The Swedish economy

Statistical perspective

Statistiska centralbyrån Statistics Sweden

From the contents:

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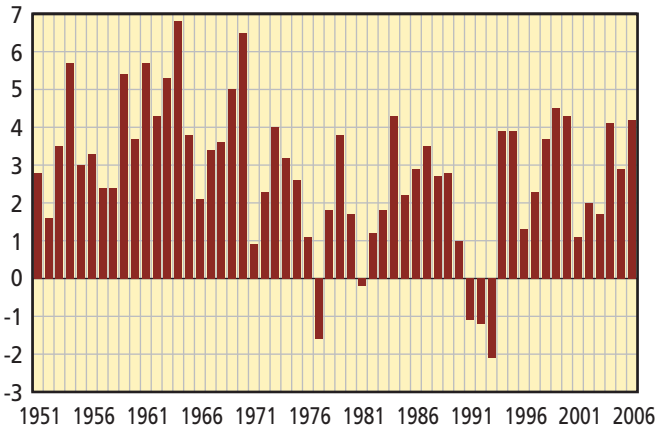
Summary

Mixed picture for the first quarter

During the first quarter this year, GDP was 3 percent higher than the first quarter of 2006. This was a more moderate growth than during 2006, but still higher than the historical average. In Sweden growth cycles of about five years have been the usual pattern during recent decades. The latest peaks were in 2000 and 2005–2006. The economic development during the first quarter gave different signals and consequently the state of the economy is more difficult to interpret than before.

GDP growth 1951–2006

Percentage change from previous year.



Source: National accounts *Data up to and including 2006*

The picture of economic development is mixed to a certain extent regarding the first quarter of 2007. Industry showed signs of weakening. Production developed more slowly than in previous quarters, the export of goods was considerably weaker than last year and inventories of finished goods grew during the first quarter. This, and the fact that new orders fell, were signs of a more moderate demand. Productivity growth decreased considerably during the first quarter as growth in employment was higher than the increase in production.

Gross investments, both in machinery and residential investments, rose more than they have done for a long time. The contribution to growth from investments was 2.1 percentage points. Net exports showed an almost as large negative contribution. However a large part of investments consists of imported goods, which is why the import-adjusted contributions show a somewhat different picture. Gross investments contributed import-adjusted by 0.9 percentage points while exports gave a positive contribution of 1.0 percentage point. The contribution from household consumption was a moderate 0.3 percentage points and government consumption contributed by 0.2 percentage points to GDP growth.

Household consumption had not yet gained speed but disposable income rose by a total of 6.1 percent, in current prices, mainly as a consequence of lower taxes but also due to increased employment. The savings ratio rose thereby to 10 percent, which gives space for further consumption. The rate of growth of general government consumption doubled for the first quarter compared to the same quarter a year ago.

Even though the economic conditions during the first quarter have been more difficult to interpret than previously, it is obvious that demand for exported goods has decreased, especially from the US and Asia where exports have fallen. Domestic demand however still showed a strong increase, mainly regarding investments.

One important aspect for the improvement of economic statistics is the development of longer time series. Long time series are of great value when analysing structural changes but also economic cycles in a long-term perspective. To show the importance of long time series, this issue of ”Swedish economy – a statistical perspective” focuses on the development in the general government sector. The analysis is partly based on newly-developed time series for Sweden but also on statistics from the OECD and others.

The general government sector in Sweden grew mainly during the 1960s and 1970s, with an considerable increase in both government spending, transfers and taxes. Government spending increased from approximately 30 percent of GDP to 65–70 percent. In the OECD area, the expenditure ratio did not increase as much. Sweden, as with other Nordic countries, was struck by state financial crises at the end of the 1900s, but the handling of these crises was relatively successful.

During the last 50 years, financial savings have affected assets and liabilities in the governmental balance sheet. The net debt has, at the most, amounted to 30 percent of GDP. Strong improvements of the government sector’s financial assets have been seen during three time periods; the latest after the budget restrictions in the 1990s. The total surpluses disappeared relatively quickly after previous peaks due to devaluation and economic crises. The present build-up of assets is different from the previous ones in several ways.

Owner occupied housing in the Consumer Price Index (CPI) is an area where a development work is in progress. A feature article describes the present state in this work and how a future computational model may be designed.

Exports and imports

Weak exports in the first quarter

Exports of goods and services exhibited the weakest increase for two years during the first quarter of this year – although it should be considered that the first quarter of 2006 was very strong. Imports continued upwards however at a fast rate. The effect of net exports on GDP growth amounted to –1.7 percentage points, which is the lowest figure since the end of the 1980s. This worsened development was due to a considerably lower rate of increase for the export of goods, at the same time as the strong domestic economy resulted in the largest upturn in the import of goods since 2000. The export of goods developed very weakly to both North America and Asia but was better to Europe. Merchanting and travel payments accounted for the largest part of the increase in the export of services.

In the first quarter of 2007, the export volume of goods and services was 5.4 percent higher than in the first quarter of 2006, while the increase since the fourth quarter of last year was 1.3 percent, seasonally adjusted. This implies that the upturn, seasonally adjusted, was considerably lower than in the two previous quarters. The increase, measured between corresponding quarters of the two subsequent years, has not been so low since the first quarter of 2005. This slowing down was, in the first place, due to a very marked decline in the rate of increase for exports of goods which increased by only 3.8 percent compared to the first quarter of last year. It should be noted here that the development in the first quarter of last year was extremely strong. Compared to the fourth quarter of 2006, the volume of exports of goods was largely unchanged.

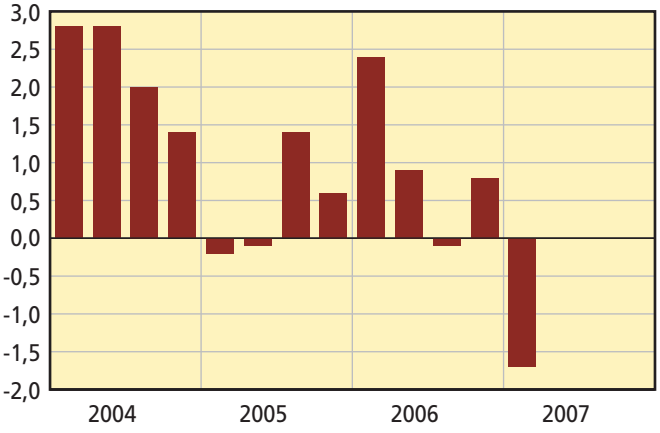
Exports and imports of goods and services

	First quarter 2007		
	SEK billion, current prices	*Percentage change, volume Compared to Q 4/2006 (seasonally adjusted values)*	*Compared to Q 1/2006 (actual values)*
Exports			
Goods and services	376.4	1.3	5.4
Goods	285.0	0.1	3.8
Services	91.4	2.6	10.3
Imports			
Goods and services	320.2	2.6	10.6
Goods	243.4	1.8	10.6
Services	76.8	3.4	10.8

Source: National accounts

At the same time as exports developed at a fairly moderate rate, strong demand in Sweden, seen primarily by the strong rise in investments, has led to imports increasing at a faster rate. The increase, measured over four quarters, was the highest since the third quarter of 2000. This was the case for both imports of goods and total imports. It should however be noted that the seasonally adjusted change from the previous quarter of 1.8 percent for imports of goods is lower than that seen for the previous three quarters, which could indicate a diminishing rate of increase. One result of the differing tendencies regarding exports and imports is that net exports for the first quarter contributed very negatively to GDP growth. The effect on GDP amounted to –1.7 percentage points, the lowest figure seen since the end of the 1980s. If, instead, the import content is excluded from the different components of the balance of resources, the picture is somewhat different. The effect of exports on GDP growth was then around 1 percentage point – a positive effect but still considerably lower than for the previous quarter and for 2006[1].

Contributions to GDP growth from net exports
Including import contents. Compared to corresponding quarter previous year. Percentage points



Source: National accounts

Data up to and including first quarter 2007

Service exports continued upwards at a good rate. The relative strong increase was partly caused by a strong rise in net travel payments and the continued increase in merchanting. The effect of travel payments on GDP growth was 0.4 percentage points and the effect of merchanting was a full 0.6 percentage points. The effect from the entire net services was 0.2 percentage points. This means therefore that the export of goods had a strongly negative effect on GDP growth of a whole –1.9 percentage points, as well as the effect of trade in services, excluding travel payments and merchanting, being negative. We should here emphasize the measurement problems linked to merchanting and net travel payments, which result in a relatively large measurement of uncertainty in the calculations. Travel payments (foreign visitors' maintenance costs in Sweden, of which about one

1 For further information about the alternative method for calculating contributions to GDP growth, see The Swedish economy – Statistical perspective no 1 207 and also the issue for 4th quarter 2005.

third consists of transactions in Norwegian crowns) increased in the first quarter by a full 38 percent compared to the first quarter of 2006, according to the source material. This is a very sharp increase that was adjusted downwards to slightly less than 20 percent – which was the average rate of increase during 2006 – in the reconciliation procedures for the quarterly calculations. It should be noted here that the adjustments do not affect GDP growth as the travel payments component also counts when household consumption is calculated, which is adjusted to a corresponding extent.

Merchanting has been revised downwards for all quarters last year, in total SEK 4.1 billion for the whole of 2006. The first quarter of this year was adjusted downwards by slightly over one billion in the reconciliation procedures. From the second quarter of this year onwards a slightly different method will be used for calculating merchanting to increase certainty in the estimations.

Declining exports of pharmaceuticals

Exports of goods increased according to foreign trade statistics by 5 percent in current prices (in value) and by between 2 and 3 percent in volume from the first quarter of 2006 to the first quarter of 2007. The difference in volume growth between the national accounts and foreign trade statistics depends on the reconciliation corrections carried out. Export prices increased during the period while import prices fell slightly. This means that the terms of trade developed positively. To a great extent, this was due to falling import prices of, for example, oil, during the later part of 2006. During the last three months, until April, a slight worsening of the terms of trade can be seen.

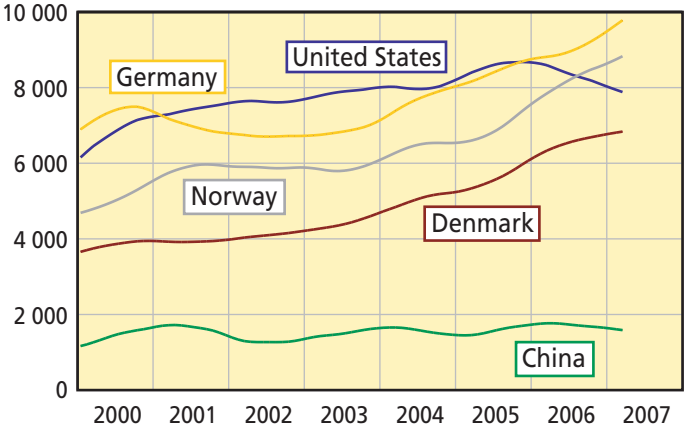
The export volume developed very poorly for pharmaceuticals, with a reduction of almost 14 percent, as well as for pulp and paper and wood products. Electronics and telecoms products fell by 2 percent and iron ore by between 1 and 2 percent. In both cases, however, the development in prices was very unfavourable for Swedish producers and the value of exports fell considerably more than the volume – by 8 and 11 percent respectively. For exports of road vehicles, volume increased by 9 percent and by 13 percent for machinery. The exports of energy products, primarily oil products, which increased strongly during 2006, stagnated completely during the first quarter of 2007. Exports of iron and steel increased by 1 percent in volume but the export value rose as a result of sharply raised prices by a full 30 percent.

The volume of imports of goods rose by almost 12 percent while the value, due to a slightly lower price level, increased by slightly under 10 percent. The volume of iron and steel increased by 18 percent and the value, due to large price increases, by a full 48 percent. A remarkably large volume growth of 28 percent can also be noted for electronics and telecoms products which increased further in speed compared to 2006 – in this case however, prices were falling and imports in current prices increased by 11 percent only.

Weak exports of goods to US and Asia

Foreign trade by country is expressed in current prices only, which are affected by changes in prices and exchange rates. As already mentioned, export prices increased slightly more than import prices between the first quarter of 2006 and the first quarter of 2007. Between these periods, the dollar fell against the crown by around 10 percent, falling about 1 percent from the fourth quarter of 2006 to the first quarter this year.

Exports by destination countries
Trends in current prices, SEK millions



Source: Foreign trade statistics

Data up to and including March 2007

In total, as previously mentioned, exports in current prices were 5 percent higher during the first quarter this year compared to the first quarter last year. The declining tendency for exports to the US became even more apparent. Exports to the US fell by 16 percent compared to the first quarter last year and by 2 percent compared to the previous quarter, in seasonally adjusted values, evened out using trend cycle estimation. Exports to Asia also developed negatively and fell by 6 percent in current prices, compared to the same quarter in 2006. Among the larger Asian recipients of Swedish exports, exports to China fell by 9 percent, to Japan by 6 percent and to India by 3 percent. Exports to Europe showed considerably better development, increasing by 10 percent. Exports to Germany rose by 12 percent, to Norway by 11 percent and to Poland by 29 percent. Other larger export markets showed lower increases.

Imports in current prices rose by 10 percent. Among the larger dispatching countries, China increased the most by 29 percent. Electronic products contributed greatly to this rise. Other countries that increased strongly were Norway with 21 percent and the UK with 16 percent. It can further be noted that imports from Russia decreased by 23 percent. The figures for Norway and Russia are a further strong indication that Norway has taken over the role as the most important supplier of oil products to Sweden.

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Household consumption

Higher disposable income increased savings

Household consumption increased by 2.5 percent during the first quarter, which was on the same level as the development seen during the previous two quarters. The contribution to GDP growth was 1.2 percentage points. As consumer goods are largely imported, the import-adjusted contribution was only 0.3 percent. Household disposable income rose by SEK 7.4 billion or 6.1 percent during the first quarter, which did not have any great effect on consumption. The savings ratio increased instead to 10 percent.

During the first quarter of 2007, household salaries increased by a full 7.2 percent compared to the same quarter of the previous year. This can be compared to an increase of 7.3 percent for the first quarter of the record year of 2000.

