

Economic Survey

Statistics Norway



Statistisk sentralbyrå

- Economic developments in Norway
- Forecasts 2017-2020

1/2017

Economic developments in Norway

As a consequence of the fall in demand from the petroleum industry, the Norwegian economy has been in a clear cyclical downturn since the autumn of 2014. However, there are signs that the decline is coming to an end, and our projections indicate a cautious economic upturn through 2017. No strong growth is foreseeable for the next four years, nonetheless.

In 2016, mainland GDP increased by only 0.8 percentage point, which is the weakest growth since the financial crisis in 2009. Consumer price inflation in 2015

was 1.1 per cent. However, seasonally adjusted quarterly figures show that mainland GDP growth through 2016 was somewhat stronger than through 2015, when there was close to zero growth. In the fourth quarter of 2016, mainland GDP increased by an annualised 1.3 per cent, while trend growth is estimated to be about 2 per cent.

Developments in employment have also been very weak as a result of the low activity level. After falling slightly through 2015, employment picked up a little through

Table 1. Main macroeconomic aggregates. Accounts figures. Change from previous period. Per cent

	2015*	2016*	Seasonally adjusted			
			16:1	16:2	16:3	16:4
Real economy						
Consumption by households etc.	2,1	1,6	0,3	0,4	0,0	0,7
General government consumption	2,1	2,3	0,6	0,7	0,5	0,5
Gross fixed capital formation	-3,8	0,5	0,5	0,2	1,2	0,6
Extraction and pipeline transport	-15,0	-14,7	-5,3	-3,7	-1,2	3,6
Mainland Norway	0,6	5,9	2,0	1,8	1,8	0,0
Mainland demand ¹	1,8	2,7	0,7	0,8	0,5	0,5
Exports	3,7	-1,2	-1,1	-1,1	0,4	-1,3
Traditional goods	5,8	-8,2	-5,1	-1,6	-0,4	-8,6
Crude oil and natural gas	3,2	3,8	4,2	-1,4	0,9	0,5
Imports	1,6	0,3	1,6	-1,8	-0,5	-1,5
Traditional goods	1,9	-0,6	0,8	-2,1	-0,9	0,1
Gross domestic product	1,6	1,0	1,4	-0,1	-0,6	1,1
Mainland Norway	1,1	0,8	0,3	0,5	0,1	0,3
Labour market						
Man-hours worked	0,3	0,3	0,1	-0,1	0,3	0,2
Number employed	0,3	0,1	0,0	0,1	0,1	0,1
Labour force ²	1,4	0,3	0,5	-0,7	0,6	-0,7
Unemployment rate (level) ²	4,4	4,7	4,7	4,7	4,9	4,7
Prices and wages						
Annual wages	2,8	1,7	..	..	..	..
Consumer price index (CPI) ³	2,1	3,6	3,3	3,4	4,0	3,6
CPI adjusted for tax changes and excluding energy products (CPI-ATE) ³	2,7	3,0	3,2	3,2	3,3	2,7
Export prices traditional goods	2,3	4,3	0,8	3,5	0,2	4,7
Import prices traditional goods	4,7	1,2	0,1	0,8	-0,2	0,3
Balance of payments						
Current account balance, billions of NOK	270,0	152,2	45,5	28,4	19,0	59,3
MEMO (unadjusted figures, levels)						
Money market rates (3-month NIBOR)	1,3	1,1	1,1	1,0	1,1	1,1
Lending rate, credit loans secured on dwellings ⁴	3,2	2,6	2,7	2,6	2,5	2,5
Crude oil price in NOK ⁵	431	378	305	388	391	428
Import-weighted krone exchange rate, 44 countries, 1995=100	103,4	105,4	108,1	105,9	105,2	102,3
NOK per euro	8,9	9,3	9,5	9,3	9,3	9,0

¹ Consumption by households and non-profit organisations + general government consumption + gross mainland investment.

² LFS figures

³ Percentage change from same period previous year

⁴ Average for the period.

⁵ Average spot price Brent Blend.

Source: Statistics Norway and Norges Bank.

2016. As an annual average, however, employment did not increase by more than 0.1 per cent in 2016, after growth of 0.3 per cent the previous year. The weak employment growth caused unemployment, measured by the labour force survey (LFS), to increase markedly through 2015 and up to the summer of 2016, when it peaked at 4.9 per cent – 1.7 per cent higher than before the economic downturn took hold.

The increase in unemployment has been significantly curbed by the limited increase in the labour supply, which is substantially less than the increase in the working age population. After the summer of 2016, the labour supply fell appreciably, resulting in a 0.5 percentage point reduction in unemployment and bringing the average for the period November 2016 to January 2017 down to 4.4 per cent. According to the statistics of the Norwegian Labour and Welfare Organisation (NAV), the number of registered unemployed only decreased weakly through 2016 and up to February 2017, while the number of unemployed, including those on labour market programmes, remained almost constant. The employment rate, i.e. the share of the population aged 15–74 who are in work, has fallen since the peak in 2008, and fell particularly sharply in 2016.

Employment in the petroleum industry has so far been reduced by 24 per cent from the peak in early 2014, but the decline slowed through 2016. The ripple effects of activity in the petroleum industry are substantial, and the reduction in employment in several supplier industries has been correspondingly sharp. Our projections show that the reduction in jobs directly and indirectly associated with petroleum sector demand is about seven times the reduction in the petroleum industry itself; see Box 4.

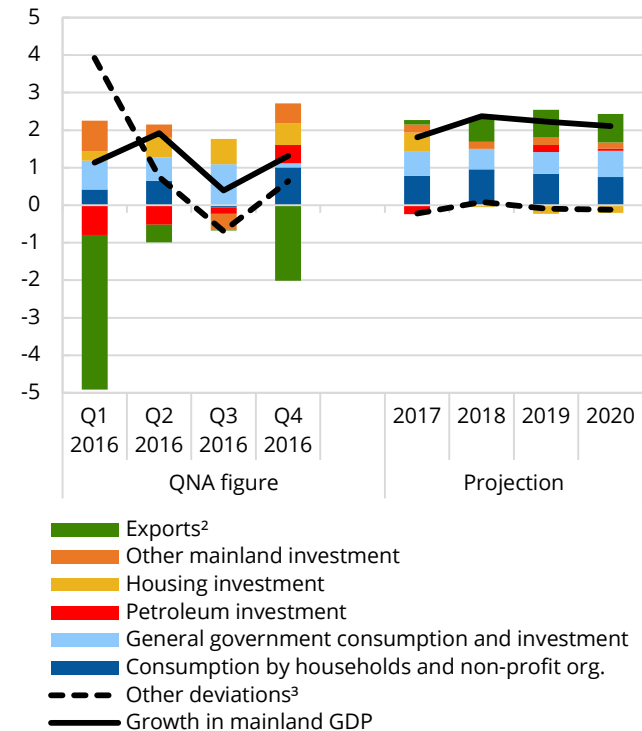
Petroleum investment started falling in the fourth quarter of 2013, and by the third quarter of 2016 had plummeted 35 per cent. The annual average fell by almost 15 per cent in 2016.

The downturn has been met with strong countermeasures in the form of expansionary monetary and fiscal policy. According to the final central government

budget bill, the increase in the structural, non-oil budget deficit (SNOBD) in 2016 was equivalent to as much as 0.8 per cent of trend mainland GDP.

The key policy rate, which was sharply cut in connection with the financial crisis, has also been lowered further. The last cut was in March 2016, to a record-low 0.5 per cent. Money market rates have largely followed the policy rate down, but to a slightly lesser extent

Figure 1. Growth in mainland GDP and contributions from demand components.¹ Percentage points, annual rate



¹ The demand contributions are calculated by finding the change in each variable, extracting the direct and indirect import shares, and then dividing by the mainland GDP level for the previous period. The import shares used are documented in Box 3. All figures are seasonally adjusted and in constant prices.

² The export variable is defined as total exports excluding exports of crude oil, gas and shipping.

³ Other deviations³ is defined residually so that it captures all other factors as well as changes in inventories and statistical deviations.

Source: Statistics Norway.

Table 2. Growth in mainland GDP and contributions from demand components.¹ Percentage points, annual rate

	QNA				Projection			
	16:1	16:2	16:3	16:4	2017	2018	2019	2020
Consumption by households and non-profit organisations	0.4	0.6	-0.1	1.0	0.8	1.0	0.8	0.8
General government consumption and investment	0.8	0.6	1.1	0.1	0.7	0.5	0.6	0.7
Petroleum investment	-0.8	-0.5	-0.2	0.5	-0.2	0.0	0.2	0.1
Housing investment	0.2	0.5	0.7	0.6	0.5	0.0	-0.2	-0.2
Other mainland investment	0.8	0.3	-0.4	0.5	0.2	0.2	0.2	0.2
Exports ¹	-4.1	-0.5	0.0	-2.0	0.1	0.6	0.7	0.8
Other deviations ¹	3.9	0.7	-0.7	0.6	-0.2	0.1	-0.1	-0.1
Growth in mainland GDP	1.1	1.9	0.4	1.3	1.8	2.4	2.2	2.1

¹ See footnotes to Figure 1.
Source: Statistics Norway.

through 2016 than earlier. The money market rate was 1.2 per cent at year-end 2016/2017, and 1.0 per cent at the beginning of March 2016, while typical mortgage rates edged down to 2.6 per cent as an annual average for 2016 – i.e., 0.6 percentage point lower than the previous year. The decline in interest rates, coupled with the low oil prices, led to the krone weakening up to year-end 2015/2016. The oil price has picked up markedly after bottoming out at less than USD 30 per barrel in January 2016, and this past winter has hovered around USD 55. This has caused the krone to appreciate somewhat through 2016, but it is nonetheless at a historically low level. As an annual average, the import-weighted krone exchange rate was 15 per cent weaker last year than the average for the previous 10 years, and 1.8 per cent weaker than the average for 2015.

A weak krone coupled with low Norwegian wage growth has meant a strong improvement in cost-competitiveness over the past few years. This eases the situation for all Norwegian exposed sectors. However, growth among trading partners has been low, and growth in international demand for goods and services associated with the petroleum sector has probably slackened as it has in Norway. Norwegian exports of these products are substantial, so this has depressed overall exports. Despite the improvement in cost-competitiveness, quarterly national accounts figures show that exports of traditional goods slumped through 2016, and the decline in the fourth quarter was a full 8.6 per cent. The annual average for these exports was just over 8 per cent lower than the level the previous year. It must be stressed that there is still considerable uncertainty associated with these figures. Some of the decline must be attributed to weak production growth in the fish-farming industry and other temporary factors. It may also take time before the improvement in competitiveness is fully expressed in increased production capacity and hence in exports. The improvement in competitiveness has also served to curb imports, thereby stimulating Norwegian production.

The expansionary policy spurred growth in demand from mainland Norway in 2016. Public sector investment and consumption increased by 6 per cent and 2.3 per cent, respectively. Mainland business investment increased for the first time since 2012, by just under 3 per cent.

The depreciation of the krone from early 2013 was rapidly reflected in a strong rise in the consumer price index adjusted for tax changes and excluding energy products (the CPI-ATE), and the latter peaked in July 2016 at 3.7 per cent. The impact of a moderate strengthening of the krone from year-end 2015/2016 was first felt in August 2016, but then caused a gradual slowing of inflation to 2.1 per cent in January 2017. High electricity prices contributed to a rise in the consumer price index (CPI) to no less than 3.6 per cent as an annual average in 2016.

