



Wage Formation in Sweden 2019

A summary of
Lönebildningsrapporten 2019

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Wage Formation in Sweden is a summary of the Institute's annual report *Lönebildningsrapporten* (in Swedish), analysing the economic conditions for wage formation in Sweden.

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Summary

A new major round of collective bargaining in Sweden begins in the autumn of 2019. This year's report is therefore devoted to shedding light in various ways on the background to the negotiations. The Swedish economy is in a slowdown phase, and unemployment has risen sharply in recent months. Profitability in the business sector is currently close to the historical average. In manufacturing, profitability has been high in recent years but is likely to fall as export growth and business conditions deteriorate.

The social partners can help keep unemployment down by showing wage restraint. However, further subdued wage growth may mean that very low interest rates continue to be needed to meet the inflation target. The NIER's calculations show that wage growth of 3.5 per cent in the longer term is consistent with meeting the inflation target. These calculations are based on a number of simplified assumptions, most critically for productivity. The NIER assumes productivity growth in the business sector of 1.8 per cent in the longer term, but it is expected to be lower for the next few years due to both a weak underlying trend and cyclical effects. If productivity growth in the whole of the business sector comes out below 1.8 per cent in the longer term, the rate of wage growth consistent with inflation of 2 per cent will be correspondingly lower. Another way for the social partners to contribute to lower unemployment, aside from generally low wage growth, is to agree upon lower minimum wages. It is possible that lower minimum wages would also put pressure on wages for those already in work in some industries. This risk must, however, be weighed against the economic and social costs arising if wage formation makes it harder for large groups in the labour market to find work.

The purpose of the NIER's reports on wage formation in Sweden is to present the economic background to the wage negotiations and so assist the social partners and the National Mediation Office. This year's report consists of six chapters and a special analysis looking in various ways at the economic situation ahead of the upcoming round of collective bargaining, and the basis for the wage formation process.

The starting point for the wage negotiations

The first chapter discusses the starting point for the upcoming round of collective bargaining. Recent years' wage growth has been surprisingly low given the high resource utilisation in the labour market (see Diagram 1). One likely explanation is that wage growth has been subdued in key competitor countries, which has contributed to low collectively bargained pay increases in Sweden too.¹ The upcoming round will, however, begin under different economic conditions. The economy has entered a slowdown phase, employment growth has slowed, and unemployment has risen sharply in recent months (see Diagram 2).

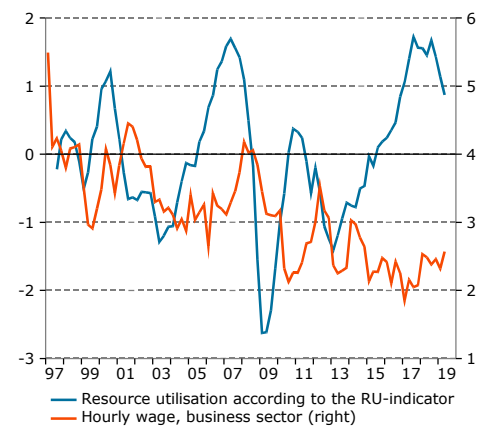
The NIER expresses no opinion on how wages, profits and employment should develop in either the short or the long term. It is up to the social partners to draw conclusions based on their preferences and assessment of the economy. The existing framework for wage formation in Sweden, where the pay increases collectively agreed in the manufacturing industry set the tone for other industries, looks set to remain in place in the coming round. The aim of the Industrial Co-operation and Negotiation Agreement is to ensure healthy real wage growth while also enhancing the manufacturing industry's competitiveness. Employers in particular tend to interpret this as meaning that manufacturing wages should rise in line with those in key competitor countries. This approach has encountered some criticism, partly because it can result in wage growth that is too low in relation to the Riksbank's inflation target.²

In the long run, it is reasonable to assume that the inflation target will be met, and that wage growth in Sweden will, whether through collective agreements or wage drift, converge on the nominal rate that is consistent with the inflation target. In the short term, however, as appears to have been the case in recent years, a weaker economic climate in competitor countries can result in wage growth below that level. This resulted in employment growing slightly more strongly than it would otherwise have done, but it has also contributed to interest rates being low throughout the economic boom. If the two sides in the manufacturing negotiations were to agree upon wage increases consistent with Sweden's inflation target, and if wage growth would then be higher than in competitor countries, this could impact negatively on profits and employment in manufacturing, given an unchanged exchange rate.