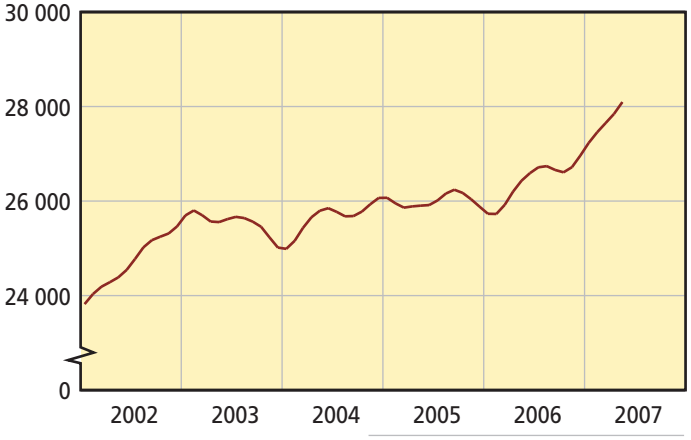
Transfer payments in the form of, for example, compensation from the government sector, decreased compared to the first quarter of 2006. Unemployment benefits fell by 23 percent. This was a result of the lower levels of compensation decided on by the government in the 2007 budget, at the same time as the situation on the labour market improved. Some labour market policy measures have also been phased out. There was also a decline in payments of sickness benefits and student grants.

Income from capital and wealth taxation decreased as a result of the expectation that capital gains will be lower this year than last year (based on a forecast from the National Financial Management Authority) and the abolition of wealth tax from January 2007 onwards. In total, household disposable income increased by 6.1 percent in current prices during the first quarter.

Vehicle purchases dominated

Household consumption was 2.5 percent higher during the first quarter compared to the same period of the previous year, measured in constant prices. The largest increase, 23 percent, was seen for vehicle purchases. Demand rose primarily for environmentally-friendly cars, for which new grant regulations were introduced from 2007, and for motorcycles. Sales of clothing and shoes, furniture and electronic products also continued on a high level during the quarter. Households also chose to spend more money on entertainment, with restaurant visits and foreign holidays. Package holidays increased by 19 percent.

New registrations of passenger cars
Monthly figures. Trend



Source: Swedish Institute for Transport and Communications Analysis
Producer: Statistics Sweden

Data up to and including May 2007

As during the fourth quarter, the demand for electricity, district heating and heating oil fell during the first quarter of the year. The mild weather at the beginning of the year resulted in a reduced demand for heating as well as the fact that many households have now converted to less energy demanding heating systems. This means that the consumption of energy for housing gave a negative contribution to household consumption of 0.8 percentage points in this quarter as well. When the weather for this time of year is normal, the housing item usually remains more or less unchanged. As the item constitutes around 25 percent of household consumption, even small deviations from the norm have a great effect on overall household consumption.

Travel payments continue to increase

The consumption of foreign visitors in Sweden (travel payments) continued to increase in the first quarter. As this item is based on currency exchanges made into Swedish crowns, it is not possible to see what products the consumption refers to. A project has been started at Statistics Sweden to improve the understanding of this flow. It has been noted thus far that a large amount of these exchanges are made against Norwegian crowns. The Alpine World Championships in Åre can have been a significant factor behind this increase in the first quarter. The trend with increasing currency exchanges is largely due to the good economic development in the world in general and the fact that it is easier to travel abroad and purchase goods.

During the first quarter, the travel payment item increased by a full 38 percent, which is almost twice as much as previously. As this item is considered as the export of services and is subtracted from the turnover of household goods and services, such a strong increase would mean that household

consumption would decrease more than can be considered reasonable. In the checking procedure, it was therefore decided to let the travel payment item remain at a level that corresponds to the average growth rate during 2006, or 19 percent. This means a deduction from household consumption of 0.8 percentage points, while the original figure would have reduced household consumption by 1.6 percentage points.

Consumer survey
Consumer Confidence Indicator (CCI). Balance. Monthly figures

Source: National Institute of Economic Research

Data up to and including May 2007

Household purchasing plans show a continued optimism. After a slight decline at the end of the previous year, households have again become more positive.

Household consumption, first quarter 2007

	Share of household consumption, %	*Volume change compared to Q 1/06, %*	*Contribution to increase in household consumption, %*
Housing	26.8	–0.9	–0.3
Leisure, recreation and cultural activities	13.5	6.4	0.7
Food products and non-alcoholic beverages	12.2	1.0	0.1
Transportation	11.9	8.3	1.0
– cars total		*23.2*	
Other goods and services	10.4	3.4	0.4
Clothing and shoes	5.8	8.7	0.4
Furniture etc.	5.7	7.4	0.4
Restaurants, hotels	5.0	7.3	0.4
Post and telecommunications	4.1	2.0	0.0
Alcoholic drinks and tobacco	3.0	–4.0	–0.1
Health and medical care	2.5	1.5	0.0
Education	0.6	3.6	0.0
Consumption abroad	4.2	8.7	0.4
Visitors' consumption in Sweden	–5.1	–19.1	–0.8
Total household consumption	100.0		2.6
Households' non-profit organisations		–0.8	–0.1
Total consumption			2.5

Souce: National accounts

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General government consumption

Continued growth in general government consumption

The increase in the general government consumption expenditure, which began cautiously during 2005 and took off last year, continued during the first quarter of this year. Compared to the same period of the previous year, consumption grew by 1.4 percent, in constant prices. In contrast to the consumption of the municipalities and counties, central government consumption showed a minor decrease.

General government consumption
Volume change, percent

	Q 1 2006	*Q 2 2006*	*Q 3 2006*	*Q 4 2006*	*Q 1 2007*
General government	0.6	1.9	2.1	2.6	1.4
Municipalities	1.5	1.8	2.1	3.0	2.3
Counties	1.6	2.2	2.6	2.8	1.4
Central government + AP funds	–1.9	1.8	1.4	1.8	–0.2

Source: National accounts

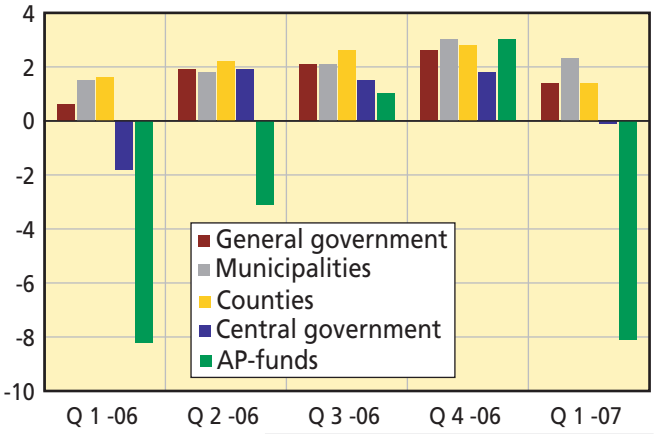
The higher primary municipal consumption during the first quarter was mainly due to increased wages and social security charges, increased social security benefits in kind and a slight fall in sales (which is a negative sub-heading). The main reason for the volume growth in the consumption of counties was the increase in social security benefits in kind.

The fall in consumption expenditure of central government in the first quarter can primarily be attributed to the low purchase of materials and services, the large increase in sales and the relatively moderate rise in wages and social security charges. The volume increase of 31 percent for durable goods in the defence sector balanced out the results for central government consumption somewhat and was partly the result of a weak first quarter in 2006 (–29 percent). Durable goods in the defence sector are one of the most volatile items in central government.

Consumption in AP funds (national pension funds) fell by slightly over 8 percent in volume, thereby accounting for

half the decline in consumption for central government, including AP funds.

General government consumption
Volume change from corresponding quarter previous year, percent



Source: National accounts

Data up to and including first quarter 2007

Data from the national accounts for the first quarter are usually more uncertain than for the subsequent quarters.

Newly received data caused revisions

Consumption in the municipalities has been revised upwards by 0.4 and 0.3 percentage points for the two last quarters of 2006 respectively. New data have been received for a large municipality which has meant a revision of municipalities' total consumption for the third and fourth quarters despite the fact that counties' consumption has not been revised noticeably. The newly received primary municipal data also resulted in a revision upwards of consumption data for municipalities and counties by a total of 0.2 percentage points for the whole year 2006.

The revision of consumption data for central government, including AP funds, for all quarters and for the whole year 2006 can primarily be attributed to new accounting information regarding the AP funds, for which the quarterly data – due to the lack of quarterly statistics – were based on forecasts from the Social Insurance Office. The revisions of the consumption in the AP funds were seven percent both for all quarters of the year and for the whole year 2006. Consumption in the AP funds is a very small item of the total central government consumption; however the large volume changes had an effect on the central government sector as a whole.

Despite revisions in both the municipal and central government sectors, general government consumption was not affected and retained a growth rate of 1.8 percent for the whole of 2006.

Good economic conditions ahead

The current short-term economic development with increased employment is crucial for the economic development in the public sector. Higher incomes and more people paying income tax will lead to greater income from taxes for several years to come. The forecasts for the tax base up to and including 2010 show an annual growth rate of between 4.6 and 5.2 percent according to the Swedish Association of Local Authorities and Regions. The short-term economic development and the growing tax base will ensure a solid financial situation in all sub-sectors, which can expect a surplus in their budget year.

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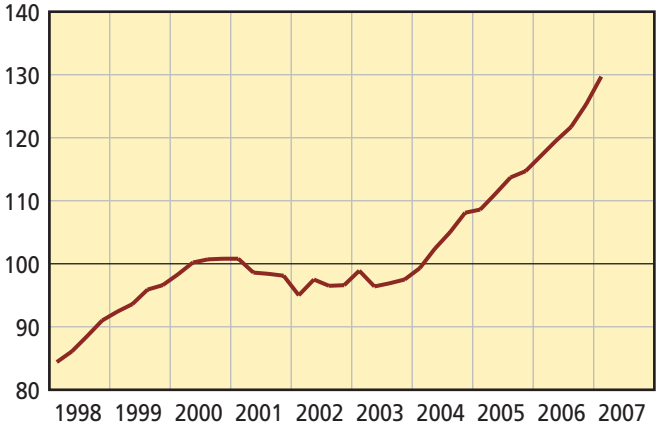
Gross fixed capital formation

Investments continue to increase strongly

Gross fixed capital formation continued upwards during the first quarter, by 3.5 percent seasonally adjusted compared to the previous quarter, which is a further speeding up in the growth rate from the fourth quarter last year when investments took off. During the first quarter this year, the investment ratio was 17.9 percent, which was the highest seen during a first quarter since 1992. The rise in investments during the first quarter was not only very strong but also had a broad base, affecting all types of investments and, with a few exceptions, all the important industries.

The positive investment activity seen last year continued after the end of the year. The gross fixed capital formation continued to increase strongly during the first quarter, by 3.5 percent seasonally adjusted and compared to the most recent previous quarter. This was a rise of close to 15 percent, calculated in annual figures, which is a further speeding up of the growth rate seen in the fourth quarter last year when investments took off. The rise in investments during the past two quarters is the fastest seen since the first quarter of 1993 when the current seasonally adjusted quarterly GDP series began.

Gross fixed capital formation
Index 2000=100, Constant prices, seasonally adjusted



Source: National accounts

Data up to and including first quarter 2007

During the first quarter this year, gross fixed capital formation was 12.7 percent higher compared to the corresponding quarter in 2006. In this period again, this constituted the most expansive element in the economy with the increase in investments corresponding to 2.1 percentage points of GDP growth during the first quarter.

Higher investment ratio

As investments continue to increase faster than other items on the expenditure side, the investment ratio, i.e. gross fixed capital formation's share of GDP, rose even further. During the first quarter of the year, the investment ratio was 17.9 percent which is the highest during any first quarter since 1992. Even after being adjusted for housing investments – which for the most part have risen faster than other types of investment during the current upturn in investments – the investment ratio has risen this year, by one percentage point compared to the first quarter in 2006.

Broad basis for economic upturn

The upturn in investments during the first quarter was not only strong but also had a broad base, affecting all types of investments and, with a few exceptions, all the important industries. In contrast to the previous year when housing investments were the most expansive element in the investment picture, investments in machinery now increased the fastest, by a full 22.5 percent compared to the previous quarter in 2006, which is twice as much as for housing investments. This indicates a quick recovery from the slump seen last year, when investments in machinery slowed down considerably with an increase of just a couple of percent.

Gross fixed capital formation
SEK billions, current prices and percentage change, fixed prices

	2006					*2007*
	Year	*Q 1*	*Q 2*	*Q 3*	*Q 4*	*Q 1*
Business	426	10.6	9.5	5.6	6.1	13.3
Manufacturing industry	79	8.7	–4.9	2.3	–0.3	6.7
Service producers[1]	155	5.0	10.7	1.2	2.5	12.9
Business services	38	14.7	2.1	3.8	–0.1	17.3
General government	82	4.8	2.6	4.4	15.9	8.5
Central government	42	7.6	4.7	–2.6	13.9	0.5
Local government	40	1.6	0.2	11.8	17.8	18.3
Total	**507**	**9.9**	**8.5**	**5.4**	**8.0**	**12.7**
Machinery	167	13.2	–1.2	2.5	4.2	22.5
Transport equipment	43	–5.8	36.1	14.9	–3.7	10.3
Housing	90	16.7	17.4	11.8	11.5	11.3
Other construction	134	9.4	6.7	3.0	14.3	6.5
Software etc.	72	7.2	8.8	4.7	7.6	3.2

Source: National accounts

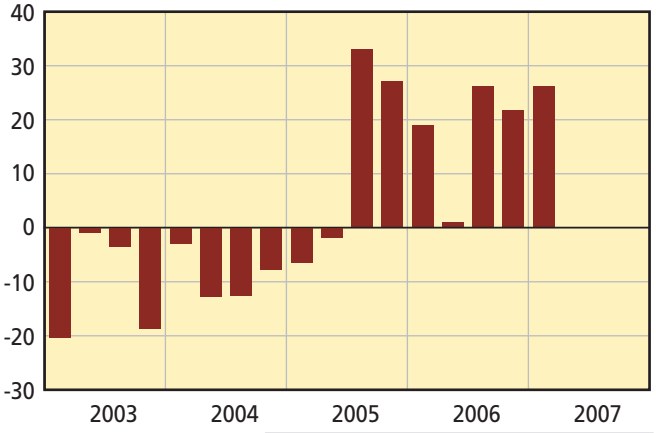
Most notable is the development on industry level, where very sharp increases of over 40 percent have been calculated in the mining industry and the energy sector. In the transportation industry, the construction industry, wholesale and retail industries and for the business services industry as well, the upturns were as much as around 20 percent. Roughly the same rate of increase is reported for municipal authorities while investments in central government remain primarily unchanged. This is partly due to the weak development for investments in roads during the period.

Continued expansive investments in construction

Investments in construction continue to increase strongly. While the upturn for housing is stable, with an increase of just over ten percent for the third quarter in a row, the rate of increase varies more for other buildings and facilities. After the considerable rise in this sector during the fourth quarter last year, the rate of growth has more than halved during the first quarter, to 6.5 percent. The conditions can be considered good for a continued positive development of investments in construction, considering the development of building permits – the leading indicator for construction.