As a result of a moderate wage settlement and clear petroleum-related structural effects, average annual wages only increased by 1.7 per cent last year, which stands out as the lowest wage increase since World War II; see Box 5. Average real wages fell by 1.8 per cent, but real wages in most industries fell somewhat less.

Moderate employment growth and a marked fall in real wages led to very weak income developments for households, despite tax breaks and lower interest rates. Household consumption therefore rose only 1.6 per cent, despite high growth in household wealth.

The low interest rates have served to stimulate the housing market, and house prices in most parts of Norway continued to rise markedly up to February 2017, despite the cyclical downturn. In 2016, house prices surged 7.1 per cent as an annual average, after rising almost as much in 2015. This has led to a clear increase in housing investment over the past two years, and the annual average increase in 2016 was almost 10 per cent.

Several factors are expected to prompt growth to gather pace in 2017, while others will have a dampening effect. The decline in petroleum investment is now expected to taper off. Development costs have been reduced, and the oil price has risen appreciably. As a result, a number of development projects now appear profitable and point to substantial petroleum sector investment, also during the projection period.

The upswing in mainland business investment is expected to continue, although growth will probably not be very strong. We assume that growth in the Norwegian export market will improve somewhat. This, coupled with the time-lagged effects of improved competitiveness, will contribute to reversing the decline in exports to growth in 2017.

Inflation is likely to be substantially lower in 2017 than in 2016. Wages, on the other hand, will increase slightly more, and as employment is also likely to rise, household real disposable income will increase more than in 2016, even if interest rates do not fall further. Growth in household consumption will therefore probably revive, while house prices and housing investment are expected to rise almost as strongly in 2017 as in 2016, but at a clearly slowing pace in the course of the year.

Fiscal policy will continue to be expansionary in 2017, but considerably less so than last year. In the national budget for 2017, SNOBD is projected to increase by 0.4 percentage point of trend mainland GDP. We assume nonetheless that activity growth will quickly rise to a little over trend. Projections show that unemployment will remain fairly stable through the year, with somewhat higher growth in employment, but also in the labour supply.

Table 3. Main macroeconomic aggregates 2016–2020. Accounts and projections. Percentage change from previous year unless otherwise specified

	Accounts 2016*	Projections								
		2017			2018			2019		2020
		SN	NB	FIN	SN	NB	FIN	SN	NB	SN
Real economy										
Consumption by households etc.	1.6	2.2	2.0	2.3	2.6	2.3	2.6	2.3	1.8	2.1
General government consumption	2.3	1.7	..	1.7	1.7	..	..	1.9	..	2.5
Gross fixed capital formation	0.5	3.4	..	1.6	1.4	..	1.8	2.0	..	0.8
Extraction and pipeline transport ¹	-14.7	-7.0	-11.4	-10.0	-0.1	2.7	-6.8	6.2	5.3	1.9
Mainland Norway	5.9	6.0	..	..	1.8	..	..	1.0	..	0.6
Industries	2.9	4.2	..	4.4	3.6	..	4.8	4.0	..	3.1
Housing	9.9	9.2	6.4	5.6	-0.8	2.2	4.0	-4.1	0.5	-3.9
General government	6.1	5.1	..	5.1	2.3	..	..	2.3	..	1.5
Mainland demand ²	2.7	2.9	2.7	2.6	2.2	2.5	2.7	1.9	1.9	1.9
Inventory changes ³	0.3	0.0	..	..	0.0	..	..	0.0	..	0.0
Exports	-1.2	0.5	..	-0.4	2.0	..	0.9	2.2	..	3.1
Traditional goods ⁴	-8.2	2.2	2.9	4.6	4.0	3.4	5.9	4.1	3.2	4.4
Crude oil and natural gas	3.8	0.4	..	-4.1	-0.1	..	-3.6	-0.1	..	1.6
Imports	0.3	2.5	3.0	3.0	2.2	2.0	3.4	2.9	2.1	2.7
Traditional goods	-0.6	1.5	..	3.6	3.1	..	4.4	4.2	..	3.6
Gross domestic product	1.0	1.5	0.5	0.6	1.9	1.3	1.3	1.8	1.6	2.0
Mainland Norway	0.8	1.8	1.5	1.7	2.4	2.2	2.4	2.2	2.2	2.1
Labour market										
Number employed	0.1	0.6	0.4	0.7	1.0	0.9	1.1	0.9	1.0	0.8
Unemployment rate (level)	4.7	4.4	4.8	4.6	4.2	4.6	4.3	4.1	4.2	4.1
Prices and wages										
Annual wages	1.7	2.3	2.8	2.7	3.1	3.2	3.0	3.1	3.5	3.9
Consumer price index (CPI)	3.6	2.0	2.3	2.0	2.1	1.8	1.9	2.2	1.7	2.3
CPI-ATE ⁵	3.0	1.7	2.4	2.1	2.0	1.8	2.0	2.0	1.7	2.0
Export prices traditional goods	4.3	2.9	..	..	0.5	..	..	1.4	..	1.7
Import prices traditional goods	1.2	0.9	..	..	1.1	..	..	1.1	..	1.1
House prices	7.1	6.5	..	..	0.6	..	..	-1.5	..	-2.1
Foreign trade and current account										
Current account balance, NOK bn	152.2	228.9	..	..	255.6	..	..	280.6	..	319.6
Current account balance, Per cent of GDP	4.9	6.9	..	..	7.4	..	..	7.6	..	8.4
MEMO:										
Household saving ratio (level)	7.1	7.4	..	..	6.8	..	..	6.4	..	6.2
Money market interest rate (level)	1.1	1.0	1.0	1.0	1.0	0.9	1.0	1.2	1.2	1.4
Lending rate, credit loans secured on dwellings (level) ⁶	2.6	2.6	..	..	2.6	..	..	2.7	..	2.9
Crude oil price in NOK (level) ⁷	378	469	..	425	489	..	447	509	..	530
Export market indicator	2.8	3.8	..	..	4.4	..	..	4.6	..	4.5
Import-weighted krone exchange rate (44 countries) ⁸	1.8	-3.2	-3.0	0.1	0.0	0.6	1.0	0.0	-0.8	0.0

¹ Ministry of Finance's projections, including petroleum-related services.

² Consumption by households and non-profit organisations + general government consumption + gross mainland capital formation.

³ Change in inventories, percentage of GDP.

⁴ Norges Bank publishes projections for traditional goods, travel, and other mainland transport services.

⁵ CPI adjusted for tax changes and excluding energy products (CPI-ATE).

⁶ Average for the year.

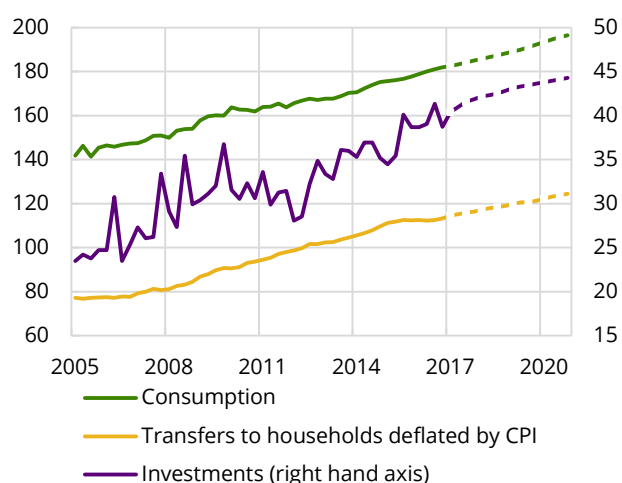
⁷ Average spot price, Brent Blend.

⁸ Positive figures imply a weakened krone. The Ministry of Finance publishes projections for the trade-weighted exchange rate index.

Sources: Statistics Norway (SN), Ministry of Finance, the National Budget (2016–2017), (FIN), Norges Bank, Monetary Policy Report 4/2016 (NB).

Figure 2. General government

Seasonally adjusted, billions of 2014 NOK per quarter



Source: Statistics Norway.

From 2018, we do not expect any expansionary impulses from fiscal policy, providing the economy is not subjected to new strong negative shocks. We assume neutral economic impulses in 2018, and that fiscal policy will subsequently be tightened a little. Relatively moderate petroleum income places constraints on fiscal scope for manoeuvre, but according to our projections they will be sufficient to allow SNOBD to remain at roughly the same share of trend GDP as in 2016.

We also expect house prices to fall at little through the final years of the projection scenario, and that housing investment will then also fall slightly. A turnaround in petroleum investment to a levelling off followed gradually by slight growth, coupled with higher consumption growth and solid growth in exports and business investment imply that the modest cyclical upturn is taking hold. Slightly higher employment growth may then push unemployment down slightly in the period 2018–2020.

Fiscal policy

Fiscal policy stimulated growth in the Norwegian economy in 2016. General government consumption increased by 2.3 per cent from 2015 to 2016, while gross investment increased by just over 6 per cent. Some of the high growth was due to increased defence investment, but gross non-military investment also increased appreciably. Transfers to households increased by only 3.9 per cent, so that when the CPI is applied as a deflator, real growth in transfers was almost zero. This is somewhat lower than previously assumed. Real growth in general government purchases of goods and services and transfers to households therefore increased less than expected in 2016. Overall real growth in these three expenditure items is projected to be a little over 2 per cent in 2016, or slightly higher than estimated trend growth in the mainland economy. Reduced tax rates in 2016 contributed to fiscal policy being clearly expansionary on balance. In the final budget bill for 2016, the structural non-oil budget deficit (SNOBD),

measured as a percentage of trend mainland GDP, is projected to increase by 0.8 percentage point from 2015 to 2016. This amounts to 2.8 per cent of the value of the Government Pension Fund Global at the beginning of 2016. Chapter 5 of *Økonomisk utsyn 1/2017* provides a detailed review (in Norwegian) of developments in the public sector economy.

Projections for fiscal policy in 2017 are mainly based on the National Budget for 2017 (NB 2017). Consumption growth is forecast to be 1.7 per cent. Gross general government investment will continue to grow strongly, but in 2017 the increase is largely a consequence of increased purchases of fighter aircraft (from 2 aircraft in 2016 to 6 per year going forward). Real growth in transfers to households will be weak in 2017 again as a result of low wage growth, but will be pushed up by a markedly lower rise in the CPI this year. Real growth in the three expenditure components is projected to be 2.3 per cent in 2017, which is slightly higher than in 2016.

The budget adopted by the Storting for 2017 will entail a reduction in overall taxation compared with 2016. The tax rate on ordinary income for companies and personal taxpayers will be reduced from 25 to 24 per cent in 2017. Adjustments will be made in petroleum and power plant taxation so that these two industries are not appreciably affected. Bracket tax on high personal income is being increased, so that most of the revenue loss on personal taxpayers due to reduced tax on ordinary income will be recouped. Other personal taxation will be reduced somewhat; the rates for the minimum standard deduction and in the wealth tax system are being changed such that direct personal taxation will be reduced overall. A tax equivalent to 5 per cent of salaries is being imposed on the financial industry. Initial write-offs on machinery are also being eliminated, and minor changes have been made in other aspects of business sector taxation.