Another criticism levelled against the Industrial Co-operation and Negotiation Agreement is that its normative role has become too strong, with the result that economically desirable

Diagram 1 Resource utilisation and hourly wages

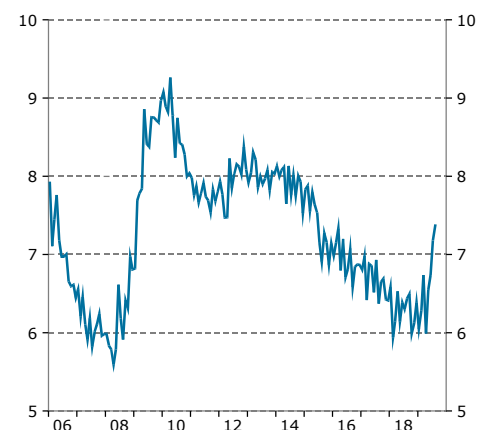
Normalised seasonally adjusted quarterly values and annual percentage change respectively



Sources: National Mediation Office and NIER.

Diagram 2 Unemployment

Per cent of labour force, seasonally adjusted monthly values



Sources: Statistics Sweden and NIER.

¹ See NIER (2018) for a detailed discussion of other possible explanations for this subdued wage growth.

² See, for example, Gottfries (2019).

movements in relative wages have not materialised.³ If relative wages are not permitted to reflect supply and demand for different categories of labour, the result will be shortages in some parts of the labour market, and unemployment in others.

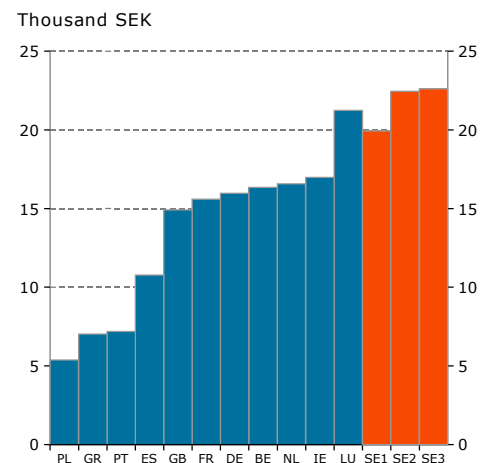
Whether the relative wage changes that do occur are sufficient to even out shortages in the labour market in the longer term is difficult to know. Labour shortages seem to have been particularly acute in the public sector in recent years, where pay increases have also been higher. Whether relative wage changes occur through collective bargaining, wage drift or political initiatives, it is important that they can take place. If the Swedish economy operates below capacity in the coming years, fiscal measures to support employment in the local government sector may mean that there is still a case for wages to rise more quickly in parts of the public sector. It would then be important for this not to result in compensatory demands elsewhere.

The social partners can contribute to higher employment and lower unemployment by showing a degree of wage restraint. Another way they can increase employment is to agree on greater differentiation of minimum wages for low-skilled jobs so that new groups can find work. Collectively agreed minimum wages in Sweden are high by international standards and are binding on a large part of the labour market, which probably inhibits demand for labour with low formal qualifications (see Diagram 3). The relatively high number of refugees coming to Sweden for many years has brought a sharp rise in the number of people with limited qualifications. In a scenario where appreciably more people with limited qualifications find work, however, there is a risk of wages also coming under pressure for those who already have jobs. Lower minimum wages can mean that new entrants with productivity below that of workers on the previous minimum wage to some extent replace workers just above the previous minimum wage. The result can be lower incomes for these people, through unemployment or weaker wage growth. The risks associated with lower minimum wages in the form of increased wage dispersion must, however, be weighed against the economic and social costs that arise if wage formation makes it harder for large groups in the labour market to find work.

Profitability in the Swedish business sector

One important starting point for the next round of collective bargaining is the profitability level among firms. The second chapter looks at profitability in the Swedish business sector. All else equal, there will be more scope for pay increases when profitability is healthy than when it is tight. From an economic viewpoint, it is desirable to have a level of profitability that encourages firms to invest and create employment.

Diagram 3 National minimum wages in European countries and collectively agreed minimum wages in Sweden in 2019



Note. SE1 refers to local government, age 19+ with no experience; SE2 to hotels and restaurants, age 20+ with no experience; and SE3 to retail, age 20+ with no experience.