1 *Excl. property management*

Authorised building permits, gross floor area
Non-residential buildings. Percentage change from corresponding quarter previous year



Source: Statistics on building permits

Data up to and including first quarter 2007

During the three most recent quarters, building permits for premises, measured as construction area, have increased strongly and steadily, with an average of around 25 percent compared to the corresponding quarter one year earlier. For housing, the development of building permits is not as clear. In this area, comparisons are currently made difficult by the discontinuation of state housing subsidies for construction starting after 31 December 2006.

During the first quarter this year, a minor fall in the number of building permits for housing can be seen compared to the corresponding quarter of the previous year. This fall was followed by a marked upturn during the fourth quarter, the strongest seen in a single quarter in this decade. It is assumed that many construction projects were brought forward to the end of last year in order to qualify for subsidies, positively affecting the number of building permits. For the fourth quarter of last year and the first quarter of this year together, the number of building permits increased at roughly the same rate as previously during 2006.

Willingness to invest still strong

It can be seen from the most recent investment survey, carried out in May, that the investment climate in the business sector is favourable, with good profitability, high capacity utilisation and a positive attitude towards the economy in the future. The business sector reported in this survey expansive investment plans for the coming year and more considerable upward revisions of the plans submitted by enterprises in October last year.

The important industrial investments appear to be gaining new speed this year after slowing down last year, when investments during the last three quarters were not even unchanged compared to the previous year. The capacity utilisation in industry reached this year a new high of 91.6 percent, indicating a need to expand production capacity further. Industrial enterprises are now planning to invest SEK 73.6 billion this year, which means an increase of 15 percent from 2006 and a new record for the total investments in the industrial sector. It is also an upwards revision by around 5 percentage points compared to the October survey last year. Several industries contributed to the upturn.

All the important industries in the business sector with an investment level of over SEK 3-4 billion plan to increase investment strongly this year, by between 15 and 35 percent. The highest increase is reported by the energy sector.

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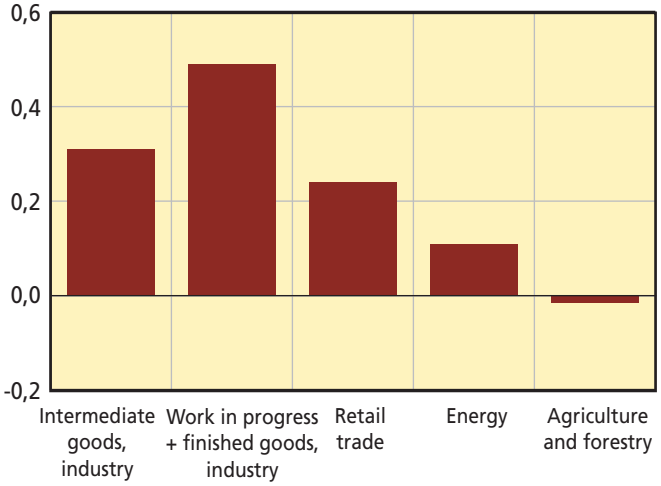
Inventories

Changes in inventories contributed greatly to GDP growth

Changes in total inventories contributed a full 1.1 percentage points to GDP growth in the first quarter. This effect arose as a result of an unusually large build up of inventories which exceeded expectations during the first quarter of 2006. Inventories in the manufacturing industry contributed the most while even trade inventories contributed to a great extent.

Changes in inventories were positive during the first quarter which is in line with the usual seasonal pattern. The build up of inventories was however clearly greater than usual. The difference between changes in inventories during the first quarter this year and the first quarter last year amounted to a value of almost SEK 8 billion. This positively effected GDP growth by a full 1.1 percentage points, which is more than the high contribution from inventories during the third quarter last year.

Contribution to GDP growth from change in inventories first quarter 2007
Compared to corresponding quarter previous year. Percentage points



Source: National accounts

High contributions from inventories in the manufacturing industry

It was primarily inventories in the manufacturing industry and the trade industry that caused the positive contribution from inventories but stores of fuel also had a positive effect. The largest part of the contribution of inventories came from the manufacturing industry's work in progress and of finished goods, which increased GDP growth by as much as 0.5 percentage points, while the inventories of intermediate goods also had a positive effect on growth of 0.3 percentage points. Trade inventories and fuel stores contributed by 0.2 and 0.1 percentage points respectively. The only item to have a negative effect on GDP growth was inventories in the forestry industry. This effect was however very small, only marginally affecting GDP development. The final effects of the hurricane "Gudrun" appear to have worn off.

The positive contribution of inventories from work in progress and of finished goods and trade inventories occurred as a result of the rising build up of inventories between the first quarter last year and the first quarter this year. The effect from intermediate goods was however the result of a change from a reduction in inventories during the first quarter of last year to a build up of inventories during the first quarter this year, while the weakly positive effect from fuel stores were a result of a decreasing reduction in inventories.

Historically low assessment of inventories

The quarterly Economic Tendency Indicator from the National Institute of Economic Research for the first quarter again showed a minor improvement of industry's assessments of the inventory of finished goods – from an already good level. An improvement was seen already during the third quarter last year but these assessments worsened slightly during the fourth quarter. The current assessment of the inventories of finished goods shows that inventories are at the right level. However this is a very bright assessment, seen historically, meaning that inventories are considered to be small. During April and May, the monthly economic indicators also showed small inventories of finished goods.

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Developments in the business sector

Growth in the business sector declined

The strong growth in production in the business sector in 2006 was a result of the very strong development seen in the first quarter. Growth then became successively weaker, a development which continued during the first quarter of 2007. Both the service industry and the entire goods production and manufacturing industry only grew by slightly over one half of a percent compared to the previous quarter, seasonally adjusted. The number of hours worked increased, however, relatively strongly during the quarter, which led to lower labour productivity for the business sector.

Service production slowed down

After a very dramatic start of the year in 2006, with growth of almost 3 percent in the first quarter, seasonally adjusted and compared to the previous quarter, growth weakened considerably. The first quarter of 2007 was comparatively very weak, with a growth of only 0.5 percent. A subsiding growth rate was not however seen in all parts of the service sector. Exceptions include the hotel industry, which showed good growth, even during the first quarter 2007.

The development for the manufacturing industry and service production was very similar during 2006 and the first quarter of 2007, as it was for goods production overall. The latter saw slightly weaker development than service production, which is very unusual during a year with strong growth.

Value added in the business sector[1]
Percent change from previous quarter, seasonally adjusted. Constant prices

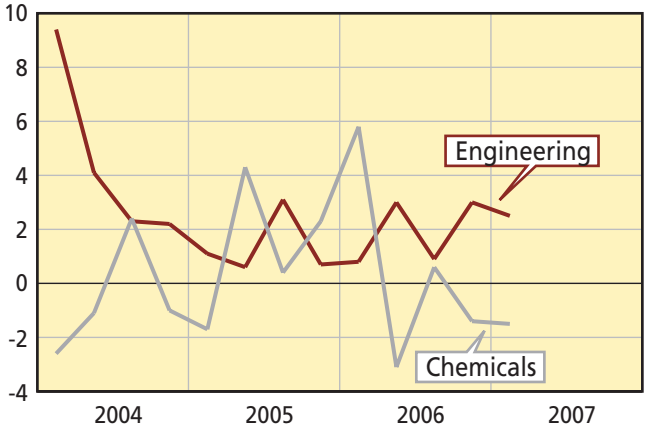
	Q 1 2006	Q 2 2006	Q 3 2006	Q 4 2006	Q 1 2007
Total business	2.4	1.2	0.7	1.3	0.5
Goods producers	2.4	1.4	0.2	1.4	0.5
Manufacturing industry	2.5	1.4	0.7	1.4	0.6
Service producers	2.8	0.9	0.9	1.1	0.7
Real estate and business services	4.3	1.1	0.9	0.6	0.9

Source: National accounts

Growth rate weakens further in many manufacturing industries

The engineering industry was the only more important industry that showed a reasonable rate of growth during 2005 as well as during 2006 and the first quarter of 2007. The very positive development in the machinery manufacturing industry contributed to this development. However, the forestry industry, for example, has developed weakly and continued to do so during the first quarter of 2007 when production did not increase at all, compared to the fourth quarter of 2006. The food industry developed negatively during the same quarter and for the chemicals industry this quarter was the fourth quarter in a row with very poor development.

Value added of the chemical and the engineering industry
Percent change from previous quarter, seasonally adjusted. Constant prices

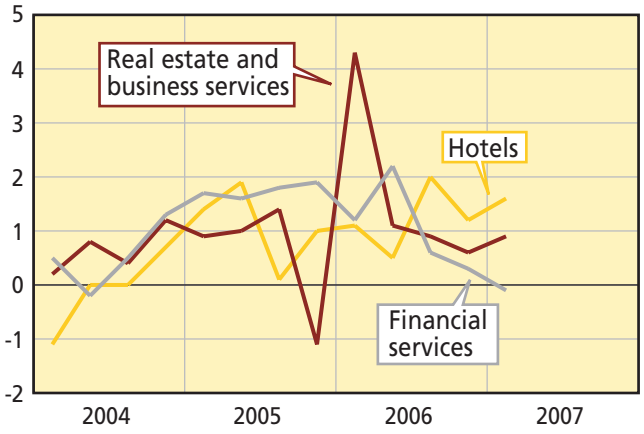


Source: National accounts

Data up to and including first quarter 2007

Even if service production has developed overall relatively stably for a few years, several of the industries within services have seen a more uneven development. The financial services industry has often a strongly fluctuating growth. A significant part of the value added of the industry consists of banks' net interest rates which vary greatly. Recent years however have been somewhat of an exception, see the figure below. Apart from during the two first quarters of 2004, the last quarter of 2006 and the first quarter of 2007, the growth rate has remained on a very even high level.

Value added for three service industries
Percent change from previous quarter, seasonally adjusted. Constant prices



Source: National accounts

Data up to and including first quarter 2007

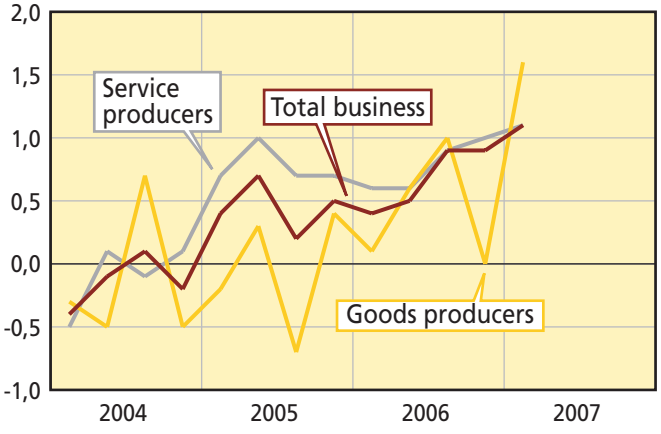
The growth curve seen by property and business services, on the other hand, appears to have been anything but even. After having decreased in the last quarter of 2005 by one percent, it grew by four percent in the following quarter. If we disregard this by replacing these quarters with the average growth, the development appears however very stable with slight variations of around one percent. During the two last quarters however, the growth rate has fallen slightly. It is nevertheless somewhat of a contradiction that growth has, despite this, not been higher in the investment economy of recent years as this industry produces many investment-related services, such as construction and architectural services, programming and technology development support. The slow growth of property services has of course brought down the growth rate somewhat for the industry as a whole. The comparatively small hotels sector has seen positive development during this period, not least during the last two quarters.

Number of hours worked has increased at a faster rate

The number of hours worked in the services sector has grown evenly and relatively strongly over the last nine quarters, from the first quarter of 2005 onwards, with a growth rate that has varied from between a half and one percent per quarter. This growth rate has risen even more during the second half of 2006 and the first quarter of 2007. The goods producing part of the business sector has only taken off in the most recent quarters. The growth rate has then overtaken the rate in the service sector, both in the third quarter last year and in the first quarter this year. Even if it was the construction industry that lifted the average value for the goods producing industries to these very high growth figures, the growth rate in the manufacturing industry has not been that much lower.

1 The seasonally adjusted figures should be treated with some caution. The growth rates for different sectors are not always due to "direct seasonal adjustment".

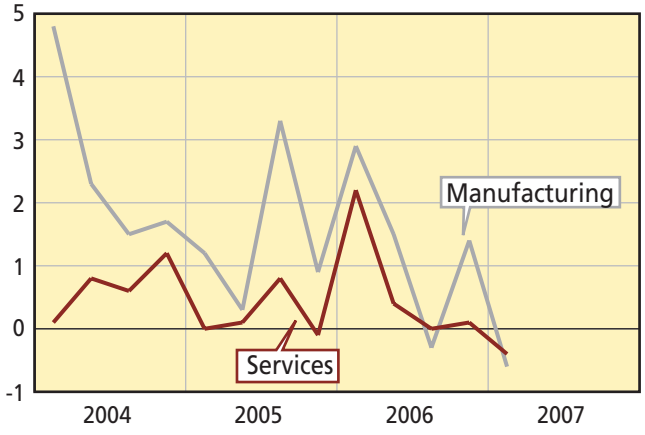
Hours worked in the business sector
Percent change from previous quarter, seasonally adjusted



Source: National accounts

Data up to and including first quarter 2007

Labour productivity in the business sector
Percent change from previous quarter, seasonally adjusted. Constant prices



Source: National accounts

Data up to and including first quarter 2007

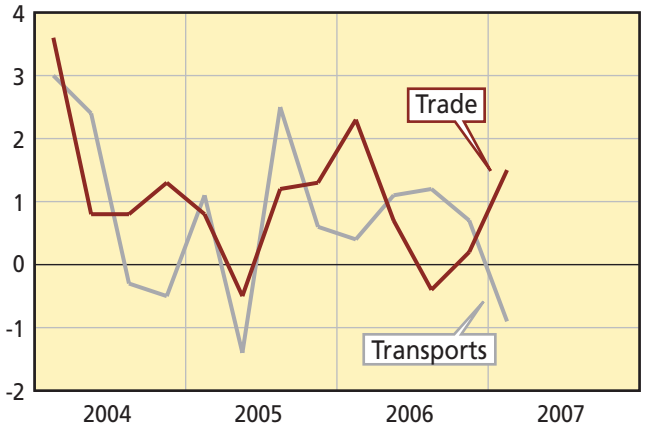
Positive productivity growth broken in recent quarters

The productivity growth seen in the business sector during the period 1993-2006 has been remarkable. The annual growth for labour productivity has varied from between 2 and slightly over 4 percent with only one exception. This exception was in 2001, which was characterised by a crisis in the IT industry. There have also been a number of peak years which have brought up the average to over 3 percent. In general, the goods producing industries have had higher productivity growth than the service producing industries. The latter industries have, however, seen a marked increase in growth in recent years. As the growth rate in the goods producing industries has also risen slightly, the whole business sector has shown a very positive trend, or rather a level rise for these growth rates after the 2001 crisis.

