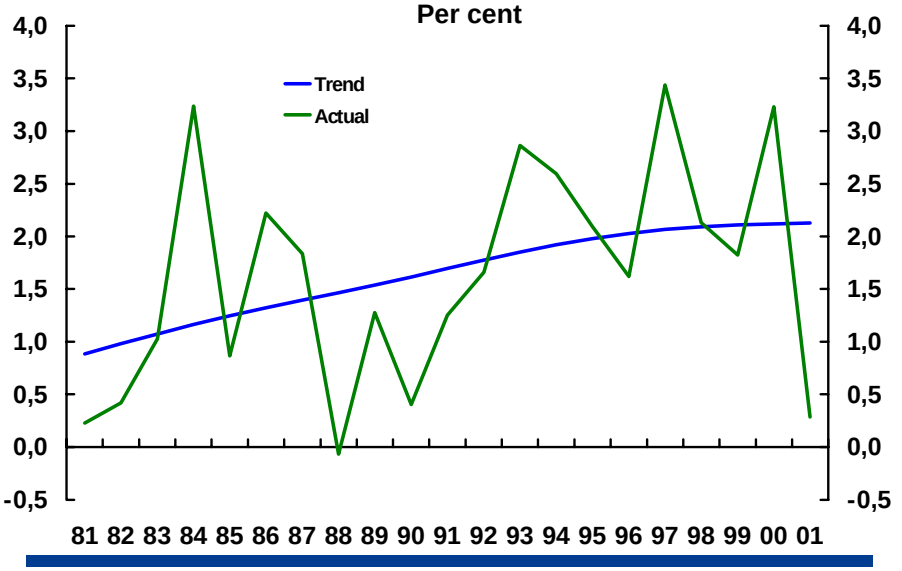


Fig. 2. Estimated production gap according to three methods



Sources: Statistics Sweden and the Riksbank

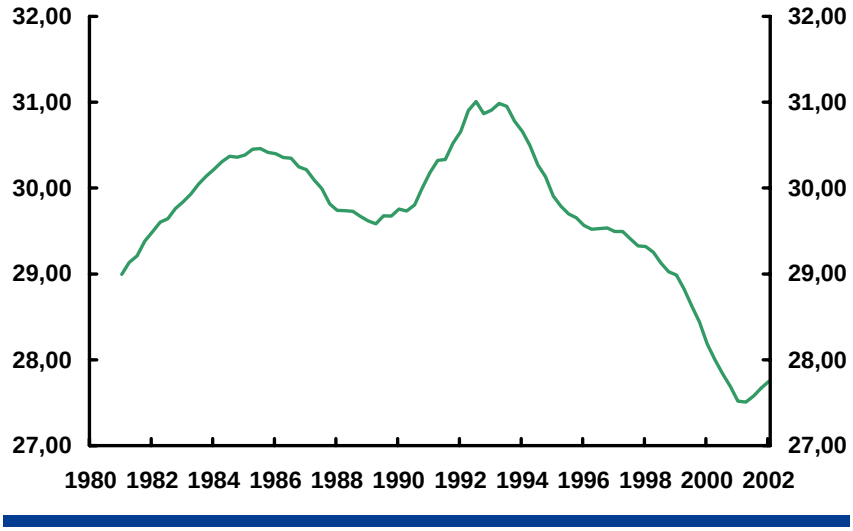
Fig. 3. Productivity growth (GDP per hour worked) 1981–2001



Sources: Statistics Sweden and the Riksbank

Fig. 4. Public sector's share of total hours worked, 1981–2002

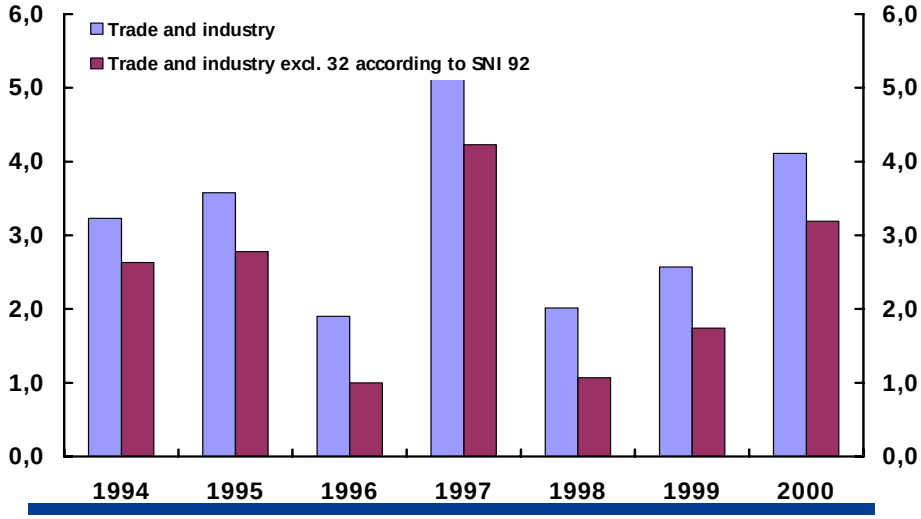
Per cent (sliding average)