NB 2017 forecasts that SNOBD as a share of mainland trend GDP will increase by 0.4 percentage point from 2016 to 2017. SNOBD as a share of the capital in the Government Pension Fund Global at the beginning of 2017 is 3.0 per cent. Since the government budget for 2017 was adopted by the Storting, the Government has proposed changing the fiscal rule so that a 3 per cent real return on the Fund is used as a basis in the future. This probably means that the expansionary fiscal policy of recent years cannot continue, in the sense that SNOBD as a share of the GPF has reached the redefined limit. With moderate inflow of new capital to the Fund and no major changes in its value as a result of valuation changes, SNOBD as a share of trend mainland GDP cannot increase appreciably. This marks a break with developments since 2013.

In Box 1 we have considered the effect of a rise in the oil price while at the same time assuming that the authorities will fine-tune fiscal policy in order to comply with the new fiscal rule.

Box 1. Effects of a higher oil price

Our projections this time are based on an average oil price of USD 56 per barrel in 2017, with the price rising gradually to USD 64 per barrel towards the end of 2020. There is great uncertainty associated with these projections. This box therefore analyses the effects of an appreciably higher oil price. In the calculations, it is assumed that the oil price gradually rises to USD 70 per barrel at the end of 2017 and then remains unchanged in real terms until 2020. At the end of this year, the price is then USD 74 per barrel, which is 10 dollars more than in the baseline scenario. The difference is assumed to be related to supply side factors in the oil market.

A higher oil price impacts the Norwegian economy through a number of channels. Many of these channels, such as the exchange rate, are incorporated in our KVARTS model of the Norwegian economy. Some key factors, of which petroleum investment and fiscal policy are particularly important, are exogenous to the model, however. The same applies to effects on the global economy of changed oil prices. We must therefore make some assumptions about mechanisms that are not modelled. Specifically, we assume that:

Higher oil prices will result in higher growth in petroleum investment equivalent to a further 4 percentage points annually in the period 2018 to 2020 compared with the baseline scenario.

As a result of higher oil prices, growth in Norway's export markets as a whole will be dampened by 0.1 percentage point each year from and including 2017.

A higher oil price will cause higher inflation abroad. We assume that CPI inflation abroad will be 0.2 percentage point higher in 2017, 0.3 percentage point higher in 2018 and 0.1 percentage point higher in both 2019 and 2020 than in our baseline scenario. This corresponds approximately to the effects of the rise in oil prices on the Norwegian economy if the exchange rate is not affected.

Fiscal policy is adjusted so that changes in the Government Petroleum Fund Global translate into changes in spending that are fully compliant with the fiscal rule. From 2018 we have assumed that 3 per cent of changes in the Fund at the beginning of the year will be reflected in equivalent changes in gross general government investment.

A higher oil price will cause the krone to appreciate rapidly, so that the import-weighted krone exchange rate is 2.5 per cent stronger than in the benchmark scenario with effect from 2018. This will weaken cost-competitiveness, and coupled with lower global growth, will exert downward pressure on exports. From 2019, exports of traditional goods will be 1.3 per cent lower than in the baseline scenario. Some Norwegian exports are linked to petroleum activities in other countries, and a higher oil price may conceivably increase demand from these markets. This effect is not incorporated in the calculations. The effects on Norwegian exports and manufacturing could thus be more positive than indicated by our calculations.

Increased demand from the petroleum sector spreads rapidly to large sectors of the Norwegian economy. Lower import prices will lead to lower prices for capital and intermediate inputs for consumers. This will stimulate business investment. Investment will also increase as a result of a rise in share prices on the Oslo Stock Exchange, which will make it easier for Norwegian enterprises to finance investment through the equity market. In 2019 and 2020, mainland business investment will be about 2 per cent higher than the level in the baseline scenario. Higher investment and increased real capital will make it possible to increase production without substantially increased use of employment.

A stronger krone leads to lower inflation, and affects domestic cost inflation, causing CPI-ATE inflation to slow. Given an approximately unchanged level of activity, Norges Bank therefore reduces the key policy rate by a quarter of a percentage point in 2018 in order to prevent inflation falling too far below the target. In the baseline scenario, the central bank raises interest rates again in 2019 and 2020, and these increases are also taken into account in the alternative scenario in the form of a higher oil price. This monetary policy response causes house prices to gradually rise in relation to

the baseline scenario, and be 1.5 per cent higher in 2020. If the interest rate had not been cut, the appreciation of the krone would have been even stronger than shown in the projection, which would have had a contractionary effect on the economy, especially because the manufacturing industry would have reduced its output further. The increase in household consumption is due to higher real wealth and slightly lower interest rates.

The size of the Government Pension Fund Global in NOK is positively affected by higher oil revenue, but negatively by a stronger krone. In our calculations, it is the latter effect that dominates in the short term, while the income effect will dominate in the somewhat longer term. The Fund will not revert to the same value as in the baseline scenario until 2021. The scope for manoeuvre of fiscal policy will thus be less in the years 2018–2021 than in the baseline scenario. We have therefore revised gross general government investment down a little in the period 2018–2020 compared with the baseline scenario in order to keep the structural budget deficit close to the 3 per cent path. It can be argued that such fine-tuning of fiscal policy is not in accordance with the fiscal rule. But when the baseline scenario is approximately on the 3 per cent path in each of the years and the Fund is subjected to a negative shock, it may be reasonable for expenses also to be adjusted in a cyclical upturn that is reinforced by a further rise in the oil price.

On balance, the analyses show that a higher oil price pushes up the level of activity in the Norwegian economy. In 2018, when the fiscal policy response is strong, the effects on mainland GDP are admittedly negligible, but growth increases subsequently. In 2020, mainland GDP is 0.4 per cent higher than in the baseline scenario. This means that the cautious cyclical upturn in the baseline scenario is strengthened, but remains moderate. Note that the effect on manufacturing is negative because the strengthening of the krone dominates over the effect of increased petroleum investment. If we look more closely at manufacturing segments, we see that the engineering industry is stimulated, but the internationally exposed commodities industry reduces its output.

Effects of a higher oil price Deviation from baseline scenario in per cent unless otherwise indicated

	2017	2018	2019	2020
Mainland GDP	0,0	0,0	0,2	0,4
- Manufacturing	-0,4	-0,7	-0,6	-0,4
Mainland business investment	0,2	0,8	1,7	2,0
Employment	0,0	-0,1	0,0	0,0
Wages	0,0	-0,1	-0,1	-0,1
Unemployment rate, percentage points	0,0	0,0	0,0	0,0
Household consumption	0,1	0,4	0,7	0,8
Import-weighted krone exchange rate	-1,3	-2,5	-2,4	-2,5
Exports, traditional goods	-0,5	-0,9	-1,3	-1,3
Consumer price index	0,0	-0,1	-0,2	-0,4
Money market rate, percentage points	0,0	-0,3	-0,3	-0,3
GPFG at the beginning of the year, NOKbn	0	-197	-135	-83
Assumptions				
Oil price, USD/barrel.	11,8	21,6	19,1	16,9
Petroleum investment	0,0	4,0	8,2	12,5
General government investment	0,0	-3,5	-2,3	-1,6
Export market indicator	-0,1	-0,2	-0,3	-0,4
Consumer price index abroad	0,2	0,4	0,5	0,6

¹ Shares in column 1 do not add up to 1 because changes in stocks have been excluded.

² Share of the value of final deliveries

³ Household consumption corrected for Norwegians' consumption abroad. Sale of used fixed assets has been excluded from exports.

Source: Statistics Norway.

Box 2. The import-weighted and the trade-weighted krone exchange rates

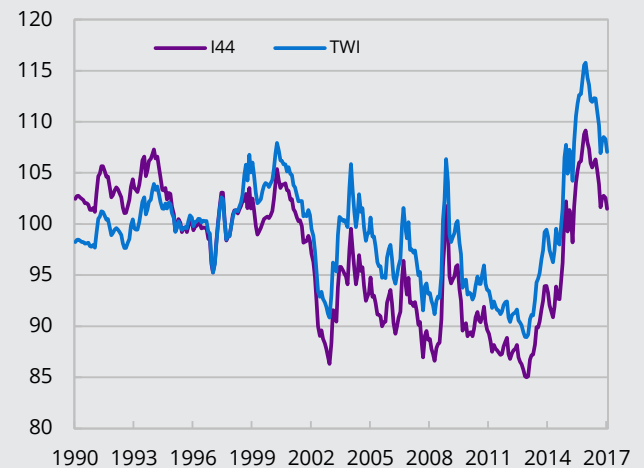
Approximately 60 per cent of Norway's foreign trade in traditional goods (i.e. exports and imports of goods excluding oil, gas, ships and platforms) takes place with countries that are not members of the EU monetary union. The krone/euro exchange rate therefore provides limited information about the international value of the Norwegian krone. It is therefore important to supplement with alternative exchange rate indicators that provide a more accurate expression of the breadth of our trading pattern. Examples of these are the trade-weighted exchange rate index (TWI) and the import-weighted krone exchange rate (I44). The trade-weighted exchange rate index is calculated from the exchange rates of the Norwegian krone against the currencies of Norway's 25 most important trading partners, and is a geometrical average based on the OECD's current trade weights. The weights in the import-weighted krone exchange rate are calculated on the basis of the composition of imports of traditional goods from Norway's 44 most important trading partners. Both indices are structured in such a way that high values mean a weak krone and low values a strong krone.

The figure shows that on both indices the krone was consistently considerably weaker in the 1990s than from the early 2000s and up to 2013. The krone was record-strong in early 2013, then depreciated markedly, partly as a result of the decline in the petroleum industry. However, the paths of the two indices do not quite coincide. For example, in January 2013 the krone was around 17 per cent stronger than the average for the 1990s measured by the import-weighted exchange rate, whereas according to the trade-weighted index it was only 12 per cent stronger. This reflects the fact that the two indices are designed for slightly different purposes: the weights in the trade-weighted exchange rate index are intended to reflect the competitiveness of Norwegian manufacturing in both the export and the domestic market, and not merely have relevance for the domestic market and Norwegian prices. The different paths are due to the fact that the krone strengthened considerably more in relation to

countries from which Norway has substantial imports than in relation to countries to which it has substantial exports. The international purchasing power of the krone was accordingly strengthened more than the international competitiveness of Norwegian manufacturing, viewed in isolation, was weakened by the exchange rates. This trend was particularly pronounced from 1993 to 2004.

From January 2013 to January 2016, the krone depreciated by 28.4 per cent measured by the import-weighted exchange rate and by 30.2 per cent measured by the trade-weighted exchange rate index. This means that the international purchasing power of the krone weakened slightly less than the international competitiveness of manufacturing strengthened. Since then, the krone has appreciated by 7 per cent up to February 2017, measured by both exchange rate curves.