This trend has however been broken during 2006. The productivity levels in both goods and service production remained largely unchanged during the last two quarters of 2006 and the first quarter of 2007. During the first quarter this year, productivity even decreased slightly in both the service sector and the manufacturing industry. This fall in productivity development is not particularly remarkable for a year following a period of rapid productivity growth when employment has not increased for several years. Together with the sharp increase in investments in machinery and an, on an international level, extremely high level of R&D, we get a picture of a business sector that has built up considerable production resources.

Two very substantial parts of the service sector are the trade industry and the transport and communications industry. Both these two have seen a reasonable productivity development in recent years. In the most recent quarters, however, the transport and communications industries have followed the general pattern while productivity growth actually increased in the trade industry during the first quarter of 2007.

Labour productivity in two service industries
Percent change from previous quarter, seasonally adjusted. Constant prices



Source: National accounts

Data up to and including first quarter 2007

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EU KLEMS – a comparative industry study on productivity in the European Union

The EU KLEMS project aims to create a database on measures of economic growth, productivity, employment creation, capital formation and technological change at the industry level for all European Union member states from 1970 onwards.

The database will provide an important input to policy evaluation, in particular for the assessment of the goals concerning competitiveness and economic growth potential as established by the Lisbon 2001 and Barcelona 2005 summit goals. The database should facilitate the sustainable production of high quality statistics using the methodologies of national accounts and input-output analysis.

The measures of productivity to be incorporated into the production process will include various categories of capital, labour, energy, material and service inputs. Productivity measures will be developed, in particular with growth accounting techniques. Several measures on knowledge creation will also be constructed.

The database will be used for analysis of various key political issues, in particular by studying the relationship between skill formation, technological progress and innovation on the one hand, and productivity, on the other. To facilitate such analyses, links will also be created within the framework of the project to these types of variables within existing micro (firm level) databases. The balance in academic, statistical and policy input in this project is realised by the participation of 15 organisations from across the EU, representing a mix of academic institutions and national economic policy research institutes and with the support from various statistical offices and the OECD. No Swedish institute is taking part and only one statistical authority is involved, namely Statistics Finland. The ONS in the UK and Statistics Sweden are however associated to the project.

The project will issue two publications, one in which the development of various country groups is analysed and a book presenting various analyses based on the database. The project will be concluded next year but discussions on making the database permanent are underway. Statistics Sweden supports efforts to make the database permanent, with a central role for Eurostat and the national statistical authorities.

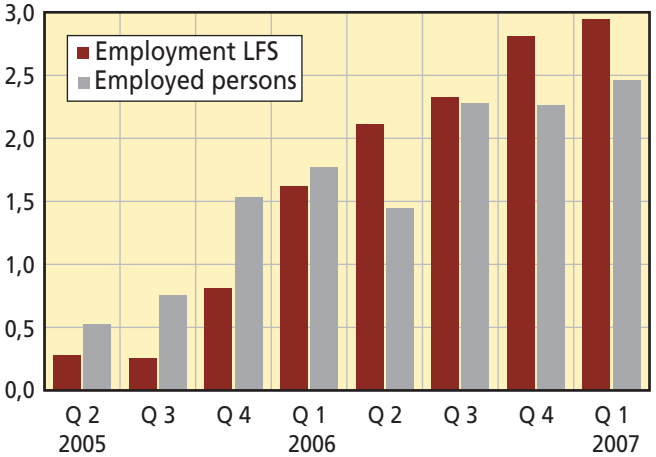
The database can be found at www.euklems.net/

Labour market

Accelerating increase in employment

According to the Labour Force Survey (LFS), the increase in employment seen since the middle of 2005 has now accelerated. During the first quarter of 2007, the employment was 2.5 percent higher than during the first quarter of 2006. This was the greatest increase seen since 2001. Enterprise-based employment statistics also showed a very strong labour market. The number of employees rose by 3.0 percent, which is the greatest increase since 2000. Unemployment continued to fall and was 5.0 percent during the quarter compared to 5.8 percent during the first quarter of 2006.

Employment and employed persons
Percentage change from corresponding quarter previous year



Sourse: LFS and Enterprise-based employment statistics

Data up to and including first quarter 2007

Employment in the private sector rose

According to the Labour Force Survey, employment rose by 104 000 people during the first quarter of 2007 compared

to the corresponding quarter of the previous year. This was the greatest increase seen since the first quarter of 2001 and it relates to the private sector only. In the government sector, no statistically significant change could be measured.
The upturn is related to both men and women. Men have generally acquired permanent positions while women have, in the first case, obtained contracts of limited duration. Employment among young people aged 16–24 went up very sharply, by 44 000 people or slightly over 10 percent. This was the greatest increase in employment for young people seen since 1987. The last three quarters have seen an upturn for young people of an average of 40 000 per quarter. Such a strong increase in employment for young people over three quarters in a row has not been seen in the Labour Force Survey for at least three decades.

Considerably lower unemployment

The fall in unemployment seen since the second quarter of 2006 continued. During the first quarter of 2007, unemployment was 5.0 percent or 227 000 people. This is a decrease by 0.8 percentage points to 33 000 people compared to the first quarter of 2006. For the first time since the beginning of the 2000s, unemployment among young people also fell, from 13.5 to 10.9 percent. In previous quarters with increasing employment for young people, the number of young people in the labour force has increased to roughly the same extent as the number of employed people. Unemployment among young people has therefore remained largely unchanged.

Strong increase in the number of employees

Short-term enterprise-based employment statistics showed an upturn of 3.0 percent in the number of employees during the first quarter compared to the corresponding quarter in 2006. An increase was seen in all sectors but was greatest in the private sector, which increased by 3.9 percent. In the county of Stockholm, the increase was 4.6 percent while the rise in the private sector in the counties of Västra Götaland and Skåne were 4.1 and 3.7 percent respectively. In total, the number of employees on the labour market increased by 114 400 people to 3 988 600 people. The larger industries which increased the most were the construction industry which increased by slightly over 10 percent and the business services industry (including real estate services) which increased by 5.9 percent.

Continued sharp rise in number of vacancies

According to vacancy statistics, there were 43 800 vacant jobs in the private sector during the first quarter, the highest number since 2001. This was 23 percent higher than in the first quarter of 2006. A little more than half of the vacancies were found in the three metropolitan counties. The number of unmanned vacant jobs that can be started immediately increased to 17 900, an increase of 65 percent. The vacancy ratio, which in the last 3–4 years has remained at around 0.4 to 0.5, rose during the quarter to 0.7. The vacancy ratio is the equivalent of the number of vacancies in relation to the number of employed people.

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Saltsjöbaden Conference 2007:

Innovation and productivity

Statistics Sweden arranges an annual conference with the objective of developing Sweden's economic statistics.
This year's theme is innovation and productivity.
The conference is held at the Grand Hotel in Saltsjöbaden on 24–25 October.

The conference will conclude with a panel debate. The conference will be conducted in English.

Among the subjects to be discussed at the conference are the following:

- Innovation and economic growth in the EU
- Is there a connection between innovation and the development of productivity at enterprise level in Sweden?
- Patents and their significance for innovation and productivity, an OECD perspective
- A presentation of the work with indicators on the knowledge society in the national accounts
- A presentation of the work with long time series in economic statistics

More information on the conference, registration details and more can be found at www.scb.se/saltsjobaden

Long-term development in public sector

Expansion, crisis and consolidation

At the beginning of the 1960s, the public sector in Sweden was roughly of the same size as in other OECD countries. The tax ratio was also roughly the same, as was public expenditures as a percentage of GDP. Public finances were in balance and the rate of indebtedness was relatively low until the middle of the 1970s. The expansion of public services, the introduction of the ATP pension system and other transfer payments systems during the 1960s and 1970s led to Sweden having one of the largest public sectors among other comparable countries. Two dramatic crises in public finances shook the national economy along the way – firstly during the years 1976–1982 and then linked to the serious economic decline at the beginning of the 1990s. Gross debt doubled from 50 percent of GDP in 1990 to 100 percent of GDP in the middle of the 1990s. After the implementation of a reconstruction programme and system revisions in the public sector in the 1990s, the situation is very different today. Firstly, the public sector's share of the Swedish economy has decreased somewhat. Secondly, public finances have been consolidated though a series of important system revisions. On this basis, Sweden has a persistent financial surplus and thereby falling gross debt. A sharp increase in public financial assets also resulted in a rapidly improved financial position.

Long time series give perspective on current situation

The majority of economic statistics are focused on short-term economic development a few years back in time. Long time series with continuous data based on the same concept definitions are not as common. Reality is constantly changing and the economic activity seen twenty or thirty years ago may not even exist today. New industries are created instead and consumption behaviour and regulations are continuously changing. Against this background, and also because new methodologies for economic statistics are being developed continuously, a number of comprehensive revisions have been carried out in the national accounts. The last more fundamental methodology revision in the national accounts was carried out in 1993 and there is therefore a larger break in the time series during that year. There have also been other larger revisions in the NA statistics before this year, such as in 1980 and 1970. The correction of value added in various industries of undistributed bank services (FISIM) and the revised reporting of pension funds in recent years should also be mentioned[1].

From the reports of the Commission on the Review of Economic Statistics[2], it became clear that there was great demand for long time series from many statistics users. Long time series over several economic cycles are necessary for studying to what extent economic patterns are changing and also to be able to illustrate long-term structural changes. At Statistics Sweden, a number of projects are underway to reconcile gaps in the statistics and to develop long continuous time series for a larger number of key macroeconomic variables than those currently available. The focus of this article is on time series that illustrate the long-term development in the government sector economy. The article is based on previously produced data for the period 1970–1993 which have now been adjusted back in time to account for the corrections in bank services (FISIM) and due to the changes in the reporting of pension funds. Complete annual data with these adjustments are not yet published for the full period 1993–2006.

The underlying material in this article relates to data on incomes, expenditures and financial savings for the central government sector, social insurance sector, municipal sector and the consolidated general government sector for the period 1970–2006. Furthermore, there are published data on production and employment in the public sector for the period 1980–2006. Data for general government consumption has been published in a continuous time series from 1950 but the development in the sub-sectors have been adjusted retroactively based on, among other things, statistics from the National Institute of Economic Research and older Statistics Sweden material. Incomes, expenditures and financial savings are available on a more aggregated level for the period 1950–1974 which provides the possibility to build up a picture of the development from 1950 to 1970.

The following article presents the long-term development of the public sector in Sweden according to a number of established measurements. The development of financial savings of the government sector is also presented in this article with the dramatic swings seen in the 1970s and 1990s. Finally, the reconstruction of public finances from the beginning of the 1990s onwards is presented as well as the overall effects of this reconstruction on the structure of taxes, charges and expenditures.

Two connected articles give further perspectives on the finances in the government sector; firstly the long-term development of financial assets and debts (see page 21) and secondly the development of the Swedish government sector with international comparisons (see page 25).

1 See the example in the previous quarterly report 1 2007.

2 Swedish Government Official Reports SOU 2002:118.

Many ways to measure the scope of the government sector

There are several different ways to measure the size of the public sector. In Statistics Sweden's yearbook on public finances[1], for example, different measurements are presented. One of them is the central government and municipal sectors' share of the total value added in the economy, GDP. Public authorities' production contribution to GDP has amounted in recent years to slightly over 20 percent[2].

A part of the public sector's activities do not however take place only within the public authorities. General government consumption refers to the operational costs for the public authorities and their share of GDP has been 27–28 percent in recent years. If we look at the total use of resources in the government sector in relation to the whole economy, we should also add investments made by the public authorities. The consumption and investments of the public sector have together amounted to 30–31 percent of GDP in recent years.

A third way of measuring the size of the public sector is its share of total employment. The public share of employed people is today around 31 percent while the share of the total worked hours in the economy is roughly 28 percent. This reflects, for example, the fact that there are more part-time employees in the government sector than in the private sector.

Different mesures of size of the public sector
Percent of GDP

	1960	*1970*	*1980*	*2000*	*2006*
Public consumption	16	22	30	26	27
Gross investment	4	6	4	3	3
Consumption and investments	21	28	34	29	30
Public sector production	~ 11–15	~ 17	25	20	21
Public share of number of hours worked	..	~ 17	28	28	28
Public share of number of employed people	~ 12	~ 20	30	30	31
Public expenditures	30	43	60	55	53
Public sector's income	31	48	55	59	56
Taxes and social contributions	28	40	46	53	50

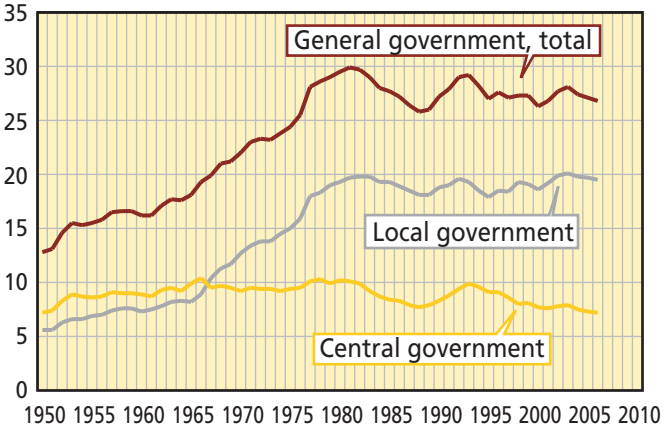
Source: Statistical Sweden, Medium Term Surveys LU73, LU75, LU84

Finally, the size of the public sector is usually given by relating total income and expenditures in to GDP. This reflects not only the public sector's use of resources but also the size of the transfer payments system. A large part of the taxes and social security charges is used for financing the public transfer payments to other sectors. Income from interest and dividends on the financial assets and interest payments are also included. The expenditure ratio has decreased significantly in recent years to 53 percent of GDP in 2006 while the income ratio is 55 percent of GDP. Taxes and charges' share of GDP is also an internationally established measure for showing how the "tax pressure" varies between countries.

Strong expansion in 1960s and 1970s

As can be seen from the table above, the public sector grew dramatically, above all during the 1960s and 1970s. General government consumption rose from 16–17 percent of GDP at the end of the 1950s to, at the most, 30 percent of GDP at the beginning of the 1980s, see the figure. As shown, expansion was primarily seen in municipal services (schools, health and social services) during this period.