Source: Eurostat.

³ See, for example, Calmfors (2018).

The NIER considers that business sector profitability has developed relatively well over the past two decades. Although the return on capital in Sweden has trended down since the turn of the millennium, this can largely be explained by lower required rates of return on capital due to lower interest rates, rather than lower profitability (see Diagram 4). The return on capital in the Swedish business sector has also mirrored developments in competitor countries since the financial crisis.⁴ The profit share in the business sector has deteriorated slightly during the latest boom but is still close to the historical average.

It is mainly in manufacturing that profitability appears to have been strong in recent years. The net return on capital in the manufacturing industry has moved normally compared to the rest of the world throughout the period since the turn of the millennium. Firms' own view of their profitability has been strong by historical standards and has also been on a par with Germany during the current boom. It is, however, likely that profitability in the manufacturing industry has fallen somewhat in recent months.

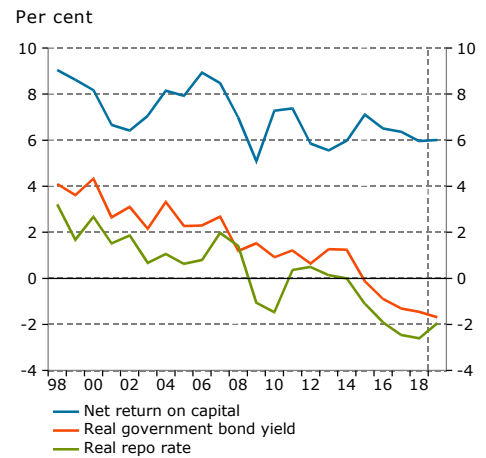
In the service sector, both perceived profitability and the return on capital have been low relative to the manufacturing industry in recent years. This is a different pattern to previous booms, when services and manufacturing moved together (see Diagram 5). The return on capital in the service sector has also deteriorated somewhat relative to other countries since 2015. One explanation may be that the decline in the krona since 2014 has benefited manufacturers but has been detrimental to service firms. However, it is also possible that it is a result of adjustments in parts of the service sector due to the growth in online shopping, easier price comparisons and stiffer international competition.

Whether the krona will rally and erode exporters' profitability is hard to predict. The NIER considers the current exchange rate to be well below the equilibrium rate. Our forecast therefore assumes that the krona will appreciate in the coming years, but this will be a slow process, with the exchange rate not returning to its early 2018 levels until late 2023. Such a path for the exchange rate will probably not spark any dramatic deterioration in exporters' competitiveness.

It is sometimes argued that Sweden's reduced share of the world market is a sign of weaker competitiveness or poor profitability in the export sector. A decline in market share is, however, only to be expected as countries like China and India increase their share of the global economy. A dwindling market share may therefore be a sign that countries that have previously been underdeveloped are catching up with the more mature economies. In order to say anything about the link between changes in market share and competitiveness, we need to

⁴ The statistics (from Eurostat and Statistics Sweden) underlying these calculations are only available until 2017.

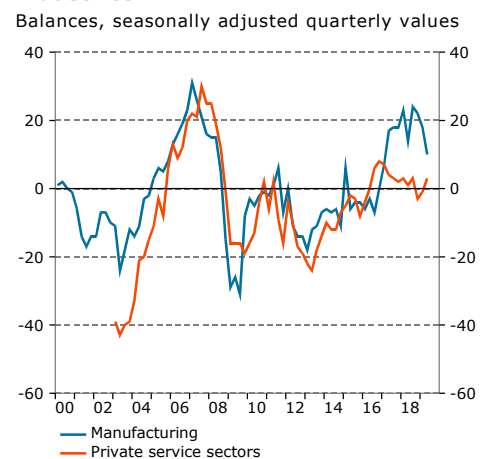
Diagram 4 Adjusted return on capital and real interest rate



Note. Net operating surplus as a share of the real capital stock in the business sector and 10-year government bond or repo rate less contemporaneous CPI inflation.

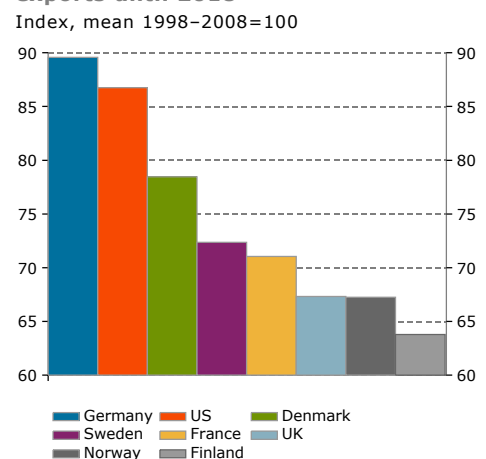
Sources: Statistics Sweden, The Riksbank and NIER.