Source: Statistics Sweden

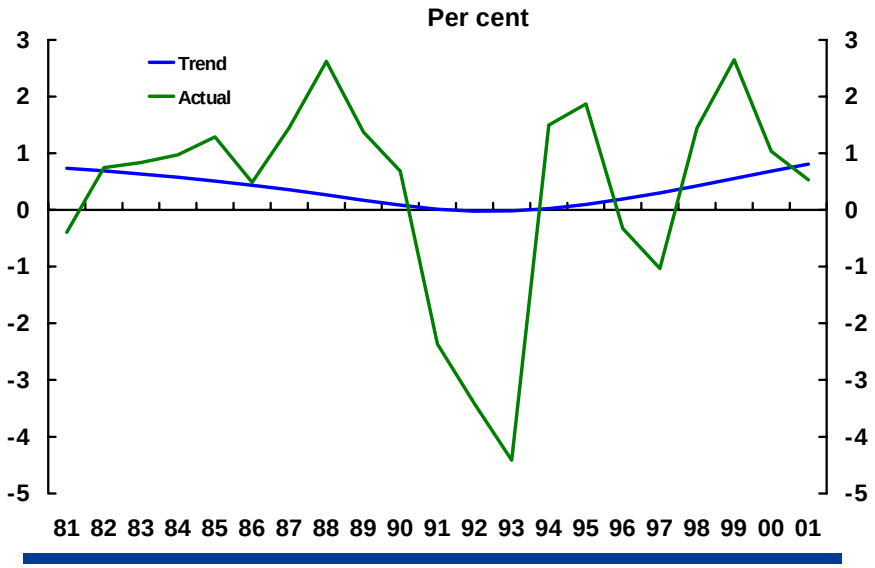
Fig. 5. Labour productivity in trade and industry excluding telecom products, 1994–2000

Per cent



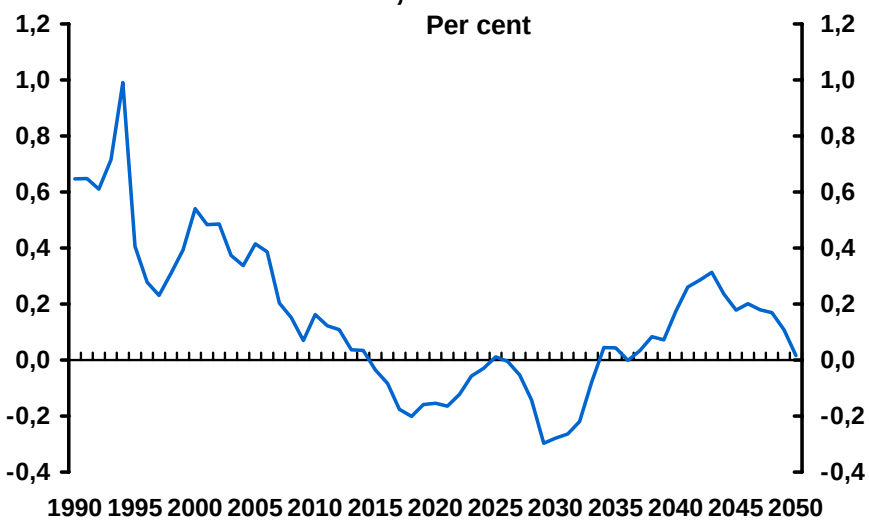
Sources: Statistics Sweden and the Riksbank

Fig. 6. Growth in number of hours worked 1981–2001



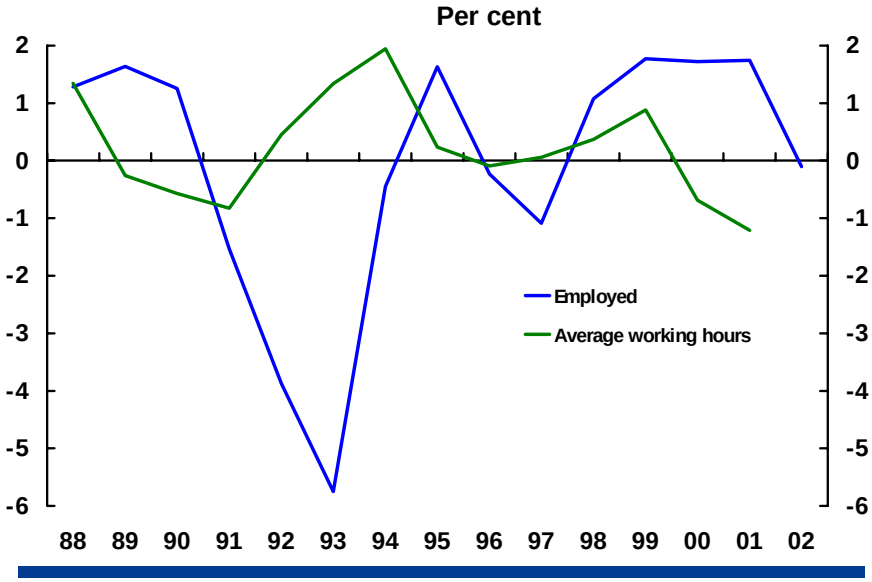
Sources: Statistics Sweden and the Riksbank