Government consumption
Percent of GDP



Source: National accounts and own calculations[3]

Data up to and including 2006

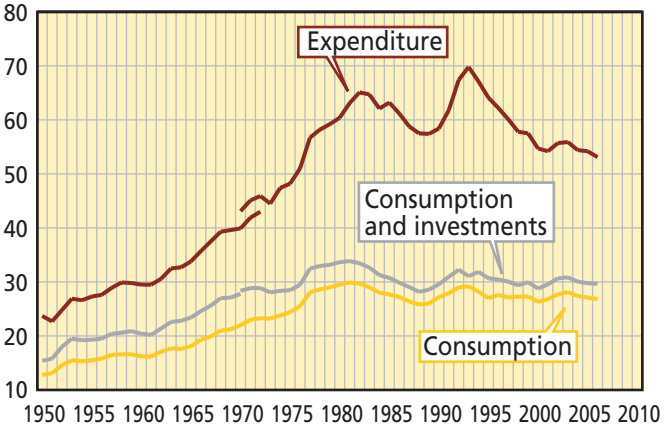
In total, public demand in the form of consumption and investments grew from 15–20 percent of GDP to slightly over 30 percent at the beginning of the 1980s. Public authorities' share of employment rose to roughly the same level. In parallel with this expansion, however, the public transfer payments system grew in scope at an even faster rate. This is clear from the nearly doubling of expenditure's share of GDP during the 1960s and 1970s to 65 percent of GDP at the beginning of the 1980s. This was caused partly by the expansion of the pension system and other transfer payments to households and partly by increased state transfers to corporations during the crisis at the end of the 1970s. The expenditure ratio rose however as interest payments increased. A peak was reached in 1985 when interest payments' share of GDP rose to 8 percent, a relative share which has not since been reached, not even during the crisis in the 1990s.

1 Statistics Sweden, Public finances, February 2007.

2 The value added in public authorities at base prices as a share of GDP at base prices. In the yearbook Public Finances, government production is described in relation to GDP at market prices, including indirect taxes on production in the business sector. The share is then 18–19 percent of GDP for recent years.

3 The distribution between municipal and central government consumption according to own calculations is based on older material.

Public sector expenditure and consumption
Percent of GDP

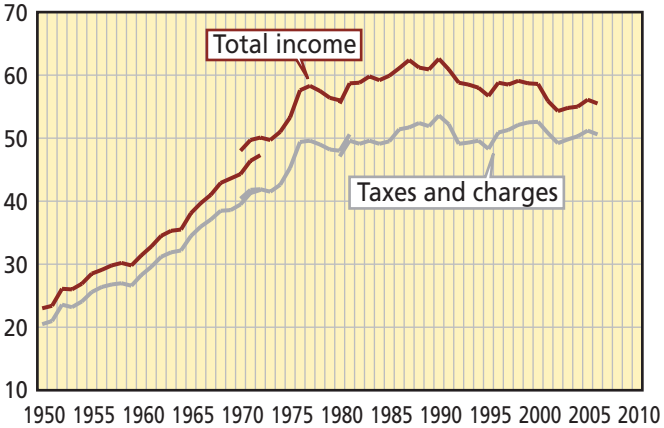


Source: National accounts and own calculations

Data up to and including 2006

Correspondingly, public income's share also rose sharply during the 1960s and 1970s – from around 30 percent of GDP to 55–60 percent, see figure. During the 1960s, an old-age pension system (ATP) was introduced and indirect taxes on consumption were implemented (sales tax which later became VAT). During the 1970s, employer´s social contribution charges were significantly raised in order to finance the expansion of the government sector. The share from taxes and social contributions rose in rounded figures from 20 to 30 percent of GDP in the 1950s, from 30 to 40 percent in the 1960s and from 40 to 50 percent during the first part of the 1970s. Since then, the share of taxes and social contributions has remained on roughly the same level.

Public sector income
Percent of GDP



Source: National accounts

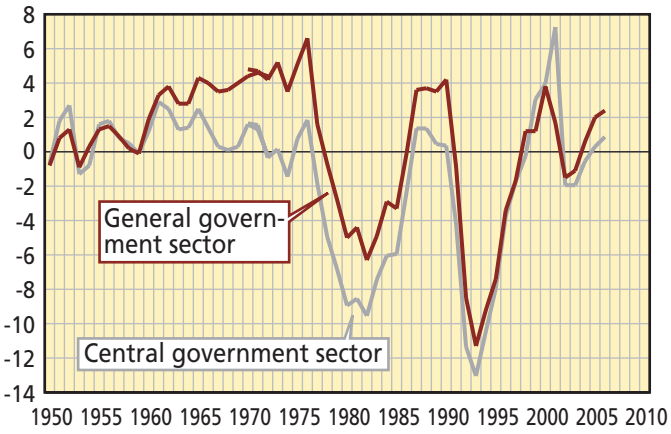
Data up to and including 2006

Crises in 1970s and 1990s in public finances

After the golden period of growth seen in the 1960s, national economic problems gradually grew in Sweden during the 1970s. The combination of large salary increases in 1974–76 and raised employer´s social contribution charges led to a cost crisis that affected the entire national economy and the public finances. The effects of interest payments have already been mentioned, as have the increased transfer payments to firms. The 1970s crisis culminated with the usual delay for the public finances, during the years 1979–1985. The financial savings in the government sector showed a deficit of 6 to 7 percent of GDP.

Some improvements in the Swedish economy were seen after the devaluation in 1982 but inflation continued to be high and salaries rose considerably more than in competing countries. The problems for the economy and the public finances were to some extent hidden by the strong international economy during the latter part of the 1980s. Deregulation of the financial markets also led to tendencies for overheating in the domestic economy. As employment rose and unemployment was very low, the government sector's financial savings developed very favourably, see the figure below.

Government sector financial savings
Percent of GDP



Source: National accounts

Data up to and including 2006

The domestic development of costs at the end of the 1980s however again led to problems with the international competitiveness, contributing to economic decline at the beginning of the 1990s, which was more intense in Sweden than in many other countries. The structural problems built into the economy and the acute financial and property crisis during 1991–92 added to this.

The effects of the 1990s crisis in the public sector's financial savings were even greater than during the 1970s crisis. Employment fell drastically, unemployment figures multiplied, the construction industry collapsed and private consumption fell several years in a row. With the falling tax base, the rising costs of unemployment and considerable government efforts to survive the financial crisis, the financial deficit rose to a full 13 percent of GDP when the situation was at rock bottom in 1993. Gross debt doubled from 1990 and reached 100 percent of GDP in the middle of the 1990s.

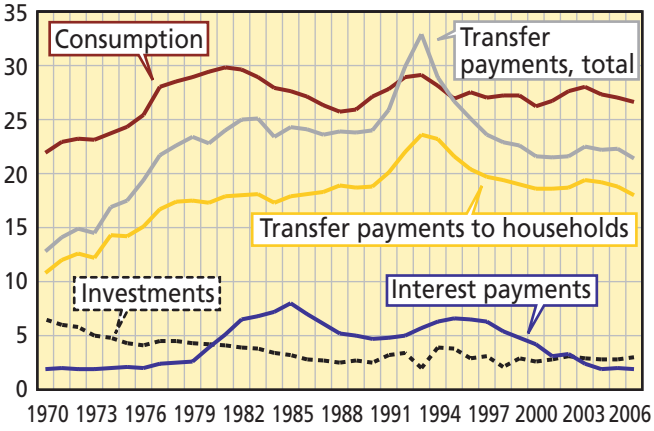
Restructuring of public finances in 1990s

The financial crisis made it necessary to carry out a number of measures to improve the public finances. A number of cost-cutting measures were implemented during the years 1993–1998. Transfer payments, which had risen out of hand during the crisis years, fell as a result, for example, of reductions in the level of compensation in sickness benefits and other social insurance. Housing subsidies also decreased gradually as a result of an important reform and the need for support to the financial sector disappeared when the

economy recovered. In total, transfer payments decreased from 33 percent of GDP in 1993 to 22–23 percent from the end of the 1990s onwards.

The vicious circle of a large deficit, rising debt and a lack of confidence in the financial markets also led to a sharp increase in interest charges. 1995 saw the peak of the spiral of no confidence when interest rate difference[1] in relation to other countries was 3–4 percentage points. The considerable revisions in the system as a result of the transition to a floating exchange rate regime, EU membership and the introduction of a new fiscal policy framework with expenditure ceilings and balance goals represented an important step in the eventually improved confidence in the financial markets. From 1997 onwards, confidence began to return and there is currently no difference between Swedish and European long-term interest rates.

Public sector expenditure
Percent of GDP



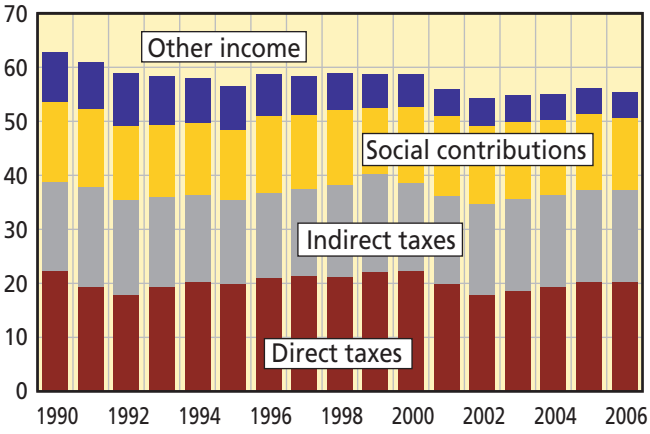
Source: National accounts *Data up to and including 2006*

The programme of measures, the drop in interest rates, the strong export development and the strong domestic recovery contributed to the relatively quick disappearance of the deficit in the government sector. The Swedish economy saw good development during the IT boom at the end of the 1990s and the economic recession after the beginning of the new millennium only resulted in a "normal" deficit in the government sector's financial savings[2]. Since 1998, the government sector's financial savings (excluding PPM pension funds) have amounted on average to 1.1 percent of GDP, which is completely in line with the current balance goals.

As illustrated previously, it is above all public expenditures that has been adapted downwards. The expenditure ratio has fallen from 70 percent of GDP in 1993 to 53 percent in 2006. The income ratio has decreased more moderately, from 59 percent of GDP to 55 percent in the same period. A national austerity tax was introduced in the crisis years, as was the tax deductible general pension tax and property tax. At the same time, the large tax base developed unfavourably during the period 1993–2006, as did private consumption, gross wages and taxable transfer payments[3].

The share of direct taxes has fallen slightly since the beginning of the 1990s, particularly during the years of economic recession when the tax base experienced downswings. The same was also the case for indirect taxes and social contributions. In total, the share of taxes and social contributions has decreased from 53 percent in 1990 to 50 percent in 2006. The so called tax ratio, defined in detail in the box, developed in a similar way.

Public sector income
Percent of GDP



Source: National accounts *Data up to and including 2006*

Favourable conditions for continued good government finances

The reconstruction programme and system revisions in the fiscal policy framework in the 1990s have resulted in significant structural improvements in public finances. The municipal sector showed a record surplus and has met its balance requirements with a good margin in recent years. The surplus goals of 1 percent of GDP for the entire financial savings in the government sector have been met with some margin. The government's expenditure ceiling has not been exceeded, even if forced re-periodization and dubious accounting principles used with regard to contributions to the municipal sector have been necessary in some cases[4]. The expenditure ceiling has however contributed significantly to reducing the expenditure ratio from 65–70 percent of GDP in 1993 to close to 50 percent. The strengthening economy, increased confidence and reduced interest payments on the general government debt have of course also contributed.

1 Difference between Swedish and German government bonds.

2 According to the National Institute of Economic Research, the economy-adjusted balance was roughly zero in 2002 and 2003.

3 See for example National Institute of Economic Research, The Swedish Economy, March 2007, page 107

4 An example is the support given to municipalities in the form of tax credits on the recipients' taxation account. If this support was instead accounted as expenditure, the expenditure ceiling would have been exceeded in 2004–2006, see National Institute of Economic Research, The Swedish Economy, March 2007, page 101.

The favourable development of financial savings has thereby meant that the "interest rate trap" feared in the middle of the 1990s has been avoided. The interest payments' share is now down to the same level as during the 1970s. General government gross debt has decreased from 100 percent of GDP to 60 percent. The net debt has now a positive financial position corresponding to 16 percent of GDP in 2006.

In the face of the demographic challenges that Sweden and other countries will meet in the coming decades, the consolidation seen in the Swedish public finances is particularly important. In the coming years, official calculations from the National Institute of Economic Research and the Government indicate that the favourable tendencies seen in the government sector's finances will continue. It appears that economic growth will remain on a reasonable level and employment is expected to rise, at least this and next year. This means continued good conditions for further consolidation of the government sector's finances.

Sources and underlying documents:

National accounts annual data 1993–2005, November 2006, Statistics Sweden's website

Balance of resources 1950–2005, above-mentioned NA November 2006, including FISIM-adjusted government consumption.

National accounts annual data 1980–1993, Statistics Sweden's website

National accounts quarterly data 1980–2006, including FISIM-adjusted government consumption National accounts quarterly data 2001–2006, March 2007

Incomes and expenditures for central government, municipal sector, AP funds and the consolidated government sector, PPM-adjusted 1993–2006. Unpublished material from National accounts, April 2007.

Incomes and expenditures for central government, municipal sector, AP funds and the consolidated government sector 1970–1993, older NA material

National accounts 1950–1974, SM N 1975:98

What is the tax ratio?

The share of taxes and charges as a percent of GDP in this article is roughly the same as the definition of the tax ratio used by the National Institute of Economic Research, for example. The difference between the concepts is that certain social insurance charges are in this case not considered as indirect taxes. Quantitatively however the difference amounts to around 0.5 percentage points of GDP.

The table below shows in more detail the different aspect of the tax ratio:

Tax ratio and its components
Percent of GDP

	2004	*2005*	*2006*
Tax ratio	**49.8**	**50.6**	**49.8**
Households' direct taxes	16.5	16.6	16.4
Enterprises' direct taxes	3.1	3.7	3.6
Social charges	13.1	13.1	12.4
VAT	9.0	9.2	9.1
Energy taxes	2.4	2.4	2.2
Other taxes	5.7	5.7	6.0
Tax ration	**49.8**	**50.6**	**49.8**
Taxes to the EU	0.3	0.3	0.3
Taxes to central government	27.5	28.4	27.8
Taxes to municipal sector	16.4	16.3	16.0
Taxes to AP funds	5.7	5.7	5.6

Source: National Institute of Economic Research

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Government sector assets and liabilities

Strong build-up of wealth in the public sector

The last half century has been turbulent for public finances. Big shifts in government net lending/borrowing have had considerable effects on assets and liabilities in the balance sheet. The net financial debt, which is the difference between outstanding liabilities and financial assets, has at most reached a level of 30 percent of GDP and, at the lowest, minus 30 percent. At the end of 2006, net debt amounted to minus 16 percent of GDP, i.e. assets exceeded liabilities to a corresponding amount. Huge improvements of the general government wealth position have taken place on three occasions previously: firstly in the 1960s, as a result of the ATP pension reform during the second half of the decade, secondly in the 1980s and finally during the present recovery period after the last crisis at the beginning of the 1990s. The accumulated surpluses from the first two mentioned growth phases eroded however relatively quickly as a result of currency depreciations and crises in the economy. The current growth phase differs however from the previous ones in at least two aspects. Firstly, the financial policy target (1 % surplus) should avoid the repetition of earlier turmoil in public finances. Secondly, there is now a very large portion of shares and other equity capital on the asset side. Thus, the link between net lending and net financial wealth has become weaker as there can be substantial value changes in the stock exchange market, for example.