Diagram 5 Profitability in manufacturing and private service industries



Source: NIER.

Diagram 6 Change in share of global exports until 2018



Note. A value of 70 in the diagram, for example, means that the country's share of total global exports in 2018 was 30 per cent below the average for the period 1998-2008.

Sources: OECD, Macrobond and NIER.

compare developments in Swedish exports with those in other mature economies. Such a comparison reveals that Sweden's market share has followed roughly the same pattern as that of other mature economies since the turn of the millennium (see Diagram 6).

The macroeconomic background to the 2020 round of negotiations

The social partners reach agreements that run for one or more years, which means that both the current economic climate and the outlook for the next few years need to be taken into account. The third chapter presents the NIER's latest forecast and scenario for the Swedish economy for the next three years. This forecast was published in *The Swedish Economy*, October 2019, and is summarised here.⁵ There is a particular focus on the labour market and wages, both in Sweden and abroad.

After a long boom period, the Swedish economy is now in a clear slowdown phase (see Diagram 7). The output gap is gradually narrowing and is expected to close next year.

Recent years' strong global investment climate has begun to wane, and manufacturing confidence has fallen in many countries (see Diagram 8). Growth in the global economy will therefore slow this year and next. Global growth is being affected by trade policy fears and continuing uncertainty concerning Brexit. In Germany, industrial production has decreased appreciably during the year. The labour market will remain strong in many countries this year and next, but unemployment is expected to rise in the period from 2021 to 2023. Wage growth has picked up somewhat in both the US and the euro area in the past year (see Diagram 9). Wages in the euro area are being driven to a great extent by accelerating wage growth in Germany. The picture in Germany is split, however, with manufacturing wages appearing to have slowed in the past year.⁶

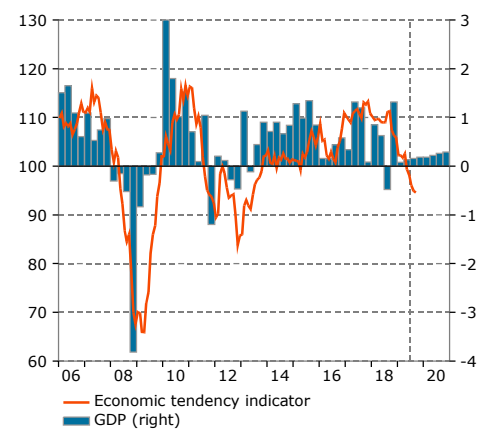
Weak data and subdued prospects for global manufacturing have contributed to the Swedish investment climate continuing to cool. A broad-based decline in business investment is expected this year and next, although the level of investment will still be relatively high. Despite uncertainty abroad and a bleaker outlook for key trading partners, Swedish export growth will be relatively healthy viewed over the year as a whole. Next year, though, it will slow. While Swedish exporters are benefiting from the weak krona, the weak global investment climate is hitting them hard given how focused they are on intermediate and capital goods.

⁵ See NIER (2019).

⁶ See "Wage growth in Germany" in NIER (2019) for a more detailed analysis of how wages in Germany have moved in recent years.

Diagram 7 Economic tendency indicator and GDP

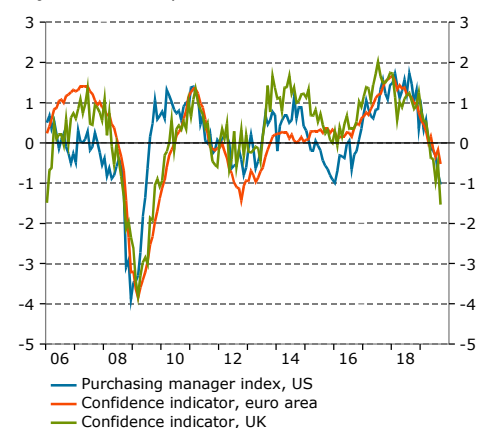
Index mean=100, monthly values and percentage change, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Diagram 8 Confidence indicators for the manufacturing industry