Fig. 7. Population growth in age group 20–64, 1969–2050, forecast from 2002



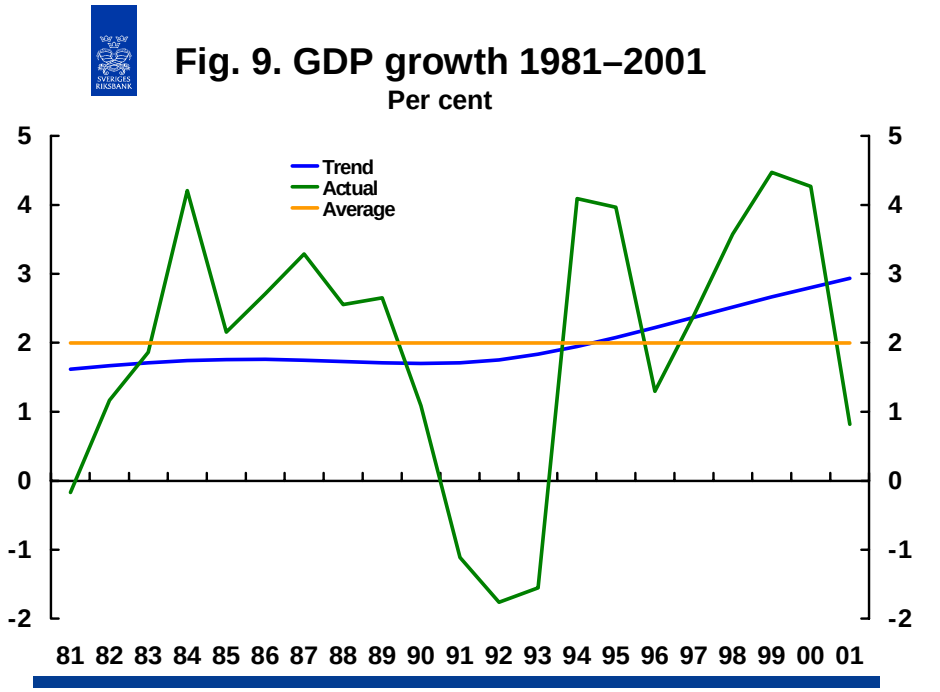
Source: Statistics Sweden

Fig. 8. Number of employed and average working hours, adjusted for sick leave



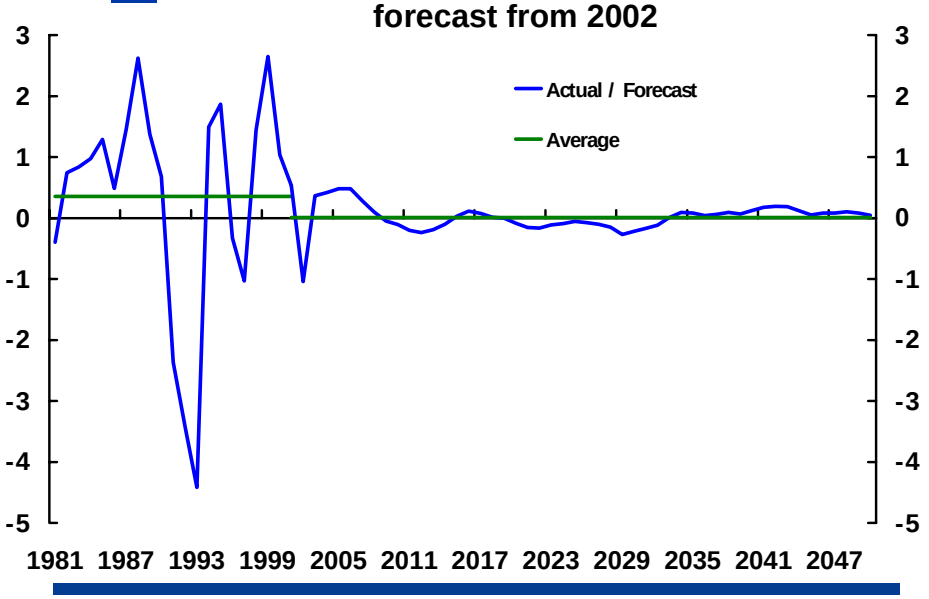
Sources: Statistics Sweden and the Riksbank

Fig. 9. GDP growth 1981–2001



Sources: Statistics Sweden and the Riksbank

Fig. 10. Growth in hours worked 1981–2050, forecast from 2002



Sources: Statistics Sweden and the Riksbank