Deficits and surpluses in public finances – the financial savings – are reflected in the government sector balance sheet. If taxes and other income are not sufficient to cover total government expenditure, a financial deficit will arise. The deficit must be financed, either by borrowing or by selling assets. Correspondingly, a financial surplus implies that loans can be amortized or that assets can be acquired. Over time, stocks of financial assets and liabilities are created such as bank deposits, loans, shares, bonds, certificates and financial derivatives. These stocks of financial instruments are therefore the result of previous financial deficits and surpluses. Assets normally give returns in the form of interest and dividends. Correspondingly, there are interest payments on the liabilities. The market value of the assets and the liabilities can also be affected by asset price changes such as fluctuations on the stock market, interest rates and in the foreign currency exchange rates.

The development of government net financial wealth according to the financial accounts can thus deviate from the corresponding development of net lending according to the non-financial national accounts, NA, depending on the share of market priced assets and liabilities in the government balance sheet. In practice there is one further aspect to consider in this respect, namely that there are always discrepancies between financial and non-financial statistics. However, as can be observed in the diagram below, there is a surprisingly good correspondence in earlier decades. During the last decade however significant deterioration has been seen. This is partly due to the large increase in shares and financial derivatives in the government asset portfolio. Good statistical consistency is an important condition for a consistent analysis of government income, expenditure, assets and liabilities.

Furthermore, financial development will be analysed on the basis of the concepts gross debt, financial assets, net debt and consolidated gross debt. Income, expenditure and international comparisons are dealt with in adjoining articles.

Gross liability is the total value of all government sub-sector liabilities; mainly bonds and other loans. The gross liability is not consolidated. The gross liability of central government is approximately the same as the national debt except for a slight difference.

Assets are financial assets, e.g. bank deposits, loans (claims), interest bearing securities, shares and equity capital. The assets are not consolidated.

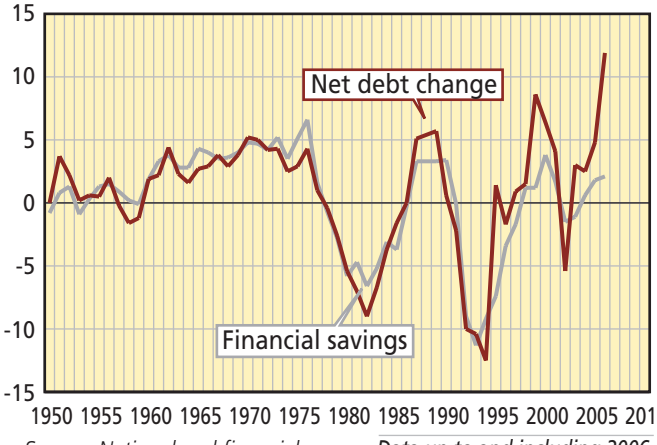
Net debt is the difference between gross debt and financial assets.

Consolidated gross debt is the gross debt minus the government sector claims on its own debt. One example is the AP (pension) funds' possession of government bonds.

The sub-sectors of general government are **central government, local government and social security funds**. The latter consists entirely of funds in the old age pension system, currently the five AP funds.

Public net debt and financial savings

Percent of GDP



Source: National and financial accounts

Data up to and including 2006

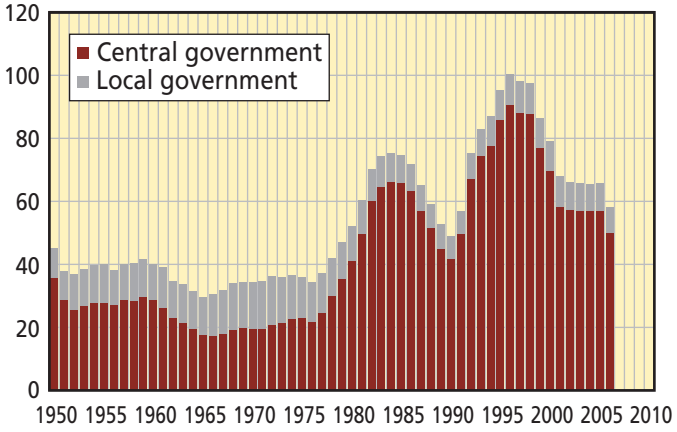
The fluctuations in financial savings and net debt are substantial. The range between top and bottom is very large, probably larger than in most other comparable countries. Three explanations for the fluctuations can be mentioned: the size of the government sector, considerable institutional changes (in particular two comprehensive pension reforms) and the effects of the "automatic stabilizers" in economic policy. The latter came into force in particular during the economic crises in the 1970s and the 1990s.

In the article on the long-term economic development in the government sector, different courses of events were identified. A similar division of time periods is also suitable for the description of the financial development.

Up to the first government financial crisis

The growth of the government sector was very strong during the 1960s and 1970s. Gross debt moved fairly stably between 30 and 40 percent of GDP. However, it can be observed that the relationship between central and local government debt shifted relatively greatly during the period. Local government gross debt increased as a consequence of the strong expansion of local government consumption during this time and reached its highest level (15 % of GDP) at the beginning of the 1970s. As a comparison, it can be mentioned that the national debt, at the same time, showed an historically low level (17 % of GDP 1965–1967).

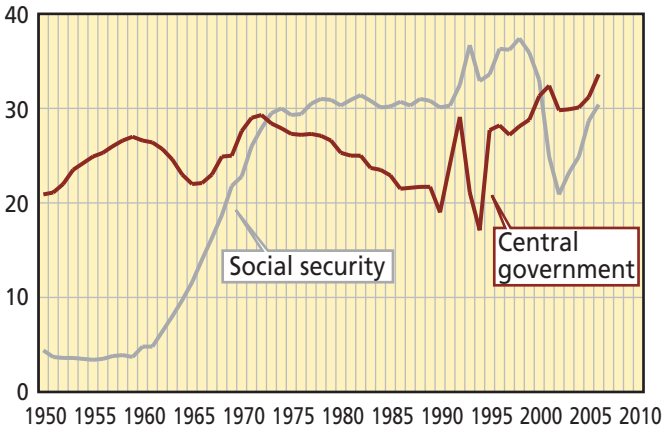
Public gross debt
Procent av BNP



Source: Financial accounts *Data up to and including 2006*

Consequently gross government debt decreased fairly marginally during the 1960s and 1970s despite surpluses seen in financial savings of, on average, 3.3 percent of GDP. The positive development of public finances was instead expressed by rapidly increasing financial assets. In total, these increased from 40 percent of GDP at the beginning of the 1960s to 65 percent in 1976.

Financial assets in the central government sector and in social security funds
Percent of GDP



Source: Financial accounts *Data up to and including 2006*

This increase can naturally be attributed to a great extent to the expansion of ATP (old age pension system). It should however be stressed that the government's assets have constantly been on a relatively high level, at around 25 percent of GDP. At the same time, however, it should be noted that the existence of and increase in government financial assets was not observed to any great extent during the period when the increase was the greatest. This was because the concepts used to describe public finances focused at that time primarily on the government's budget balance and government debt. In addition, it was more common to analyse the sub-sectors in the government sector separately and not the government sector as a whole.

Government financial crises and the in-between years

The 1970s were characterised by considerable financial turbulence, both in Sweden and internationally. The oil crises in 1973 and 1979 and the domestic structural and costs crises from the middle of the 1970s resulted in a continuously increasing strain on public finances. Gross debt rose from 35 to 70 percent of GDP between 1976 and 1982 and government debt rose from 20 to 60 percent. The expansion of funds in the ATP system levelled out during the 1970s and government assets reduced continuously as a result of the government's credit facilities being taken over more and more by banks and other credit institutions. Deregulation and financial imbalance (in the balance in the current account, government sector and households) led to a significant expansion in the financial economy during the 1980s.

Gross government debt and national debt consequently rose sharply at the end of the 1970s until the middle of the 1980s. After this, an apparently great improvement was seen in the public finances in the wake of the high economic activity with low unemployment, a strongly progressive tax system, negative real interest rates, rising stock market rates and inflated asset prices. Over the course of only four years, gross government debt and national debt fell by almost 25 percentage points of GDP, to 49 and 42 percent of GDP at the end of 1990. The following major economic crisis at the

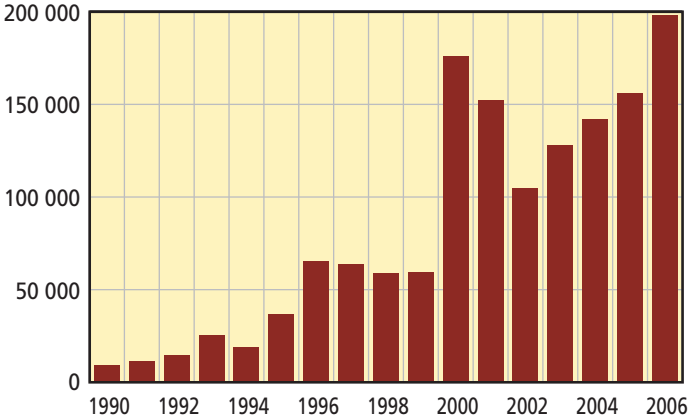
beginning of the 1990s had devastating consequences for public finances. Gross debt rose very sharply and continued to rise during the first restructuring years to 100 percent of GDP at the end of 1996. National debt rose to 90 percent. Assets also increased during the later years of the crisis, partly due to a greatly increased government ownership in shares.

Restructuring and consolidation

From 1999 onwards, the level of government indebtedness fell according to the same pattern as previously – a fall of around 20 percentage points over the course of four years. The government balance sheet has above all been characterised in recent years by the development of financial assets.

Shares, funds and other ownership capital were previously negligible in the government balance sheet. Financial assets consisted almost entirely of interest-bearing investments. After 1995, a marked change was seen. The holdings of listed shares and funds showed very strong development. Firstly, there was an increase in net acquisitions and listing of unlisted capital and secondly, the asset side of the government balance sheet became heavily dependent on the stock market. This related primarily to assets in pension funds but also to the fact that the government had considerable securities holdings. The government's holdings in listed shares and funds amounted to almost SEK 200 billion at the end of last year. The corresponding figure for holdings of the old age pension system was SEK 476 billion.

Central government holdings in listed shares
Million SEK



Source: Financial accounts *Data up to and including 2006*

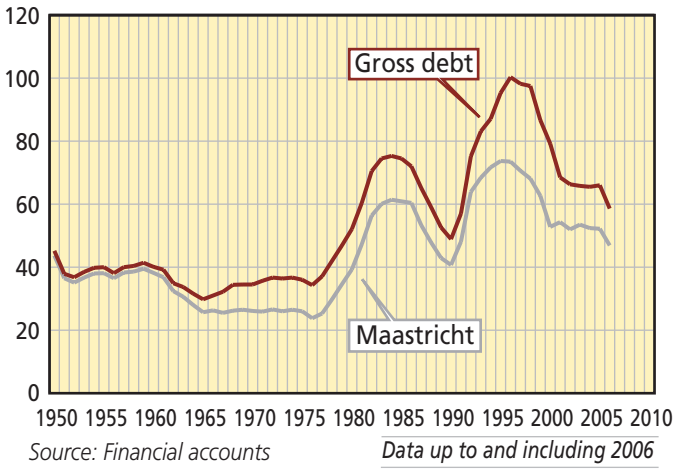
EU membership had a significant effect on the financial regulatory framework that had been in force since the middle of the 1990s and also on economic statistics. It was mentioned earlier that the budget balance and national debt were, in particular with regard to the government sector, the prevailing concepts for previous time periods. With membership of the EU and, in particular with regard to the EDP process[1], the concepts financial savings for the government sector and public sector debt became firmly established. The government sector should in addition be considered as one unit, at least with regard to comparisons between countries.

Financial savings according to EDP are however not the same as that calculated in the national accounts (NA). The difference is that the depreciation on interest and currency swaps are counted as interest in EDP while, in the NA, only interest for the underlying instruments is reported. Interest and currency swaps are used by the National Debt Office, for example, to optimise the currency composition of national debt. In terms of sums however there is only a marginal difference between the two savings concepts.

Maastricht debt

The difference is greater with regard to the government sector's consolidated gross debt according to EDP and the government sector's gross debt according to the financial accounts. The former, hereafter called the Maastricht debt, is valued at a nominal amount while the financial accounts are in principle at market value. Furthermore, some debt items are missing from the Maastricht debt, such as trade credits, other interim debts and financial derivatives (nominal value missing).

Gross debt and Maastricht debt
Percent of GDP

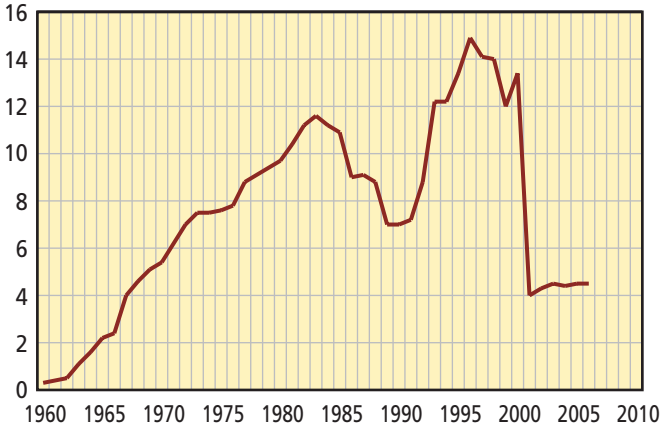


Source: Financial accounts *Data up to and including 2006*

The most important difference is however how the entire government sector is consolidated when the sub-sectors are summed up. Different rules exist concerning, for example, which debt instruments in the government sector's gross debt are held by the government sector. Consolidation has varied over the years. The sharp decrease in 2001 is due to the partial phasing out of the ATP funds with the implementation of the new pension system. Funds of approximately SEK 200 billion were transferred to the government budget for amortisation of the AP funds' placements in the government debt.