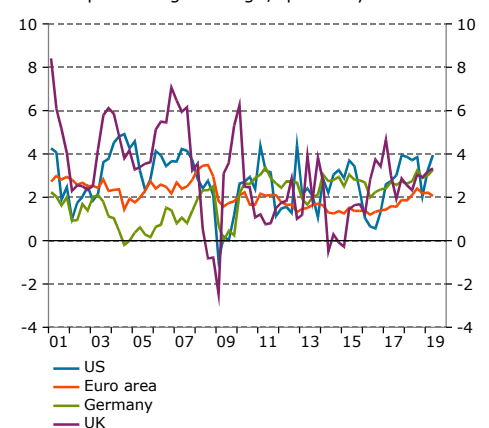
Standardised deviation from mean, seasonally adjusted monthly values



Sources: Institute for Supply Management, European Commission, Macrobond and NIER.

Diagram 9 Labour costs in chosen countries

Annual percentage change, quarterly values



Sources: OECD and Macrobond.

Employment has fallen since the beginning of the year, and unemployment will climb in 2019 and 2020 to just over 7 per cent (see Diagram 10). We forecast wage growth of 2.6 per cent both this year and next, climbing gradually to 2.9 per cent in 2023 as productivity growth recovers slightly. Underlying this forecast is an assumption that the ongoing deterioration in the labour market and slowdown in German manufacturing will result in pay settlements in 2020 roughly on a par with those in 2017. Inflation will be below the Riksbank's target for the next couple of years, causing it to postpone increases of the repo rate.

Downside risks to the economy dominate both at home and abroad. Although global economic growth is expected to be subdued in the coming years, there is a risk of the slowdown being worse than forecast. A more severe global downturn would, for example, spell lower demand for Swedish exports, so further reducing growth in Sweden.

Consequences of alternative wage scenarios

Like any forecast, our wage projections are associated with uncertainty. In a special analysis, the NIER's general equilibrium model SELMA is used to analyse how the economy would be affected by a lower or higher rate of wage growth in 2020-2023 than in our base scenario (see Diagram 11). We also look at how the economy would be affected if the Riksbank were to wait a year before responding to the higher rate of wage growth. The underlying reason for wages taking a different path compared to the base scenario, is assumed to be a temporary shift in the social partners' bargaining power.

If wage growth is lower than in the base scenario, demand for labour increases, and so do hours worked and GDP. At the same time, inflation is lower than in the base scenario, as firms' costs rise more slowly (see Diagram 12 and Diagram 13). The Riksbank therefore lowers the repo rate, which further boosts growth in GDP and hours worked. The increase in hours worked is not, however, enough to cancel out the effect of the lower rate of wage growth, which means that total wages fall, and so does government revenue from taxes on labour.

The situation is the reverse if wage growth is higher than in the base scenario, with lower GDP and hours worked and higher inflation.

If the Riksbank waits a year to respond to the higher inflation resulting from this higher wage growth, the negative effects on GDP and hours worked are reduced, while inflationary pressures increase further. This scenario should not be interpreted as the most likely response from the Riksbank to an increased rate of wage growth, but nor is it an unreasonable one given that the inflation target will not be met until 2022 if the Riksbank responds immediately.

Diagram 10 Unemployment

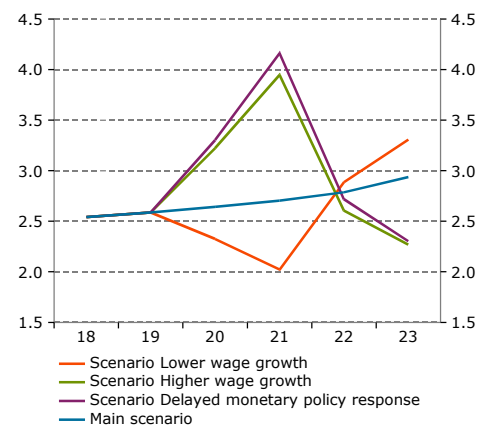
Per cent of labour force, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Diagram 11 Hourly wage in the whole economy

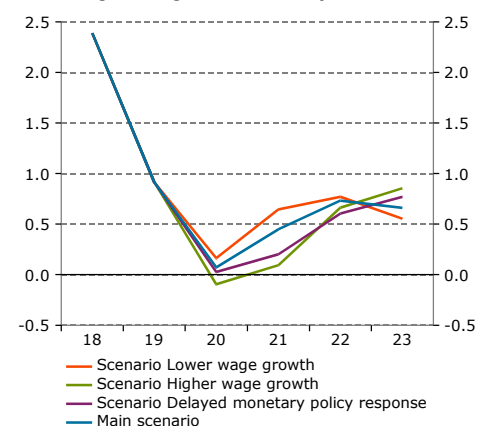
Percentage change



Sources: National Mediation Office and NIER.