Import-weighted krone exchange rate (I44) and trade-weighted exchange rate index (TWI) 1995 = 100



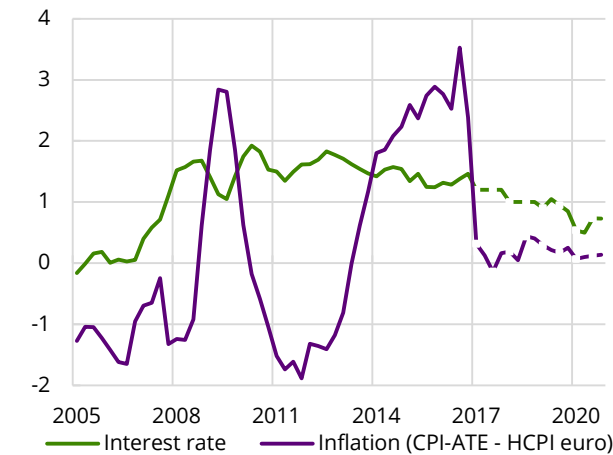
No fiscal policy has been adopted for the years 2018–2020. We have assumed that consumption growth in general government will be about 2 per cent annually during the period. There is some variation around this level for the individual years, but this is due to variations in working days, which mean that the number of man-hours worked per year will vary. When it comes to gross general government investment, we have assumed a moderate increase in investment in civil infrastructure. As mentioned, the purchase of fighter aircraft for the Armed Forces substantially increases investment in 2017, but we expect no new impulses in this area in the years 2018–2020. The tax compromise based on the Scheel Committee's report means that the tax rate on ordinary income will be reduced further to 23 per cent in 2018. We assume that there will be a simultaneous upward adjustment of tax rates for those liable for advance tax (households), so that only mainland enterprises are affected by the change. The loss of revenue due to this change can be projected at close to NOK 3 billion in 2018. We have assumed that fuel taxes will increase in 2018, yielding revenue of NOK 3

billion, and that there will be a similar increase in 2019 and 2020 as well. The increase in indirect taxes will add about 0.2 percentage point to CPI inflation each year.

We have assumed that real growth in pension transfers to households will be about 2 per cent annually in the period 2018–2020. Other transfers will grow somewhat less in real terms. Annual growth in real transfers is expected to be slightly over 2 per cent annually. We have not made assumptions about changes in (the real) rates of direct taxes after 2018. The assumed increase in environmental taxes means that our projections will lead to a small increase in overall taxes in 2019 and 2020. On balance, our projections, coupled with an extrapolation of the growth projections for expenditure, imply an approximately cyclically neutral fiscal policy in 2018 and a slight tightening in 2019 and 2020 when the economic upturn will have lasted a while.

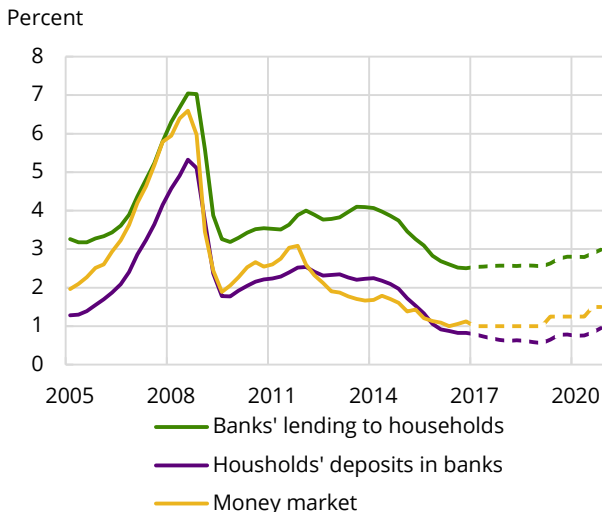
At the end of 2016, the Government Pension Fund Global was NOK 7 510 billion, and it was about NOK 150 billion higher than this at the beginning of March

Figure 3. Interest rate and inflation differentials between Norway and the euro
Percentage point



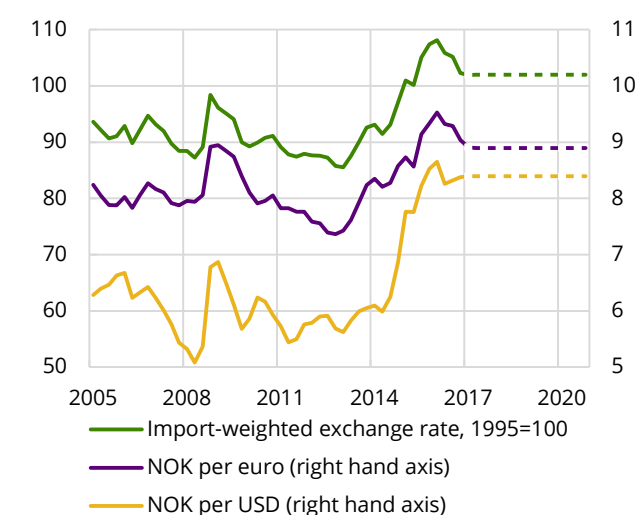
Norges Bank and Statistics Norway

Figure 4. Norwegian interest rates
Percent



Norges Bank and Statistics Norway

Figure 5. Exchange rates



Source: Norges Bank

2017. If OPEC maintains the production cuts decided on at the meeting of 30 November, the oil price may rise a little from the current level and through 2017. This will increase transfers to the Fund somewhat compared with the projections in NB 2017. However, a higher oil price may also lead to a somewhat stronger krone, a factor that in isolation will reduce the value of the Fund. Our fiscal policy projections indicate that SNOBD will remain close to 3 per cent of the Fund's value in the near term, in line with the revised fiscal rule.

Monetary policy

The key policy rate has now been 0.5 per cent for one year, since the last cut in March 2016. The money market rate was less than 1.1 per cent in 2016 as an annual average, 0.2 percentage point lower than the previous year. In December 2016, the money market rate was up to 1.2 per cent, while at the beginning of March this year it had come down to 1.0 per cent. The spread between the key rate and the money market rate has thus fallen considerably over the past few months, and is now down to 0.5 percentage point.

After depreciating markedly for three years, the krone has strengthened somewhat through 2016 and into 2017. The price of a euro at the beginning of March was NOK 8.90, and the krone, measured by the import-weighted krone exchange rate, was at the same time about 3 per cent stronger than the average for the year of 2016.

The krone depreciated by an annualised 1.8 per cent in 2016, measured by the import-weighted krone exchange rate. The average annual value of the krone in 2016 was the weakest recorded with this index, which goes back to 1971. The krone was also at its weakest against the euro in 2016, with an average exchange rate of 9.27, after the exchange rate had risen to 9.70 at the beginning of the year. The USD/NOK exchange rate was 8.40 as an annual average in 2016, the strongest the dollar has been against the krone since 2001.

Interest rates facing households continued to fall through 2016. Whereas the average interest rate on credit loans secured on dwellings offered by banks and mortgage companies was 2.7 at the end of 2015, it had fallen to 2.5 per cent by the end of 2016. Interest rates on bank deposits fell through 2016, from 0.9 per cent to 0.8 per cent. The fall in interest rates took place mainly in the first half of 2016.

We believe the key rate will be kept at its current record-low level this year and in 2018. Growth in mainland GDP was 0.3 per cent in the fourth quarter of 2016, and annual growth from 2015 to 2016 was a low 0.8 per cent. This is far less than trend mainland GDP growth, estimated at about 2 per cent. Unemployment measured by the LFS fell in the second half of 2016, but this is because many have withdrawn from the labour market. Inflation, measured by the CPI-ATE, also fell

through the second half of the year, which implies that Norges Bank will keep the interest rate low in the near term. The strong rise in house prices up to the present and higher interest rates in the euro area going forward point to an interest rate increase, however. We assume that the key policy rate will be raised somewhat in 2019 and 2020. The money market rate may then rise to 1.5 per cent by the end of 2020. The interest rate on mortgages secured on dwellings will then shadow the money market rate, and rise from 2.6 per cent this year and next to around 3 per cent at the end of 2020.

The annual average estimated yield on 10-year Norwegian government bonds was 1.3 per cent in 2016, after being as low as 1.0 per cent in July. At the end of 2016, the yield on 10-year bonds had risen to 1.7 per cent, and at the beginning of March 2017 to 1.8 per cent. At the same time, the estimated yield on 5-year government bonds is 1.1 per cent, about 0.3 percentage point higher than the annual average for 2016. Developments in government bond yields may suggest expectations of higher interest rates ahead.

We forecast that the krone exchange rate will remain more or less unchanged through the projection period. A higher oil price and reduced inflation differential between Norway and the EU point to a continued strengthening of the krone. A smaller interest rate differential, because money market rates abroad are increasing a little more than in Norway, points the other way.

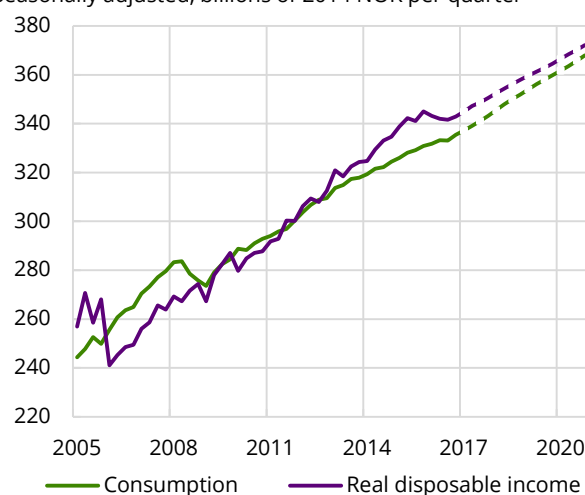
Household income, consumption and saving

The real disposable income of households and non-profit organisations decreased by 1.6 per cent in 2016, after growing a whole 5.3 per cent the previous year. This decline is attributable to a sharp rise in share dividend disbursements in 2015, probably motivated by expectations of higher taxes on such income from 2016. There was a similar development in the years 2005 and 2006, when real disposable income increased and fell by around 8.5 per cent and 6.5 per cent, respectively, as a result of tax-motivated disbursements of share dividends. If we exclude disbursements of share dividends, real disposable income only increased by 0.9 per cent in 2016, about 1.5 percentage points less than the previous year.

Wage income is the primary source of household income, and for many years has made an important contribution to growth in real disposable income. As a result of a pronounced fall in real wages and zero employment growth, however, wage income contributed to pushing down growth in real disposable income excluding share dividends by almost 1.5 percentage points last year. Public transfers, which have also made substantial contributions to growth in recent years, made a very modest contribution to income growth last year as sickness and provider's benefits fell and pensions, which are adjusted according to wages, increased

Figure 6. Household income and consumption

Seasonally adjusted, billions of 2014 NOK per quarter



Source: Statistics Norway

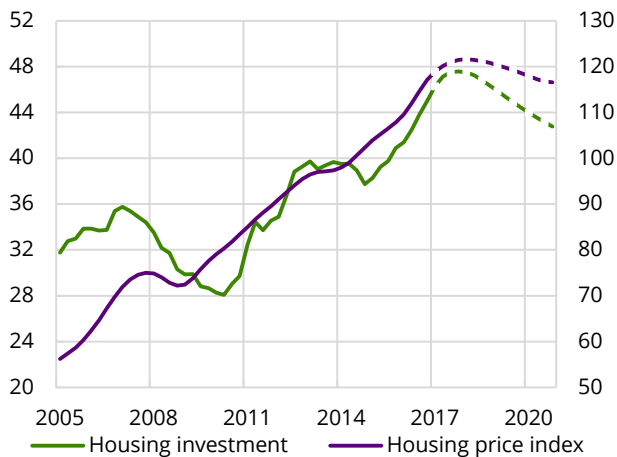
little in real terms. Nor did net interest income make a contribution of any significance to income growth. However, lower income and wealth tax helped to push up real income.