1 The regulations for deficit and debt, the Maastricht criteria, dictate that the government sector's financial savings deficit must not exceed 3 percent of GDP and that the consolidated gross debt may amount to a maximum of 60 percent of GDP, or that it should be decreasing towards the recommended value at a satisfactory rate.

Consolidation, gross debt
Percent of GDP



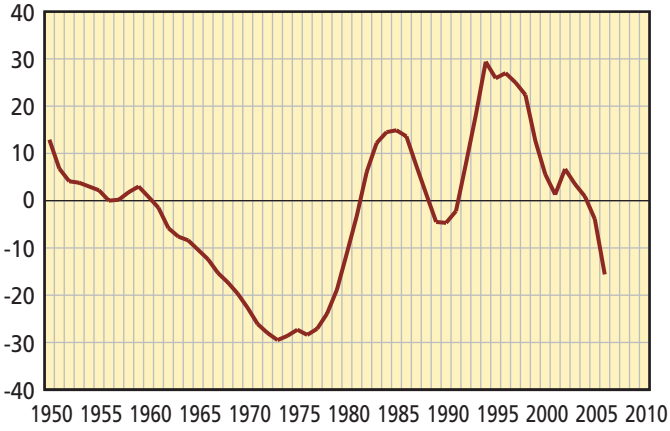
Source: Financial accounts *Data up to and including 2006*

After the EU's EDP examination in Sweden, the rules consequently implied that the large part of our financial assets should not be counted when assessing the debt situation. At the same time, they have however appeared as an asset in the budget restructuring as reported to the EU. The transfer of the former ATP funds to the government resulted in a drastically reduced national debt and Maastricht debt, without the government experiencing a corresponding financial surplus in the years in question.

It can be mentioned that the OECD also calculates and published data on the gross debt of different countries – Gross Financial Liability. This differs however from both the other measures as the debt is at market value and includes all debt instruments but is, at the same time, consolidated. The level of debt according to the OECD definition therefore lies somewhere between the Maastricht debt and the debt according to the financial accounts.

Net debt

General government net debt
Percent of GDP



Source: Financial accounts *Data up to and including 2006*

The net debt shows the government sector's financial wealth, or how "rich" or "poor" the sector is in financial terms as a result of previous budget balances and value changes on the financial market. The net debt has varied greatly in the last half century, primarily as a consequence of variations in financial savings. This is due in turn to economic fluctuations and the crises in the national economy. In recent years, the net debt has been negative, i.e. the value of the financial assets has exceeded the value of gross government debt. At the end of 2006, the net debt amounted to minus 16 percent of GDP.

In the previous quarterly report, the connection between debt stability and the balance objectives for public finances was described. With the current balance objectives (surplus of 1 % of GDP) and an average 4 percent nominal GDP growth, the net debt would slowly stabilise on a level of between minus 20 and minus 25 percent of GDP (this will take roughly 20 years). It would not then be possible to reach the level seen before the crisis in the 1970s, of around 30 percent. A priori, it is not possible to say whether high financial net assets in the government sector are a good or bad thing for the national economy.

Sources and underlying documents

Financial accounts annual data 1995–2006 according to ESA 95. Statistics Sweden's website.

Financial accounts annual data 1970–1994 according to SNA 1968. Diverse Statistical Reports and data in the old time series database, TSDB.

Lars Werin et al. (1993), From interest rate regulation to inflation norms: the financial system and the Riksbank's policies 1945–1990.

Diverse data from the Riksbank yearbook 1970 and earlier.

National accounts annual data. See adjoining article Long-term development of the government sector.

Sweden's economy Q1 2007. STATISTICS SWEDEN.

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Public sector from an international perspective

Good public finances in Nordic countries

The public sector in Sweden constitutes a larger part of the national economy than in other countries within the OECD. General government consumption is slightly more than a quarter of GDP compared to around 20 percent for the Euro area and slightly more than 15 percent for the USA. During the 1960s and 1970s, the share of total expenditure, the expenditure ratio, rose sharply in Sweden to 65–70 percent of GDP. Within the OECD, the expenditure ratio rose to a considerably lesser extent, from around 30 to 40 percent of GDP. The financing of the development of the government sector in Sweden also meant that the "tax pressure" increased more than in other countries; the share of taxes and charges rose from 25–30 percent of GDP in the 1960s to 50–55 percent of GDP during the 1980s and 1990s. Sweden has thereby the highest level among OECD countries but the tax ratio has also risen in the other Nordic countries to almost the same level as in Sweden. Within the EU and the other OECD countries, the share of taxes and charges increased to a considerably lesser extent in the post-war period. Although Sweden, as in the other Nordic countries, has gone through crises in public finances during the 1980s and 1990s, the management of these crises has been relatively effective. As a result, the Nordic countries now have, on an international perspective, very good public finances. All countries have a stable financial surplus in the public sector, in contrast to the majority of other industrial countries. The gross debt ratio is thus one of the lowest in Europe. Denmark, Sweden, Finland and Norway, in particular, have a uniquely good net financial position compared to the other OECD countries.

This article aims to give an overall picture of how the size and economy of the public sector differs between Sweden and other countries that have roughly the same level of development. The statistical measures used to illustrate this are on a high aggregation level throughout the analysis in order to provide a more general picture of development over time[1].

Public sector growing fastest in Sweden

At the beginning of the 1960s, the public sector is roughly of the the same size as in all OECD countries. For example, public consumption in Sweden had the same share of the economy as the USA and today's EU countries, at roughly 15 percent of GDP. The tax and expenditure ratios constituted 30 percent of GDP in 1960. Thereafter the public services and the social welfare system in OECD countries underwent a substantial expansion in the following two decades. However this expansion did not take place at the same rate. More comprehensive reforms of the transfer payment and pension systems were carried out in some countries. In other countries, the social network became more loosely connected and many personal services, education and healthcare services moved into private management.

Difficulties with international comparisons

The public sector is defined and delimited in different ways in different countries. It is therefore relatively difficult to make international comparisons[1]. In principle, the possibility for comparisons depends on how similar or different the social systems are in the countries to be compared. This should be taken into consideration when studying tables and diagrams with international comparisons.

Macroeconomic variables such as public share of consumption, expenditure ratio and tax ratio do not therefore have exactly the same meaning in all countries. Firstly, several transfers are liable for tax in many countries, including Sweden. As gross figures therefore, transfers draw up the expenditure ratio, for example, compared to a system with non-taxable net transfers. Secondly, many countries use tax deductions as a political instrument instead of paying subsidies or other types of benefits. This means that the tax ratio is drawn downwards compared to countries where transfers take the form of payments from the public sector. In a third example, differences in how GDP is measured can affect the above-mentioned size measures with regard to the public sector. Finally, the tax ratio, for example, is also affected by the size of the informal sector in the economy.

Calculations that take into account the above-mentioned comparison problems have been made by the OECD[2], among others. The Nordic Council of Ministers[3] has also done calculations showing that the differences in the tax ratio between the Nordic countries and other comparable European countries are considerably reduced when consideration is paid to the different circumstances in each country. For Sweden, Finland and Denmark, the adjusted tax ratios were reduced by 4–5 percentage points (1998). However, even after this adjustment, the main impression remains that the Nordic countries, in particular Sweden and Denmark, are on a higher level than other European countries.

1 See e.g. Statistics Sweden, Public Finances in Sweden 2007, pages 46–47

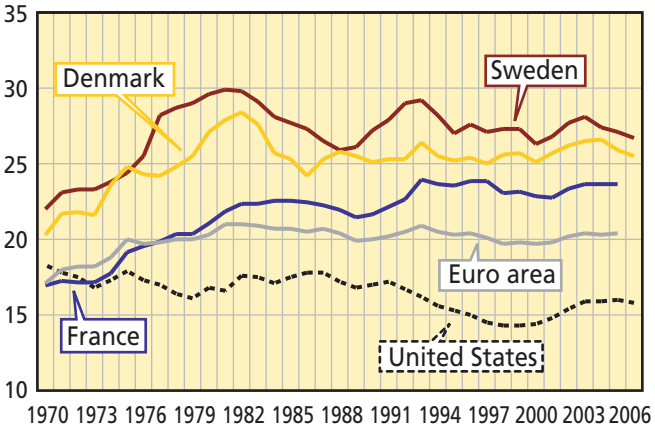
2 See Statistics Sweden, Public Finances in Sweden 2007, page 158

3 The future Nordic welfare state, Nord 2003:12, sub-report "The Challenge of Globalization to taxation in the Nordic countries."

1 See fact box below for more detailed information on the difficulties in making comparisons between different countries.

In OECD countries, the public sector's share of the economy during the 1960s and 1970s increased, measured in all cases as the share of the economy of the total income and expenditure ratio. However consumption's share of total expenditure has not increased very much when looking at the OECD in total. The share of general government consumption has risen from around 15 percent to slightly under 20 percent of GDP. In the USA, the corresponding share has decreased since the beginning of the 1970s. In the EU, the share rose to 20 percent of GDP at the beginning of the 1980s and has thereafter remained largely unchanged.

Public consumption
Percent of GDP

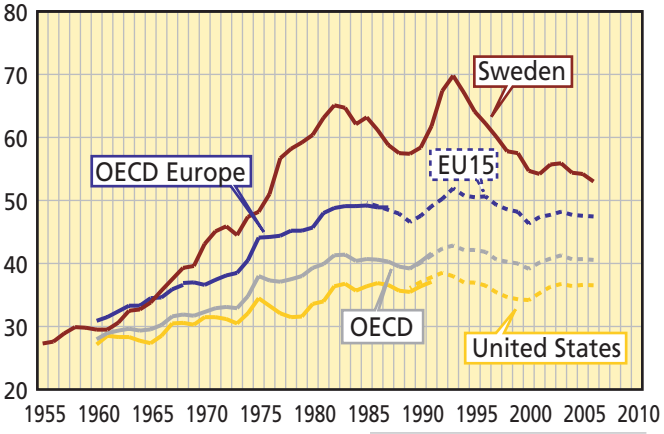


Source: OECD *Data up to and including 2006*

In Sweden and Denmark, public consumption has risen considerably faster than in other EU countries. A highest level of 28-30 percent of GDP was reached at the beginning of the 1980s but the share has fallen slightly since then. The development in Norway and Finland has been more in line with the EU average. Other countries that are clearly above the EU average include the Netherlands and France.

Expansion of the system of transfer payments

Public expenditure
Percent of GDP



Source: OECD *Data up to and including 2006*

One explanation for the fact that the expenditure ratio rose faster than consumption in the OECD countries was the expansion of the social insurance systems during the 1960s and 1970s. The aim was, among other things, to increase welfare security in all phases of life. The system of taxation and transfer payments also contributed to redistributing incomes in society. In many countries, public pension systems have been introduced, the majority following a distribution system.

The expenditure ratio has also risen in the USA in the post-war period, from slightly over 25 to slightly under 40 percent of GDP in recent decades. In the OECD in total, the expenditure ratio rose to 40 percent. The corresponding figure for the EU15 is slightly under 15 percent, with Sweden and Denmark among the countries drawing up the average. Countries with a relatively low expenditure ratio include the UK, Ireland and the Netherlands. In the latter country, the expenditure ratio has, as in Sweden, fallen considerably in the last 10–15 years.

General government expenditure ratio in different countries
Percent of GDP

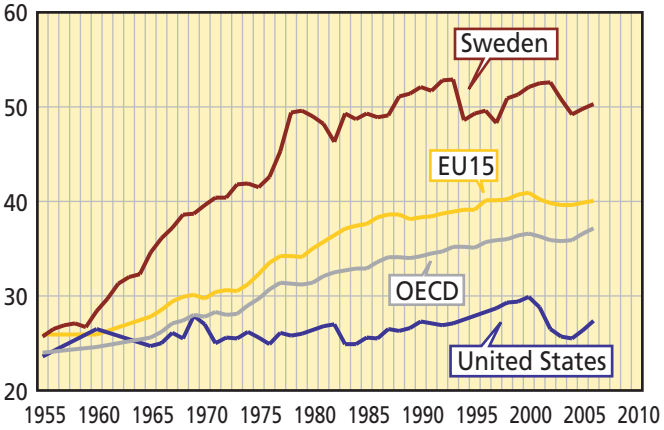
	1990	*2000*	*2005*
United States	37	34	37
Japan	32	39	37
EU15	48	46	48
Belgium	52	49	50
Denmark	56	54	53
Finland	48	48	50
France	49	52	54
Greece	49	51	47
Ireland	43	32	34
Italy	53	46	48
Netherlands	53	44	45
Portugal	40	43	48
Spain	43	39	38
Sweden	61	57	56
United Kingdom	42	38	45
Germany	44	45	47
Austria	51	51	50
Norway	54	43	43

Source: OECD Economic Outlook, Nov 2006, Statistical Annex

Tax ratio highest in Sweden

The financing of the transfer payments system has also led to rising taxes in OECD countries. The increase of the share of taxes and social contribution charges in relation to GDP has been the largest in Sweden and Denmark, which are now at the top of OECD countries.

Taxes and social contributions
Percent of GDP



Source: OECD *Data up to and including 2006*

The share of taxes and social contributions is on a considerably lower level in other OECD countries. In Europe, countries such as Belgium, France, Finland and Austria lie above the EU15 average of 40 percent of GDP. Germany, the UK, Ireland and the Mediterranean countries within the EU lie under the average (see table).

Among the European countries outside of the EU, Norway is a high tax country while Switzerland with 29 percent of GDP is roughly on a level with the USA and Japan (26 % of GDP). The OECD average is also brought down by countries such as South Korea, Mexico, Australia, New Zealand and some Eastern European countries in the OECD[1].