Diagram 12 Hours worked in the whole economy

Percentage change, calendar-adjusted values



Sources: Statistics Sweden and NIER.

Productivity in Sweden

In the long run, the scope for growth in producer real wages is determined by how quickly productivity increases.⁷ Productivity growth in Sweden has been comparatively low since 2007, i.e. even before the financial crisis. Despite recent years' economic boom, when productivity growth would be expected to take off initially, it has remained lower than before the financial crisis (see Diagram 14). The fourth chapter of the report looks at this weak productivity growth in Sweden over the past decade. The focus is on 2011 to 2018, i.e. the period after the big swings in productivity growth in the wake of the financial crisis. The outlook for productivity is discussed in the light of historical performance.

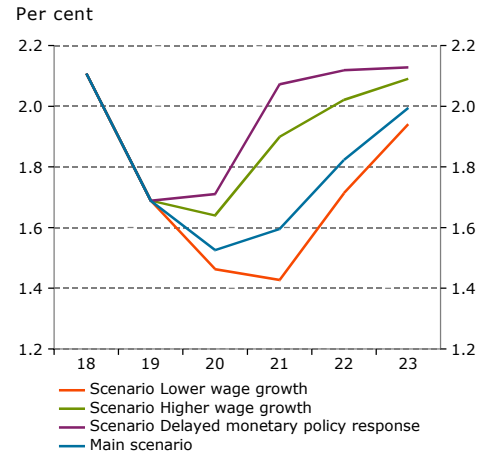
Developments are also discussed from an international perspective. Many other countries have also seen weak productivity growth (see Diagram 15). Slower technological progress is probably the main reason for the low global productivity growth. There is, however, no consensus in the research community on why technological progress has led to smaller productivity gains in the past decade. There are therefore also differing views on future productivity growth. Some believe that current innovations will not generate the same productivity increases as previous innovations, and that it is therefore unrealistic to expect productivity growth to pick up, at least in the short term. Others are more optimistic and argue that the technological advances currently being made are considerable but have yet to show up in the statistics. The drivers mentioned here include artificial intelligence, robotics and the Internet of Things.

In Sweden, lower productivity growth in the information and communication technology (ICT) industry explains much of the slowdown in productivity growth since the turn of the millennium. Even excluding the contribution from the ICT industry, however, productivity growth in the Swedish business sector has been weak since 2010.

The ongoing structural transformation, with a shrinking manufacturing industry and a burgeoning service sector, has generally served to lower productivity growth in the business sector somewhat. The service sector has historically featured much lower productivity growth than manufacturing. All else equal, an expanding service sector will therefore put a damper on productivity growth in the business sector as a whole.

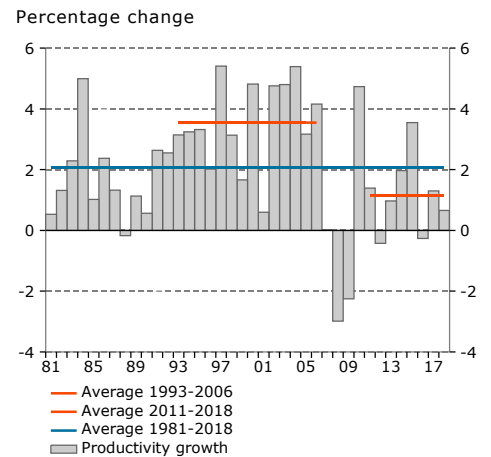
Growth accounting can be used to divide productivity growth into three components: increased input of real capital per hour worked (capital deepening), changes in the labour force's knowledge and skills (labour quality), and total factor productivity (TFP). TFP is often assumed to reflect long-term technological progress, but is in practice a residual in the

Diagram 13 CPIF-inflation



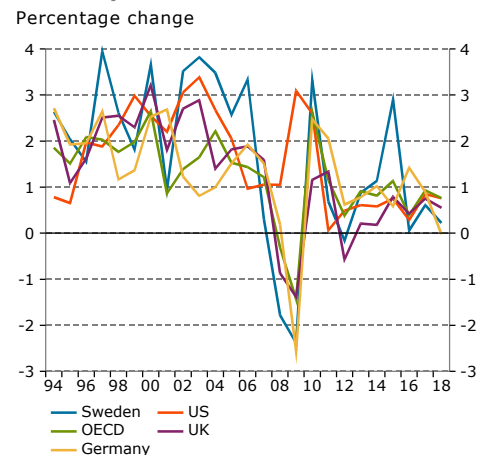
Sources: Statistics Sweden and NIER.