Since the financial crisis in 2008, consumption has moved on a fairly weak trend, consistently weaker than income growth. This was not the case in 2016, when consumption by households and non-profit organisations rose by 1.6 per cent, despite the fall in income. Consumption of food, beverages and electricity rose on an annual basis last year, while consumption of furniture and white goods, among other things, decreased. On balance, therefore, goods consumption remained unchanged. After a fairly broad-based fall through the summer half year of 2016, according to seasonally adjusted figures, goods consumption increased by 0.6 per cent in the fourth quarter, however. Car purchases accounted for over half of this upswing. In January, the goods consumption index increased by a seasonally adjusted 0.4 per cent after a fall of close to 2 per cent in December. Car purchases in particular continued to push up goods consumption. Consumption of services increased on a broad basis by a whole 3.3 per cent in 2016, with hotel and restaurant services and passenger transport making a particularly large contribution to growth. Norwegians' consumption abroad increased by 3.6 per cent last year, slightly more than in 2015. On an annual basis, the krone has depreciated in recent years compared with the recent past, when a strong krone, which made it relatively cheap to shop in other countries, resulted in growth rates in double figures for Norwegians' consumption abroad.

Household saving – in the form of financial and housing investment – as a share of disposable income increased from a level of just over 3.5 per cent in 2008 to over 8 per cent in 2014. Because of the high disbursements of share dividends, the saving ratio increased further to a level of around 10.5 per cent in 2015. The saving ratio excluding share dividends increased by about 4

Figure 7. Housing market

Seasonally adjusted. Left hand axis: billions of 2014 NOK per quarter. Right hand axis: index, 2014=100



Source: Statistics Norway

percentage points from 2008 to a level of around 5 per cent in 2015. We have previously pointed out that some of the increased saving after the financial crisis can probably be attributed to precautionary saving. In other words, households reduce their consumption when the future appears uncertain. The increase of recent years in the saving ratio may also be attributable to some extent to the ageing of the population and the pension reform that was introduced on 1 January 2011. According to quarterly income and capital accounts, the seasonally adjusted saving ratio, both including and excluding share dividends, fell in the fourth quarter of 2015 and through 2016 to annual averages last year of around 7 and just over 3.5 per cent, respectively. In periods of falling income, like last year, households will tend to smooth consumption, with the result that the saving ratio falls.

In the slightly longer term, developments in consumption are largely determined by changes in households' income, wealth and interest rates. We expect real wage growth to improve substantially going forward, and that employment will pick up as the economic situation improves. Government transfers will also contribute appreciably to growth in real disposable income through the projection period. However, net interest income will not make any significant contribution to growth, as seen last year, because the interest rates facing households will not change appreciably for the next few years.

All in all, we expect growth in real disposable income excluding share dividends of around 1.5 per cent this

year, and somewhat higher in the years 2018 to 2020. The increased growth in real income, coupled with increased real house prices this year, will push up consumption growth, while the fall in real house prices in the three following years will dampen consumption growth. On balance, we expect consumption growth of just over 2 per cent this year, just over 2.5 per cent next year and slightly less in 2019 and 2020. This consumption trend is far weaker than in the cyclical upturn prior to the financial crisis in 2008, when consumption increased by almost 5 per cent annually for four years.

Given the income and consumption developments assumed here, we envisage that the overall saving ratio will continue to fall, albeit at a lesser rate than last year, to about 6 per cent at the end of the projection period.

House prices and housing investment

Consumer prices were 7.1 per cent higher on average in 2016 than in 2015, according to Statistics Norway's house price index. Seasonally adjusted figures also show a clear tendency to an accelerating rise in house prices through last year. Whereas the rise in prices in the first quarter of 2016 was 1.7 per cent, compared with the previous quarter, it was 3.2 per cent in the third quarter and 2.7 per cent in the fourth quarter. The monthly house price statistics from Real Estate Norway show a similar course through 2016 and an even stronger rise in prices. For the first two months of 2017, these statistics show a seasonally adjusted rise in house prices compared with the previous month of 0.6 per cent in both January and February. The figures for Norway as a whole continue to conceal large regional differences in house price movements.

House prices and household debt have an interactive effect. After yet another interest rate cut in March 2016, households faced negative real interest rates in 2016. This encourages borrowing. Household gross debt is growing nominally, and debt growth compared with the same quarter a year earlier hovered around 6.5 per cent through 2016, with a slight increase in the growth rate in the second half of the year. The tightening of the mortgage regulations from 1 January 2017 will make it a little more difficult to secure a mortgage.

In the short term, house prices are influenced by changes in households' expectations of developments in both their own financial situation and the Norwegian economy. The consumer confidence indicator of Kantar TNS and Finance Norway provides us with a measure of these expectations. The unadjusted index showed a large increase from a low level from the second to

Table 4. Real disposable income by households and non-profit organisations. Percentage growth compared with previous year

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total	-6.4	6.2	3.5	3.2	2.3	4.2	4.5	3.8	2.8	5.3	-1.6	2.0	2.1	1.9	2.0
Excl. share dividends	4.5	5.0	2.8	3.4	1.9	4.2	4.4	3.7	2.3	2.6	0.9	1.5	1.7	1.7	1.8

Source: Statistics Norway.

the third quarter of 2016, but the index has remained almost unchanged since then. In the first quarter of 2017, there were about as many optimists as pessimists among the respondents. We have assumed that households will maintain the same assessment of the economic outlook through 2017, and that the consumer confidence indicator will not begin to rise until 2018, as the perception of an improved economic situation begins to take hold.

We have assumed that the authorities' measures to tighten access to housing loans will reduce debt growth despite low real interest rates. Growth is projected to be about 6 per cent in 2017 and for the remainder of the projection period. Growth in household real disposable income will be low in 2017 again, and we expect this – together with an increased supply of dwellings – to result in a clear dampening in the rise in house prices in the course of the current year after adjustment for normal seasonal variations. Since house prices have risen sharply through 2016 and in early 2017, the annualised rise in house prices will nonetheless be close to 6.5 per cent in 2017.

The strong increase in residential construction in 2016 and 2017, coupled with somewhat more restrictive granting of credit, will result in more or less unchanged nominal house prices in 2018. After that, house prices will fall by 1.5 per cent in 2019 and by about 2 per cent in 2020, even though households will have slightly higher real disposable income and will be facing persistently low real interest rates of around zero.

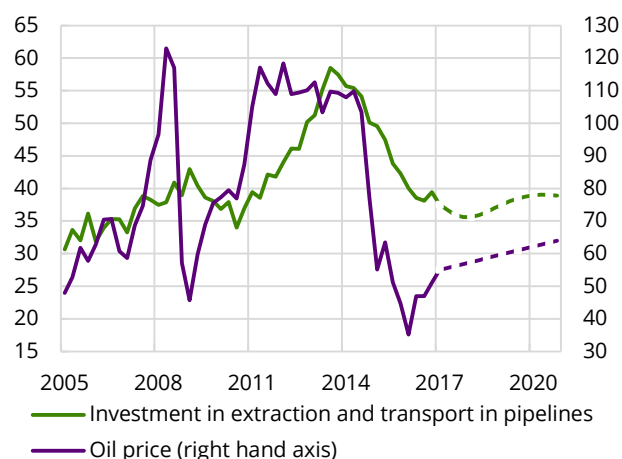
According to the QNA, housing investment rose by a full 9.9 per cent in 2016. A slight fall in housing investment in 2014 gave way to strong growth through 2015 and 2016. Statistics Norway's building statistics show a clear increase in housing start permits through 2016. The monthly housing start figures in January point to a continued rise in housing investment, and figures from the Norwegian Home Builders' Association provide support for this scenario. We forecast a growth in volume of over 9 per cent in 2017. However, we foresee that housing investment will level off in pace with falling real house prices, and decline by almost 1 per cent in 2018 and subsequently by about 4 per cent in both 2019 and 2020. The level of housing investment is accordingly expected to be over 8 per cent lower in 2020 than in the peak year of 2017, but nonetheless approximately as high as in 2016. This means that growth in housing capital will remain high throughout the projection period.

Petroleum investment

Petroleum investment plummeted by about a third from the peak in the third quarter of 2013 to the fourth quarter of 2016. The reduction began partly as a result of relatively poor profitability, but was sharply exacerbated by the fall in oil prices towards the end of 2014. Developments through 2016 and the projections for

Figure 8. Petroleum investments and oil price

Seasonally adjusted. Left hand axis: billions of 2014 NOK per quarter. Right hand axis: USD per barrel



Source: Statistics Norway

2017 of licensees on the Norwegian continental shelf now indicate that the investment trough is in sight.

Investment fell by 14.7 per cent for 2016 as a whole, but the decline slowed through the year. Investment in the fourth quarter of 2016 was only 7 per cent lower than in the same quarter the previous year, and investment in the second half was barely one per cent lower than in the first half of the year. Investment in oil production platforms, drilling rigs and modules helped to push investment up through the year, while investment in oil drilling and exploration and pipelines showed a decline.

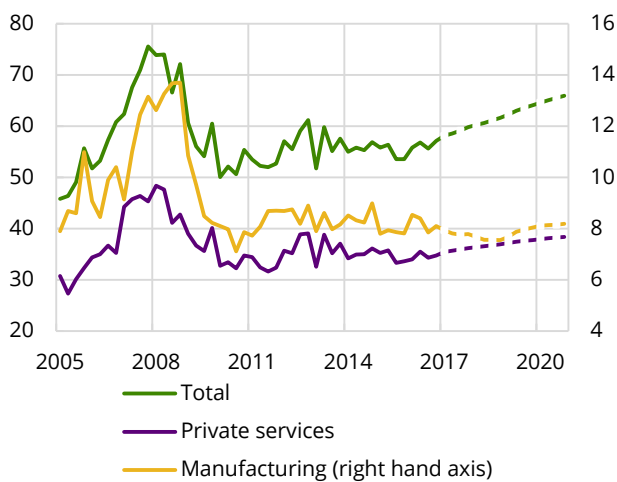
The licensees on the Norwegian continental shelf expect nominal investment in 2017 to be just less than 10 per cent lower than the level in 2016. The decline will take place in all investment areas apart from pipeline transportation, where an upswing is indicated. The category fields in operation is contributing most to the decline, but there is also a substantial reduction in shut-downs, field development and onshore activities.

According to the Norwegian Petroleum Directorate, the cost of developing a field on the Norwegian continental shelf has fallen by over 40 per cent since autumn 2014. The largest savings are attributable to increased efficiency due to changed development solutions and to companies planning wells that are quicker to drill. However, lower costs due to investment in pipelines and cables, and lower prices for the hire of drilling rigs have also contributed to cost reductions.

The combination of lower costs and a weakly rising oil price can be expected to increase willingness to invest in the years ahead. We expect the trough to be reached in late 2017/early 2018. We envisage a moderate turnaround, and expect the investment level in 2020 to be about 30 per cent lower than the peak in 2013.

Figure 9. Investment in mainland industries

Seasonally adjusted, billions of 2014 NOK per quarter



Source: Statistics Norway

Oil production increased somewhat in 2016, while gas production remained roughly unchanged. We expect relatively stable oil and gas production in the near term. As some large projects reach completion, oil production is expected to increase somewhat towards the end of the projection period.

Business investment

Mainland business investment has been at a lower level than before the financial crisis for several years. It also fell a little through 2015. However, there was a positive tendency through 2016. Investment in the fourth quarter of 2016 was 6.5 per cent higher than the level in the fourth quarter of 2015. Much of this increase is attributable to the pronounced growth in investment in electricity supply, but investment in services and manufacturing also increased through the year.

Business investment rose 2.6 per cent from the third to the fourth quarter. Highest growth was reported for other goods production, particularly because of the increase in investment in electricity supply, but positive growth was also reported for services. There was growth in manufacturing through the first half of 2016, but investment fell somewhat in the second half. The decline took place mainly in oil refining, chemicals and pharmaceuticals manufacturing and the food industry.