Taxes and social contribution charges in different countries
Percent of GDP

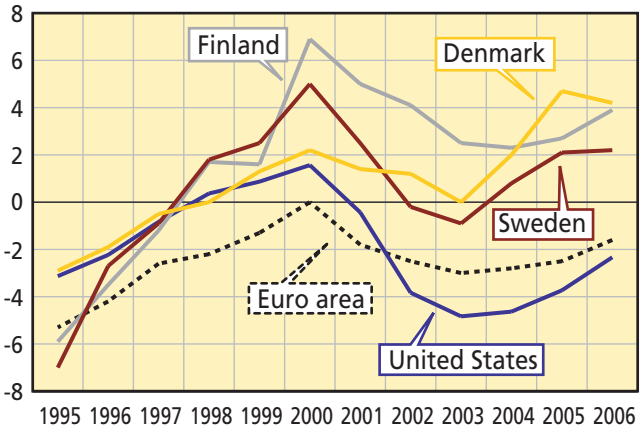
	1960	*1970*	*1980*	*1990*	*2000*	*2004*
Sweden	27	38	47	53	53	50
Denmark	25	39	43	47	49	49
Belgium	27	34	41	42	45	45
Finland	28	32	36	44	48	44
Norway	31	34	43	42	43	44
France	..	34	40	42	44	43
Austria	31	34	39	40	43	43
Italy	34	26	30	38	42	41
Iceland	..	27	30	31	38	39
Netherlands	30	34	42	41	40	38
United Kingdom	29	37	35	37	37	36
New Zeeland	27	26	31	37	34	36
Greece	..	22	24	29	37	35
Spain	14	16	23	33	34	35
Germany	31	32	38	36	37	35
Portugal	16	18	23	28	34	35
Canada	24	31	31	36	36	34
Australia	22	22	27	29	31	31
Ireland	21	28	31	33	32	30
Switzerland	19	20	25	26	31	29
Japan	18	20	25	29	27	26
United States	27	27	26	27	30	26
EU15	26	30	35	38	41	40
OECD	25	28	31	34	37	36

Source: OECD

Strongest general government economy in the Nordics

While many EU countries have had considerable deficit problems in their public finances in recent years, this has not at all been the case in the Nordic countries. Sweden, Finland and Denmark overcame the general deficit period at the middle of the 1990s considerably faster than EU countries in general. Furthermore, in the first few years of the 2000s, the Nordic countries showed a surplus while the Euro countries have fallen back into deficit, reaching the limit of what is permitted under the EU Growth and Stability Pact (3 % of GDP). During 2006, the deficit improved to 1.6 percent of GDP according to Eurostat[2]. The surplus in Sweden and Finland amounted to approximately 2 and 4 percent of GDP respectively in 2006. Denmark saw an even higher surplus, of close to 5 percent of GDP in 2005 and slightly over 4 percent in 2006. Outside the EU, Norway has a uniquely high surplus level of 16–19 percent of GDP.

Public financial savings
Percent of GDP



Source: Eurostat for European countries, OECD for United States *Data up to and including 2006*

As a result of the financial surplus in the Nordic countries, the public sector's balance sheets have also improved significantly in recent years. The tables show that the general government sector's gross debt has also decreased in some EU countries but, in total, gross debt remained around 65 percent of GDP in EU15 in 2005 or slightly over the 60 percent which is one of the conditions of the stability pact. The gross debt ratio in the Euro countries was slightly over 70 percent in 2005[3]. The EU countries outside the Euro area had consequently a lower gross debt ratio. This was the case in Denmark, Sweden and the UK, as with the new member states in Central and Eastern Europe. The gross debt for Japan has increased sharply to 173 percent of GDP after many years of a large deficit. The USA's gross debt is roughly on the same level as that in Europe.

1 Poland and Slovakia

2 The EU definitions differ somewhat from those used in the national accounts.

3 The EU definitions according to the Maastricht criteria, see previous article.

Gross debt in the general government sector
Percent of GDP

	1990	1995	2000	2005
Japan	69	88	137	173
Greece	..	112	127	124
Italy	..	122	121	120
Belgium	126	135	113	95
France	39	63	65	76
Portugal	..	69	60	73
Germany	40	56	60	71
Austria	57	69	70	70
United States	63	71	55	62
Netherlands	84	87	64	61
Sweden	47	82	64	59
Switzerland	31	48	53	55
Norway	29	41	34	51
Spain	48	69	66	50
Finland	16	65	52	48
United Kingdom	33	52	46	47
Denmark	66	80	56	41

Source: OECD Economic Outlook, Nov 2006, Statistical Annex

The net debt in the public sector gives a better indication of the actual financial situation in different countries as the conditions are very different from country to country. Several countries with large gross debts have, at the same time, relatively small financial assets. This is the case in, for example, Belgium, Greece and Italy. Japan's net debt is however very large despite large financial asset values.

The Nordic countries, Switzerland and Spain can be found at the other end of the scale. As was discussed in the previous article, the public sector in Sweden has very large financial assets, so large that the net debt is now non-existent. The net assets amounted to close to 15 percent of GDP in 2005. Finland has a tradition of net assets and has been able to note a greatly improved situation in recent years. Net assets corresponded in 2005 to close to 60 percent of GDP. The "richest" nation among the countries in the table below is however Norway which, thanks to its income from oil, has achieved a sharply rising net position; in 2005, net assets amounted to a full 127 percent of GDP.

Net debt in the general government sector
Percent of GDP

	1990	1995	2000	2005
Italy	..	98	96	95
Greece	..	93	99	90
Japan	26	25	60	86
Belgium	107	115	97	81
Germany	20	32	36	51
Portugal	..	25	30	45
France	17	37	35	44
United States	45	54	36	43
Austria	34	45	40	42
United Kingdom	15	38	36	40
Netherlands	32	52	35	36
Spain	31	48	43	30
Switzerland	..	..	20	21
Denmark	23	36	24	9
Sweden	–8	26	1	–13
Finland	..	–4	–31	–57
Norway	–40	–35	–69	–127

Source: OECD Economic Outlook, Nov 2006, Statistical Annex

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Owner occupied housing in CPI

The Consumer Price Index Board tries some fresh thinking on owner occupied housing

The Swedish Consumer Price Index Board is now discussing a new approach of handling owner occupied housing in the Consumer Price Index (CPI). This approach is based on a dynamic model and can be seen as a further improvement of the theory for what is known as cost-of-living index. Discussions are still ongoing and no decisions have been reached yet. Apart from this, Statistics Sweden will start to produce an EU-harmonised price index for owner occupied housing. The harmonised index will follow a completely different pattern with other basic principles (net acquisition approach).

For some years now, the Consumer Price Index Board has been assigned by the government (Regeringen, 2001) to look into possibilities of improving the Consumer Price Index (CPI), with regard to the calculations of housing costs for owner occupiers. The issue has been previously treated by a Government Commission (SOU 1999:124), in a report from the National Institute of Economic Research (2002) and in an article by Ribe (2004).

Anders Klevmarken, Professor in Econometrics at Uppsala University and member of the Consumer Price Index Board, has now developed a potential new approach for handling owner occupied housing in the CPI (Klevmarken, 2006a, 2006b). The approach is based on a model that involves a dynamic context of time for the consumer's situation. A number of details still need to be worked out before a position can be taken regarding a possible change from the present approach to the new one, which however is somewhat similar to the present approach.

Owner occupied housing is a tricky area in a price index

In general, the area of owner occupied housing is tricky to handle in a price index. A house exists over time and is of use for many years, rather than being consumed during a limited period of time, as is the case for most goods and services. As a result, there are different viewpoints on what a consumer price index should reflect regarding owner occupied housing. The following four points describe various internationally occurring approaches (for details, see Diewert, 2004; ILO et al., 2004, Ch. 10).

- *Exclusion* of the capital part of owner occupied housing from the price index, i.e. that the index calculation simply disregards the capital part of owner occupied housing (the part that consists of "the dwelling, the house, itself"). The dwelling is then regarded as a savings in capital that stands apart from the consumption costs. This is a common approach among southern European countries, but seems to be rather unfamiliar from a Swedish point of view.

- *Net acquisition approach* means that the index calculation for owner occupied housing follows the prices of newly produced dwellings for owner occupiers. In this approach, owner-occupied dwellings are treated in the same way as all other products in the CPI, for example potatoes. This type of index for owner occupied housing is used in Australia and is now also being tested in more and more EU countries in a harmonised form.

- *Rental equivalence approach* means that the index calculation for owner occupied housing follows rents for rented dwellings. The idea here is that competition ought to guarantee that "price tags" among forms of housing would be somewhat similar. This approach has practical advantages and is used in several countries. In Sweden this approach is used for housing cooperatives (bostsdsrätter), but it is not considered feasibible for owner occupied housing.

- *"User cost" approach* means that the index calculation for owner occupied housing follows a calculated cost for use of owner occupied dwellings. Ideally, this calculated cost would correspond to a calculation of a reasonable rent rate. A practical way to achieve this is to calculate a weighted total index for the development of different cost components that are involved in use of an owner occupied dwelling. Variations of this approach are used for the CPI in some countries including Sweden.

Harmonised indices for owner occupied housing are now being tested

A Harmonised Index of Consumer Prices (HICP) for Sweden that follows EU-harmonised rules is calculated on largely the same data as the CPI. However, the treatment of owner occupied housing is an important difference between the HICP and the CPI. The HICP excludes the capital part of owner occupied housing, i.e. the dwelling itself. However, the HICP covers rental costs for rented dwellings, electricity, and owner occupiers' purchases of heating oil, water, etc.

For some years now, "pilot activities" have been going on in which more and more EU countries are testing calculations for a harmonised index for owner occupied housing according to the net acquisition approach that was just described. This "experimental pilot index" is outside of the HICP for the time being. According to plans, Statistics Sweden will begin to produce such an index for Sweden from 2008.

However, the harmonised index for owner occupied housing would hardly be suitable for use within the CPI. Namely, the net acquisition approach is less suitable considering some of the main uses of the CPI, such as compensating consumers for price developments.

A new dynamic model has been presented for owner occupied housing in the CPI

As was mentioned, Klevmarken (2006a, 2006b) has developed a new approach for handling owner occupied housing in the CPI. The model is designed as a theoretical basis for a CPI that includes all consumption, and not only housing. The model can be said to be a further development of the theory for what is known as a cost-of-living index (for details, see ILO et al., 2004, Ch 17–18).

The model is based on the assumption that consumers choose their consumption for each time period so as to optimise the relation between utility and cost. The new model also takes into consideration that owner occupied dwellings exist over time, and thus the process in time, the dynamics, are essential. Consumers are expected to act rationally in order to always get the most utility for their money. However, also consumption for pleasure is included as "rational" here!

The model takes up the utility of consumers

The utility of consumers during a time period (e.g. a certain year or month) in the ideal model is assumed to depend on the following factors:

(1) Consumption of goods and services other than housing

(2) Housing in rented dwelling

(3) Size and quality of owner occupied dwelling at the start of the period

(4) Size and quality of owner occupied dwelling at the end of the period

(5) Financial net wealth at the end of the period.

Owner occupied housing and financial wealth at the end of the period, mentioned as points (4) and (5) here, give utility for consumers in the form of security for opportunities of future consumption. During the period, consumers can play with the mentioned factors and choose their consumption to receive the maximum utility.

Utility for consumers is ideally conceptualised and cannot be calculated practically. The ideal concept of utility is still important when stating what the practical index calculation intends to show.

The model takes up what consumers can afford

When consumers choose their consumption to obtain maximum utility, they do so within their means. The *budget constraint* determines what consumers can afford.

The budget constraint says that the income of the consumer must cover her costs during the time period in question. In the model, the consumer has the following copponents of income at disposal:

- Income from employment
- Income from capital such as interest, dividends, profits from mutual funds
- Withdrawals minus deposits of saved financial capital
- Taking of new loans minus repayment of loans.

The following costs are to be covered by income:

- Costs for goods and services other than those for housing (including household costs for electricity, heating oil, water etc).
- Rental costs for dwellings
- Costs for repairs and maintenance of dwellings
- Costs for interest on loans
- New construction, rebuilding or extensions of owner occupied dwellings

Costs for purchase of "used" owner occupied dwellings do not need to be included, since these costs are cancelled out with the income received when dwellings are sold. This is clear when the total population is summed up.

Index figure will answer a question

Now we want to calculate an index figure that shows the cost development for consumers due to price changes between two different periods, for example two different years or two different months. Based on the model, the index figure will give the answer to this question:

How much does the consumers' total income after net net financial savings have to change when a price change occurs, in order to enable the consumers to enjoy the same level of utility as before the price change?

Suitable for practical index calculations

In practice a price index is calculated by following price development for a "basket" of goods and services that are consumed by consumers. The index basket includes the components that are on the cost side of the budget constraint. The following simplification is also made in the model:

- Interest costs are only taken into consideration for loans on owner occupied housing, not for other loans.

The new approach now implies that the index basket in the CPI would include the following components:

- Other goods and services than housing (including electricity, heating oil, water etc.)
- Rents for rented dwellings
- Repairs and maintenance for housing
- Interest on loans for owner occupied housing
- New construction, rebuilding and extensions of owner occupied dwellings.

Changes in methods would be limited

In practical index calculation, this new approach is similar to the present CPI (see Statistics Sweden, 2001) but it would involve changes in methods as follows:

- The meaning of the component Interest costs would partly be changed.
- The present component Depreciation would be removed.
- The removed component Depreciation would be replaced partly by a new component *New construction,* and partly by the fact that *Repairs* would be given more content.

Changes in choice of weighting data

Changes in methods would involve changes in choice of sources of weighting data for some components. It would be possible to discontinue using the special calculations that are now used for weights of the components Interest costs and Depreciation. Instead statistics on actual expenditures can be used, such as the survey Household Finances in particular, and the National Accounts.

The changes in methods for the new approach are summarised in the following table.

Present method	New method
Component *Interest costs* Weighting: Calculated interest on original acquisition prices, before tax deductions (calculation) Price measurement: Interest rates and acquisition prices. Effects of tax changes are not taken into consideration	Component *Interest costs* Weighting: Observed interest costs for loans for owner occupied housing, after calculated tax deduction (Household Finances) Price measurement: Interest rates and house prices (if any). Effects of tax changes are not taken into consideration
Component *Depreciation* Weighting: Assumed depreciation through wear and tear (calculation) Price measurement: Prices for material and labour for 'major' repairs (Before 1999: Prices for new houses)	Component *New construction* Weighting: Observed costs (National accounts) Price measurement: Prices for (new) houses
Component *Repairs (minor)* Weighting: Observed costs Price measurement: Prices for material	Component *Repairs (including renovations and extensions)* Weighting: Observed costs (Household Finances, National accounts) Price measurement: Prices for material and labour

Questions still remain about interest costs

Some of the questions about the component of interest costs in the new approach are of importance.

The question about constant or variable amounts of loans. When looking at households that live in their houses and have constant loans, the interest costs only vary with the interest rate. However, when looking at households that buy houses, interest costs also vary in that the necessary amount for loans vary with the price of houses. One important question yet to be answered is what sources of variation of interest costs should affect the index. Various alternative solutions have been taken up by the Consumer Price Index Board.

The question about interest on equity. One difference between the new and the present approach is that the new one includes interest costs for loans only. However, the present approach includes interest costs for the entire purchase price of the house, that is, not only on the loan but also on the paid-up capital.

The new model is based on the choices that consumers make. Interest on equity does not consist of money that the consumer can see, and thus it is not included in the budget constraint. Interest on equity occurs as both a hidden cost and a hidden income, and those two equally large amounts cancel each other out.

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