Diagram 14 Productivity in the business sector



Sources: Statistics Sweden and NIER.

Diagram 15 Productivity in the whole economy



Note. Refers to productivity per employee for the OECD, for other countries per hour.
Sources: The Conference Board and Macrobond.

⁷ Producer real wages are nominal wages deflated by the value-added deflator for the business sector.

calculations and will therefore also capture both measurement errors and cyclical fluctuations in productivity. Growth accounting for Sweden reveals that lower growth in TFP is the main explanation for the slow growth in productivity in the business sector since 2011 (see Diagram 16). These calculations do not say anything about why the adoption of new technology seems to have slowed. However, since technological progress in Sweden largely depends on that abroad, the slower rate of technological progress globally has probably played a major role. In the US in particular, technological progress measured as TFP has been subdued in recent years.

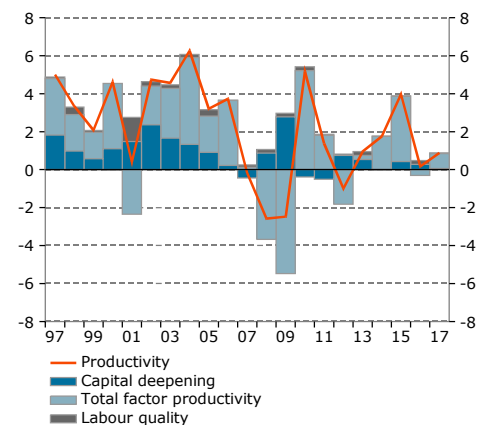
The slow productivity growth in Sweden since 2011 is also a result of slow capital deepening. This may be because the protracted economic slump hampered investment in the years after the financial crisis. Investment has grown more quickly since 2015, but hours worked have also risen fast, due partly to population growth. Investment has struggled to keep up with hours, and the amount of capital per hour worked has therefore climbed only slowly.

The labour force's skills also have a role in productivity growth. To take account of this, the number of hours worked is quality-adjusted in our growth accounting. The NIER has estimated a quality component for hours worked based on workers' education level. Relative wage differences between education categories have been used to approximate differences in productivity. Since 2011, the productivity contribution from the labour force's skills has also been lower than before. The increase in the average education level has been slightly slower than previously. This is partly because the foreign-born population, which has a lower average education level than the Swedish-born population, has accounted for an increased share of employment in recent years.

The NIER estimates that annual productivity growth in the business sector will be 1.8 per cent in the long run (see Diagram 17). This is slightly lower than the average rate since 1980. The reason for this is that the structural transformation in the Swedish economy is hampering productivity growth. In the short term, however, the NIER does not see a basis for productivity growth reaching these levels. From 2019 to 2023, we expect business productivity to rise by an annual average of 1.3 per cent. This is nevertheless somewhat higher than in the period 2010–2018, which is explained by the capital stock growing more quickly for the past couple of years. The amount of capital per employee in the business sector is therefore rising, which will boost productivity growth and help offset the negative productivity effect of the ongoing economic slowdown.

Diagram 16 Decomposition of labour productivity in the business sector

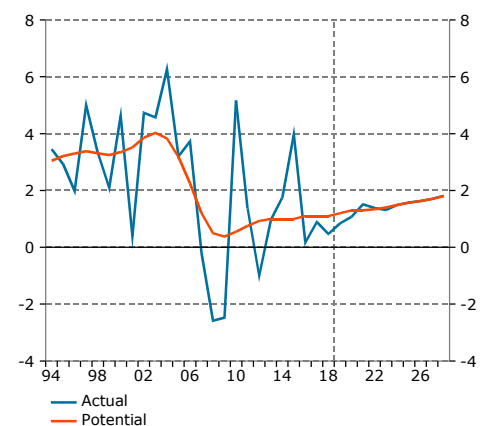
Percentage change and approximate contribution in percentage points according to the NIER, calendar-adjusted values



Source: NIER.