Statistics Norway's most recent survey of manufacturing companies' projections for future investment indicates a moderate fall of about 5 per cent in 2017. The decline is largely attributable to a high level of investment in the industry group oil refining, chemicals and pharmaceuticals manufacturing in 2016. Some major projects in this industry group are either completed or entering a final phase in 2017.

Companies' projections for investment in power supply indicate that growth will accelerate and be about 20 per cent in 2017. Higher investment in electricity

production is expected, and further growth in the transmission and distribution of electricity. Growth in electricity production is largely due to the development of new wind farms and the upgrading of old power stations. The investment in wind farm projects must be viewed in conjunction with the subsidy scheme for increasing power production from renewable energy sources and the new rules for faster depreciation of operating assets in wind power plants that were approved by the ESA in July.

Norges Bank's regional network surveys economic developments in Norway – including expected investment – by compiling information from businesses throughout Norway. The report published in March indicates roughly unchanged investment in retail trade and somewhat reduced investment in other services over the next 12 months.

Going forward we expect growth in overall investment in mainland industry to pick up and hover at around 4 per cent for the remainder of the projection period. The upswing must be viewed against the backdrop of low interest rates and corporate tax relief. Compared with previous cyclical upturns, this Fone has very low growth and is due to low demand which, in turn, is a consequence of the fact that the current global cyclical upturn is extremely moderate. Under these circumstances, the investment level will be about 6 per cent lower in 2020 than in the peak year of 2008.

Foreign trade and current account

The year 2016 was a weak one for Norwegian exports. The volume of traditional goods exports fell throughout the year, and the overall decline in the fourth quarter was well over 8 per cent, according to seasonally adjusted QNA estimates. A sharp fall in exports of refined petroleum products contributed most to the fourth quarter decline. Exports of traditional goods were also more than 8 per cent lower for the year 2016 as a whole than for 2015. Exports of refined petroleum products were reduced by a fourth, with auto diesel accounting for by far the largest reduction. Exports from large product groups such as agricultural, forestry and fisheries products, farmed fish, chemicals, chemical and mineral products and metals were reduced in the fourth quarter and the year as a whole. By far the largest group of traditional export products, engineering products, was reduced by a fifth. The decline is due to weak global demand, particularly from the oil and gas sector in many countries. The export figures are weaker than output developments would indicate, and should therefore be regarded as uncertain and interpreted with caution.

Over the past three years, total exports of oil and gas have increased in volume by almost 10 per cent, and in 2016 were at a higher and more stable level than in previous years. While oil exports increased substantially in the second half of 2016, gas exports fell back slightly.

Box 3. Import shares

Consumption of goods and services can be divided into final deliveries – i.e. consumption, investment and exports – and intermediate inputs, which constitute a production factor. Some of the final deliveries come directly from imports. The remainder are delivered by Norwegian manufacturers, who use imported intermediate inputs to varying degrees.

In this box, we calculate import shares for the Norwegian economy by studying how the imports are affected by the various final delivery components. We use a static input-output model for the purpose. The analysis takes account of imported intermediate inputs, also through subcontractors, in addition to direct imports of final deliveries. However, the static input-output model does not take account of factors such as changes in relative prices, the knock-on effects of changes in earnings, needs for changes in production capacity (investment) and changes in interest and exchange rates. The import shares in the table were calculated for 2014, which is the last year for which final national accounts figures are available. For purposes of comparison, we also show import shares for 2012 and 2013 from previous calculations.

Of the main groups of final delivery categories, investments have by far the highest share of imports. Consumption has a share approximately equivalent to the average of all final deliveries, while exports have the lowest import share. There are generally relatively small changes in import shares over time.

We split up total new investments according to both type and industry. The import share in construction investment is relatively modest, while it is high for ships and machinery. Other types of investment also have a considerable share of imports. Shipping has the highest import share of the industries, although it declined somewhat in 2014. The share of imports for petroleum activities rose somewhat in both 2013 and 2014 and is markedly higher than the average for other investments.

Consumption accounts for about half of total final deliveries, and the total import share for consumption is somewhat lower than for the rest of the Norwegian economy. However, there is wide variation among the various consumption subgroups. Norwegians' consumption abroad is regarded in its entirety as imports. The subgroup «miscellaneous goods» – which consists of clothing and footwear, furniture and electronics – has the highest import share of domestic consumption, but «own vehicles» also has a significant import content since very few cars are manufactured in Norway. The reason this last import share is not even higher is that mark-ups and taxes accounted for about two thirds of the costs of vehicle purchases in 2014. Energy products are largely produced in Norway, but despite Norway's high oil production, a substantial amount of petrol and diesel fuel is imported. In periods of low electricity production, electricity is also imported from neighbouring countries. The combined effect is that 16 per cent of the energy products in household consumption are imported. Public sector consumption, which consists largely of labour costs, is the component with markedly the lowest import share.

There are also major variations among the different export subgroups. Exports of shipping services and traditional goods have a high import content due to the fact that a large proportion of the intermediate inputs are purchased outside Norway. Exports of oil and gas are distinguished by the low share of imports involved. This is because a large share of the production value in 2014 consisted of petroleum rent. This was substantial in 2014, because the oil price was still high for the year as a whole.

Import shares

	Share 2014	Import share		
		2012	2013	2014
Total final deliveries ^{1,2}	1.0	23.0	23.4	24.0
Consumption	0.505	22.1	22.4	22.8
Consumption by households and non-profit org. ³	0.326	29.2	29.4	30.2
Food and beverages	0.049	29.0	29.9	31.2
Energy products etc.	0.020	15.9	16.4	15.5
Own vehicles	0.015	36.4	36.8	39.0
Misc. goods	0.061	46.4	47.8	49.1
Housing	0.054	6.7	6.2	6.1
Other services	0.111	18.6	17.8	17.7
Norwegians' consumption abroad	0.025	100.0	100.0	100.0
Public sector consumption	0.177	8.7	9.2	9.2
New investments	0.178	35.0	35.2	34.8
By type:				
Buildings and infrastructure	0.074	21.3	20.7	20.4
Ships	0.003	67.2	67.9	54.5
Other types	0.102	43.1	44.2	44.7
By industry:				
Mainland	0.122	32.1	32.2	30.5
General government	0.032	27.6	28.0	26.9
Manufacturing	0.009	42.3	44.7	42.4
Other goods-producing industries	0.011	38.8	41.9	39.3
Housing	0.032	21.3	20.7	20.4
Other service industries	0.037	40.0	40.5	37.4
Extraction and pipeline transport	0.056	39.2	40.3	43.2
Shipping	0.001	66.0	63.8	52.3
Exports	0.301	17.7	18.3	19.5
Traditional goods	0.099	32.7	32.2	31.4
Oil and gas	0.139	3.2	3.4	3.9
Other goods	0.002	28.5	30.9	30.7
Shipping etc.	0.021	53.6	55.1	55.5
Other services	0.041	25.1	23.9	25.3

¹ Shares in column 1 do not add up to unity because changes in stocks have been excluded.

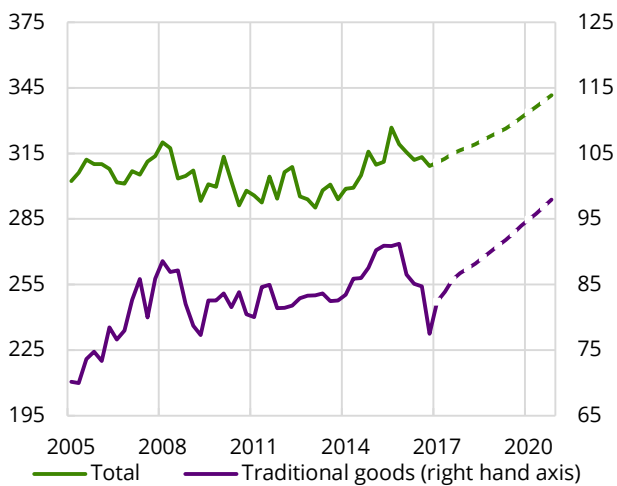
² Share of the value of final deliveries

³ Household consumption corrected for Norwegians' consumption abroad. Sale of used fixed assets has been excluded from exports

Source: Statistics Norway.

Figure 10. Exports

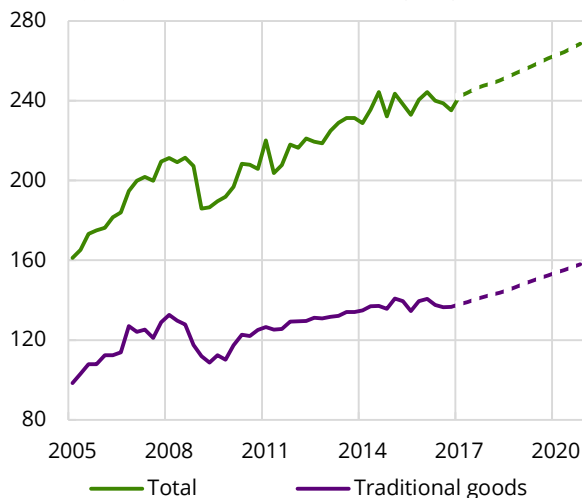
Seasonally adjusted, billions of 2014 NOK per quarter



Source: Statistics Norway

Figure 11. Imports

Seasonally adjusted, billions of 2014 NOK per quarter



Source: Statistics Norway

There was a broad-based fall in service exports through 2016. Following a sharp first quarter fall, exports of various services to petroleum related activities increased through the remainder of the year. Non-residents' travel in Norway increased markedly in the summer half year. The strengthening of the krone in the latter half of the year may have contributed to halting this increase.

After levelling off and falling slightly through 2015, the price index for traditional goods exports as a whole climbed each quarter in 2016. Prices for agricultural, forestry and fisheries and fish-farming products, food and beverages and refined petroleum products rose through 2016. Prices for both farmed and wild fish and fish products have shown a particular rise for the last two years, varying from 10 to 40 per cent annually. Export prices for chemicals, chemical and mineral

products and engineering products fell through 2016. The sharp fall in prices for crude oil and natural gas through 2014 and 2015 came to a halt in 2016 and gave way to a marked rise. Because of the fall through 2015, however, the average price in 2016 was more than 20 per cent lower than in 2015. The price index for total service exports rose slightly in the fourth quarter after a fall in the two previous quarters.

We expect exports of traditional goods and services alike to change to a clear upturn in 2017. The cost-competitiveness of export companies has been strengthened by the depreciation of the krone in recent years, and the effects are probably not yet exhausted. Exports related to petroleum activities globally are expected to increase in pace with a projected rise in the oil price going forward. In combination with higher growth in the Norwegian export market generally, this will boost exports of traditional goods and services each year in the projection period. Oil and gas exports are limited by production, and will remain fairly stable for the next few years until the giant Johan Sverdrup field begins producing towards the end of 2019.

Slower growth and in part a fall in domestic demand for goods and services for consumption and investment have constrained imports through 2016. A weak krone may have led to a shift in demand from imports to domestic products. Imports of traditional goods remained virtually unchanged from the third to the fourth quarter, and were also almost unchanged as an annual average from 2015 to 2016. Imports of some product groups fell on an annual basis. A decline was reported for engineering products, by far the largest group of import goods, and for food and beverages, in each quarter of 2016. Imports of services increased slightly from 2015 to 2016 on an annual basis, but fell through last year nonetheless. Increased growth in domestic demand and a stronger krone are expected to stimulate imports in the period 2017–2020.

The trade surplus was severely reduced in 2015 and 2016, largely due to the plunge in oil prices. A generally weaker trend in prices for exported than for imported goods and services has also had a negative impact, and has resulted in a large terms of trade loss. A rising oil price and improved terms of trade are expected to substantially increase the trade surplus in 2017. In recent years, the balance of income and current transfers has been strongly boosted by low growth in the Norwegian economy, and accordingly in payments to other countries, and by a weak krone exchange rate that has resulted in higher inflows in Norwegian kroner from Norway's substantial assets in other countries. The income and current transfers balance in 2016 was three times the size of the trade surplus. From next year we expect considerably more moderate developments. The current account balance as a percentage of GDP is accordingly projected to rise from about 5 per cent in 2016 to over 8 per cent in 2020.

Box 4. Over 45 000 fewer jobs associated with the petroleum industry since 2013.

In 2013, 232 100 people in Norway had jobs associated with the petroleum industry either as employees in the industry itself or with suppliers or subcontractors to the industry; see calculations in Hungnes et al. (2016). The projection for petroleum-related employment is calculated using a static input-output model based on final national accounts figures for 2013. Petroleum-related jobs were reduced by about 25 000 in 2015, largely as a result of reduced petroleum investment.

In Economic Survey 2/2016, Box 2, we extended the analysis to include 2016. Our calculations were then based mainly on the projections for the Norwegian economy presented in the same issue of Økonomiske analyser/Economic Survey. These calculations were updated in Hungnes (2017) on the basis of the provisional QNA figures for the first three quarters of 2016, supplemented by Statistics Norway's projections as published in Economic Survey 4/2016. We present here a further update, based now on provisional QNA figures for the whole of 2016. It reveals that there were 185 300 jobs related to the petroleum industry in 2016. This means that the number of jobs related to the industry was reduced by 46 800 in the course of 3 years.

In the two earlier calculations, we estimated the loss of petroleum-related jobs at close to 50 000. The reduction in the decline in employment associated with the petroleum

industry compared with earlier calculations is largely due to the fact that provisional QNA figures are based on a somewhat lower decline in petroleum investment in 2016 than we forecast in both June and December 2016. In June we forecast that petroleum investment would fall by 16.2 per cent from 2015 to 2016. In December we reduced this figure to 15.8 per cent. Provisional QNA figures show that the reduction in petroleum investment was 14.7 per cent. It must be stressed that the QNA figures for both 2015 and 2016 are still provisional, and are therefore subject to uncertainty. There is further uncertainty associated with the results because the basis for the static input-output model is from 2013.

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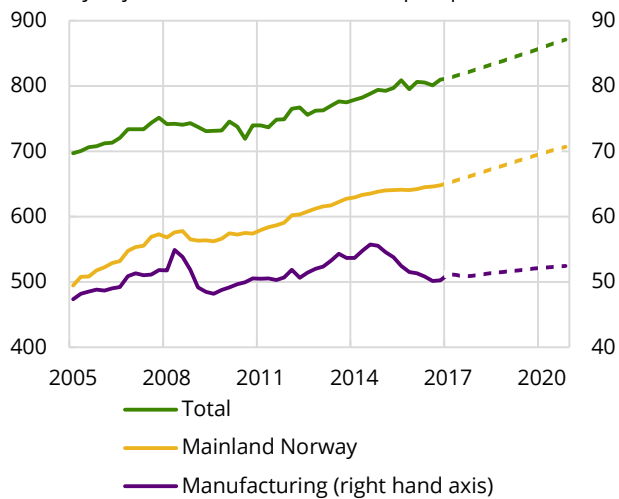
Number of persons associated with the petroleum industry on the Norwegian continental shelf. 2013-2016

	2013	2014	2015	2016
Primary industries, incl. fish farming	1 600	1 600	1 500	1 300
Agriculture and forestry	1 500	1 500	1 300	1 200
Fishing and aquaculture	200	200	100	100
Manufacturing	33 700	33 300	29 700	26 400
Manufacture of consumer goods	1 200	1 200	1 100	1 000
Power-consuming manufacturing	600	600	600	600
Manufacture of engineering products, ships and oil platforms	28 700	28 300	25 000	22 200
Other manufacturing	3 100	3 100	2 900	2 700
Construction	3 400	3 300	3 000	2 700
Extraction of crude oil and natural gas and pipeline transport	32 400	32 500	29 700	26 000
Services associated with oil and gas extraction	20 000	19 800	15 500	15 100
Shipping	700	700	700	600
Electricity production	900	900	900	800
Services from mainland industries excl. services associated with extraction	128 500	127 400	114 400	102 400
Banking and insurance	3 800	3 900	3 800	3 700
Domestic transport and communications incl. air transport and supply activities	11 000	11 100	10 300	9 500
Wholesale and retail trade	22 500	22 400	20 200	18 200
Housing services	0	0	0	0
Renting out of commercial buildings, sale and operation of real property	1 700	1 700	1 600	1 400
Other private services	89 600	88 300	78 400	69 500
General government	10 800	11 000	10 600	9 900
Municipal government	4 400	4 500	4 300	4 100
Non-military government	6 300	6 400	6 100	5 700
Defence	200	200	200	200
Total deliveries	232 100	230 700	205 900	185 300

Source: Statistics Norway.

Figure 12. Gross domestic product

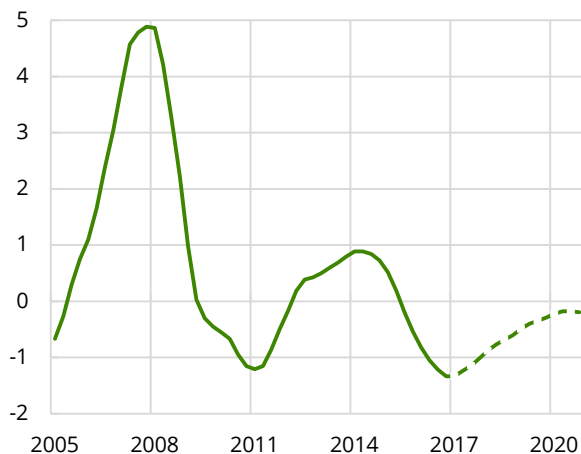
Seasonally adjusted, billions of 2014 NOK per quarter



Source: Statistics Norway

Figure 13. Mainland GDP

Deviation from estimated trend GDP in percent



Source: Statistics Norway

Developments in economic activity

Mainland GDP increased by an annualised 0.8 per cent in 2016 following growth of 1.1 per cent in 2015. However, seasonally adjusted quarterly figures show that there was virtually zero growth through 2015, and clear, but moderate growth through 2016. Mainland GDP increased by 0.3 per cent from the third to the fourth quarter, in line with average quarterly growth for the year as a whole. The corresponding average growth through 2015 was a bare 0.1 per cent. Although growth picked up somewhat last year, it was still well under estimated trend growth for the Norwegian economy of about 2 per cent annually. Thus the economic downturn continued through the whole of last year.

Much of the decline can be attributed to the fall in demand from the petroleum sector, which has impacted manufacturing in particular; see also Box 4. Value added for manufacturing as a whole fell by as much

as 5.6 per cent in 2016. This is in large part due to the most strongly petroleum-linked manufacturing segments, but the fall must nonetheless be described as fairly broad-based. The improved competitiveness of recent years due to a weaker krone and moderate wage growth have thus not been sufficient to push up the activity level, not even in those manufacturing segments that in principle should be little affected by the petroleum sector. There are nonetheless signs that the downturn has bottomed out, and several manufacturing segments were growing at the end of last year and in early 2017. The increase was particularly strong in the pharmaceutical and electronics industries, but also other manufacturing segments saw a turnaround towards the end of 2016. Overall, value added in manufacturing increased by 0.3 per cent from the third to the fourth quarter. Such a positive growth figure has not been seen since the second quarter of 2014.

Value added in other mainland goods production increased by 2.4 per cent from 2015 to 2016, thereby pushing up activity growth in the Norwegian economy. Growth was particularly strong in the construction industry, where value added increased by a whole 3.6 per cent as an annual average, approximately as in 2015. The upswing must be viewed against the background of the low interest rates, which stimulate residential construction, and large public investments in buildings and infrastructure. Growth did dip somewhat through the first three quarters of 2016, but according to the quarterly national accounts figures, picked up again towards the end of the year. From the third to the fourth quarter, value added increased by 1.7 per cent, thereby raising the level to more than 8 per cent higher than that in the fourth quarter of 2014. The other activities in “Other goods production” are largely controlled by naturally occurring factors. Thus they are not good indicators of the underlying economic situation. Electricity production increased by 2.5 per cent as an annual average in 2016, following wide fluctuations through the year. Production was particularly high at the beginning of the year, low in the summer half year, and picked up again in the fourth quarter, with growth of just under 1 per cent compared with the previous quarter. Growth in agriculture and forestry was fairly weak through the year, while value added in the fishing industry fell by a whole 4.9 per cent as an annual average. The decline was particularly large in the fourth quarter, where it was more than 6 per cent more than the previous quarter. This alone was enough to reduce mainland GDP by 0.1 percentage point in the fourth quarter.

Value added in service industries other than general government edged up only 0.4 per cent from 2015 to 2016. However, the weak figure must be viewed in light of the low growth rate in early 2016. Underlying growth through the year was appreciably higher, and value added increased by 0.2 per cent from the third to the fourth quarter. With the exception of services associated with oil and gas extraction, which fell markedly,

the other industry groups reported a fairly clear rise. Growth was particularly strong in the hotel and restaurant industry, where value added rose by as much as 2.9 per cent from the third to the fourth quarter. This is largely attributable to the relatively weak krone, which has led to more foreign tourists visiting Norway and to more Norwegians holidaying in Norway. Value added in general government rose 0.7 per cent from the third to the fourth quarter of 2016. Growth for the year as a whole was 2 per cent, i.e. roughly the same as trend growth in the Norwegian economy, and higher than growth in the rest of the domestic economy.

We expect developments in output to gradually improve in the near term. Petroleum sector demand is admittedly likely to fall further this year, but the decline will taper off gradually and give way to a moderate upturn. A certain increase in the level of activity in the Norwegian economy thus appears likely.

We project fairly flat developments for manufacturing this year, followed by a moderate upswing in the following years. The expected upswing must be viewed in light of the considerable improvement in competitiveness of recent years, and a certain increase in global growth. Those manufacturing segments that are most closely linked to the petroleum sector will probably have to wait somewhat longer for the upswing. The construction industry has been an important driving force for the Norwegian economy for the past two years, and we believe it will remain so this year again. Growth in this industry will then be reduced, as growth in residential construction is likely to slow from very high levels. Growth in public sector investment in fixed assets will also be very moderate in the years ahead. The activity level in mainland service industries will gradually pick up as the Norwegian economic upturn takes hold. However, growth in general government is expected to remain stable at slightly below trend growth for mainland GDP.