Diagram 17 Actual and potential productivity in the business sector

Percentage change, calendar-adjusted values



Sources: Statistics Sweden and NIER.

What rate of wage growth is consistent with the inflation target?

The aim of the fifth chapter is to give the social partners an indication of what rate of wage growth is consistent in the longer term with the inflation target being met, given a number of simplified assumptions. These calculations should not be seen as a forecast or recommendation for actual future wage growth.

The calculations show that an annual rate of growth in hourly labour costs of 3.5 per cent is consistent with an inflation rate of 2 per cent. The calculations assume that almost all prices are cost-driven, that the profit share in the different parts of the business sector is constant, and that relative price changes do not lead to any substitution either in production or in households' consumption basket.

How productivity moves is crucial in determining the rate of growth in labour costs that is consistent with a rate of inflation of 2 per cent. In the base estimate, we assume annual productivity growth in the business sector of 1.8 per cent, i.e. the rate we are assuming in our long-term scenarios. As mentioned above, however, our forecast for the next three years is just 1.3 per cent. If this lower productivity growth persists in the longer term, we find that an annual increase in hourly labour costs of 3.0 per cent is consistent with meeting the inflation target.

Another key assumption in the base estimate is that the exchange rate evens out relative price differences between countries, and that import prices therefore move in the same way as prices for equivalent goods produced domestically. The NIER's forecast for the next few years assumes that the exchange rate gradually strengthens. If the krona gains 0.5 per cent per year, and this holds back import prices to the same extent, wages need to rise a little faster to be consistent with the inflation target. With productivity growth at 1.3 per cent, an annual increase in labour costs of 3.3 per cent is then consistent with the inflation target. Slightly higher labour cost increases still are required if the calculations take account of manufacturing prices not being entirely cost-driven, and the profit share in manufacturing coming under pressure as the krona strengthens. It should be noted, however, that these estimates do not paint a complete picture of the chain of events in scenarios with lower import prices. In reality, reduced competitiveness in manufacturing would probably lead to lower exports and to lower production and employment in the sector in the longer term.

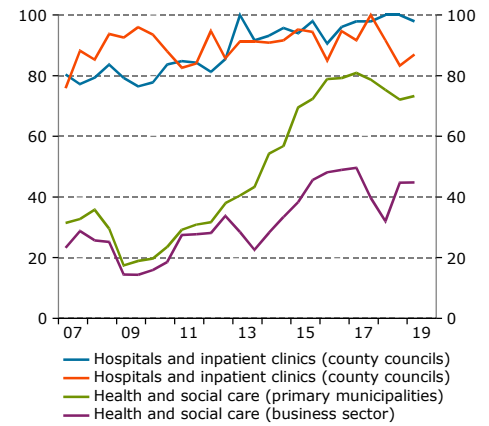
Does competition between employers affect nurses'?

The final chapter of the report looks at how changes in the concentration of demand for nurses impacted on the pay of nurses in the public sector between 1998 and 2016.

There has long been a shortage of nurses and other qualified health workers (see Diagram 18). The Swedish wage formation model has been criticised for exacerbating the situation, because the marker put down by the manufacturing industry under the Industrial Co-operation and Negotiation Agreement can prevent pay levels in professions with labour shortages in the public sector from adapting to demand. The number of private health care providers has risen over time, and nurses in many parts of the country have had more opportunities to choose between different employers. Increased competition for labour between employers has boosted nurses' bargaining power and reduced the scope for large employers to exploit their size when it comes to wage formation. A larger number of employers can therefore lead to higher pay levels and, in time, a greater supply of nurses. There are, however, considerable differences from county to county in the level of competition between employers. This chapter studies how changes in the concentration of demand for nurses impacted on the pay of nurses in the public sector between 1998 and 2016. The results show that wages have to some extent adapted to changes in competition. A doubling of the number of employers translates into 1-2 per cent higher pay for nurses. Higher pay levels will not, however, reduce the shortage of nurses to any great extent in the short term, since almost all of those who have trained as nurses already work as such. In the longer term, however, higher pay could attract more people to train as nurses.

Diagram 18 Shortages of labour in the healthcare sector

Share of workplaces with recruitment difficulties, percent, half-year values



Source: Swedish Public Employment Office.

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