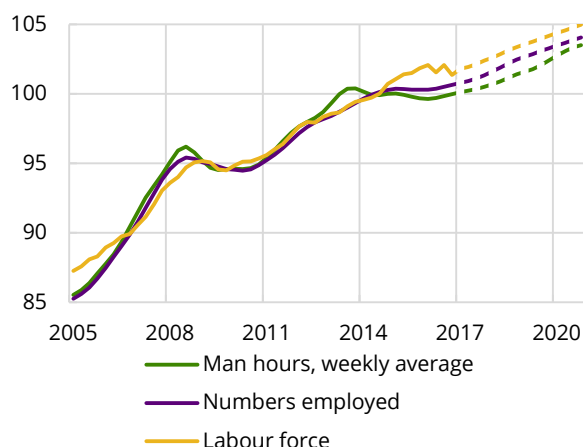
The overall result is a gradual increase in the level of activity in the Norwegian economy in the near term. We forecast that mainland GDP growth will be 1.8 per cent in 2017 and somewhat over 2 per cent for the next three years. The projections imply that the economy will enter a very cautious economic upturn in the first half of this year, and that this upturn will be sustained through the projection period.

The labour market

Whereas overall employment declined slightly through 2015, there was some increase through 2016. As an annual average, employment only increased by 0.1 per cent in 2016. For the past two years, growth has been far slower than in the years 2011 to 2014, when employment grew by more than one per cent annually. Since population growth is still relatively high, this means that the employment rate is still falling. The weak employment trend must also be viewed bearing

Figure 14. Labour force, employment and man-hours worked

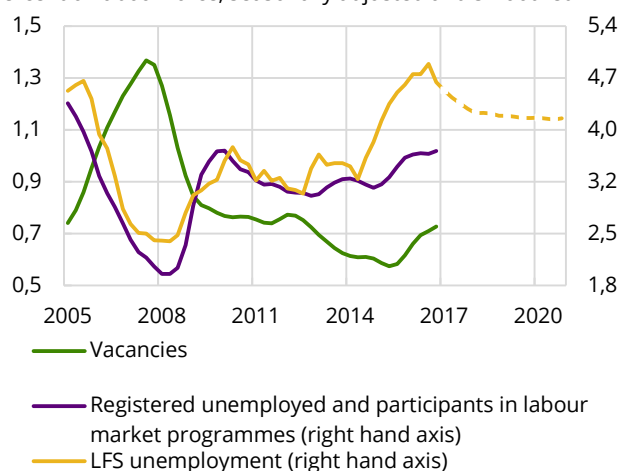
Seasonally adjusted and smoothed indices, 2014=100



Source: Statistics Norway

Figure 15. Numbers unemployed and vacancies

Percent of labour force, seasonally adjusted and smoothed



Source: The Norwegian Labour and Welfare Service and Statistics Norway

in mind that output has moved below trend growth for the economy since the second half of 2014.

Growth in overall employment is being curbed by developments in the petroleum industry and related industries; see also Box 4. Employment in crude oil and natural gas extraction has shrunk each quarter since the second quarter of 2014, and the fall through 2016 was 12 per cent. A decline in employment since the fourth quarter of 2014 has also been noted in manufacturing segments that primarily supply the petroleum industry, such as shipbuilding and other transport equipment and repair and installation of machinery and equipment. Overall, manufacturing employment fell by 4 per cent from 2015 to 2016.

General government employment increased by 1.3 per cent last year, appreciably more than the previous year. In market-oriented activities, high investment in

residential construction contributed to high employment growth in the construction sector. The weak krone exchange rate has also led to a clear increase in employment in the hotel and restaurant industry since 2014.

Because of the weak krone and relatively high unemployment, the Norwegian labour market has become less attractive for foreign labour. The result was lower net immigration and slower labour force growth last year.

The weak employment growth caused unemployment, measured by the labour force survey (LFS) to increase markedly through 2015 and reach a peak of 4.9 per cent in the summer of 2016 – 1.7 percentage points higher than before the economic downturn took hold. However, the increase in unemployment has been substantially dampened by the weak labour force developments. The labour force shrank through the second half of 2016, and this caused a 0.5 percentage point decline in unemployment in the course of half a year. Average unemployment in the months November 2016 to January 2017 had then fallen to 4.4 per cent. As an annual average, LFS unemployment rose by 0.3 percentage point in 2016, to 4.7 per cent, which is the highest measured in the past 20 years. According to NAV statistics, the number of registered unemployed only declined slightly through 2016, and the sum of registered fully unemployed and persons on labour market programmes was very stable through the year, but fell by 800 persons from January to February this year. The employment rate, the share of the population aged 15–74 who are in work, has fallen steadily since the peak of 72 per cent in 2008. The 0.7 percentage point fall from 2015 to 2016, to 67.3 per cent, was the most pronounced since 2011.

Although unemployment has remained unchanged or declined somewhat since the summer of 2016, there are only slight signs of a less slack labour market. The drop in LFS unemployment must be viewed in light of the fact that a number of people have withdrawn from the labour force during this period. The percentage of long-term unemployed (persons who have been unemployed for more than six months) also remains high. Measured by the LFS, 16 000 persons had been continuously unemployed for more than one year in the fourth quarter of 2016. This was an increase of 1000 compared with the same quarter in 2015. In January 2017, NAV's figures also showed that all those who had been unemployed for more than 26 weeks, including persons who had been on labour market programmes, but who were still unemployed, accounted for about 45 per cent of the unemployed. This is 4 percentage points higher than at the same time last year. There is a slight decline in the number of those who have been unemployed for the longest period (104 weeks or more). The reason for this decline is not necessarily that they have got jobs. Some of them may have withdrawn from the labour market for other reasons, or have ceased

to register as unemployed with NAV because they no longer have an incentive to do so.

There were large variations in unemployment developments across counties in 2016. The strong impulse generated by reduced petroleum-sector activity is also reflected in the unemployment figures broken down by county and occupation. From 2015 to 2016, unemployment rose most in Rogaland, Hordaland and Møre and Romsdal counties, in engineering and ICT. However, unemployment in the first two counties fell in both January and February 2017. Unemployment in engineering and ICT fell in January and increased in February.

The weak labour market trend of recent years is reflected also in the number of job vacancies, which has fallen since the third quarter of 2011. There was a slight increase in vacancies from the fourth quarter of 2015 to the fourth quarter of 2016, however, and in isolation this points to a slight improvement in job prospects for the unemployed.

We expect employment to pick up a little in 2017 and going forward. However, the improved economic situation will also lead to the labour force increasing, with the result that unemployment will only be moderately reduced. Many of the asylum-seekers who came to Norway last year may enter the labour force towards the end of the projection period. A weak krone and relatively high unemployment will have the effect of curbing inward labour migration in the near term as well, however. Our projections indicate that unemployment has peaked for this time, but that it will decline only slightly in the next few years and remain just over 4 per cent during the projection period.

Wage developments

Wage growth in 2016 was the lowest since World War II. Annual wage growth fell from 3.9 per cent in 2013 to 3.1 per cent in 2014, 2.8 per cent in 2015 and further to 1.7 per cent in 2016. According to the Technical Reporting Committee on Income Settlements (TBU), structural changes contributed to pushing down annual wage growth by 0.4 percentage point. These structural changes consist of compositional changes in the distribution of wage-earners within and among industries with different wage levels. The impact of the structural changes associated with the manufacturing and petroleum industries was particularly large. Our calculations, on a somewhat more aggregate level, show that structural changes among industries can be estimated at -0.3 percentage point (see Box 5). Substantially higher inflation than assumed at the time of the settlement meant that real annual wages fell by as much as 1.8 per cent last year.

Growth in average annual wages in a single year can be decomposed into carry-over and pay increase contribution, as well as wage drift, which encompasses all other explanatory factors. In 2016, the low carry-over

and moderate wage settlement led to low annual wage growth. There were also relatively large changes in the composition of employment distributed among industries. As a rule, employees remaining after cutbacks have long seniority, which pushes up wage drift. Relatively few new appointments at low wage levels have the same effect. However, annual wage growth was low in both the petroleum industry and in manufacturing. This suggests that many persons with high salaries have left these industries, and that the cutbacks in 2016 acted as a constraint on wage drift. In addition, the smaller number of employees in manufacturing and the petroleum industry with higher than average salaries caused wage growth in the economy as a whole to decline further; see Box 5.

The manufacturing carry-over into 2017 was 1 per cent, approximately the same as the preceding year. The Confederation of Norwegian Enterprise has expressed the view that this year's wage settlement must be more moderate and lower than the rise in trading partners' expenses, which is 2.5 per cent. The Norwegian Confederation of Trade Unions (LO) has indicated for its part that there must be positive growth in real wages this year. The non-manufacturing wage carry-over into 2017 is also low. The TBU has estimated the carry-over for several areas of negotiations. The carry-over in retail businesses in the Enterprise Federation of Norway (Virke) is 1 per cent, and the carry-overs in central and local government are 1.5 and 0.9 per cent, respectively.

We forecast that the wage settlement will result in moderate wage developments this year again, and that the composition effects will make a weakly negative contribution, such that wage growth in 2017 will be 2.3 per cent. Given our projection for consumer price inflation, real wages will then increase by 0.3 per cent in 2017 and subsequently increase by about 1 per cent in

Table 5. Average wages in the overall economy. Percentage change from previous year. Differences in growth and estimated contributions in percentage points

	2013	2014	2015	2016
Wages per hour worked	5.0	2.7	2.5	1.4
Annual wages, full-time equivalents	3.9	3.1	2.8	1.7
Difference	1.1	-0.4	-0.3	-0.3
Estimated contribution to the difference due to changes in:				
Number of business days	0.8	-0.4	-0.4	-0.4
Sickness absence	0.2	0.0	0.0	0.0
Overtime	0.1	0.0	0.0	0.0
Contractual weekly working hours for full-time jobs	0.0	0.0	0.1	0.0
Payment in kind	0.0	0.0	0.0	0.1
Labour costs per hour worked	5.1	3.0	2.7	1.5
Wages per hour worked	5.0	2.7	2.5	1.4
Difference	0.1	0.3	0.2	0.1
Estimated contribution to the difference due to changes in:				
Pension expenses	0.1	0.2	0.2	0.1
Employer's social insurance contribution	0.0	0.1	0.0	0.0

Source: Statistics Norway.

each of the next two years. The moderate developments in wage growth must be viewed in light of the fact that segments of the economy have suffered a significant negative shock as a result of the slump in oil prices. Improvement in the economic situation will result in increased profitability which, together with lower unemployment and lower immigration, will lead to wage growth picking up in the near term.

Table 6. Wages. Percentage growth compared with previous year

	Annual earnings, full time equivalents			Wages per hour worked			Labour costs per hour worked		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
Total	3.1	2.8	1.7	2.7	2.5	1.4	3.0	2.7	1.5
Petroleum and shipping	2.4	0.2	-2.0	1.7	-0.4	-3.2	1.5	-0.7	-3.2
Mainland Norway	3.1	2.9	1.8	2.7	2.6	1.6	3.0	2.8	1.7
Mainland Norway excl. general government	3.0	2.8	1.6	2.5	2.5	1.4	2.6	2.5	1.4
Goods-producing industries	3.0	2.6	2.0	2.6	2.2	1.9	2.7	2.3	1.9
Manufacturing and mining	3.2	2.7	1.6	2.7	2.4	1.4	3.0	2.4	1.5
Construction	2.8	2.7	2.7	2.4	2.3	2.6	2.3	2.3	2.6
Other goods production	3.6	2.7	2.4	3.3	2.5	1.8	3.6	2.4	1.8
Service industries	2.9	2.8	1.4	2.5	2.6	1.1	2.6	2.6	1.2
Retail trade and repair of motor vehicles	2.6	2.8	2.3	2.3	3.1	2.3	2.0	3.1	2.7
Hotel and restaurant	2.2	2.0	2.1	1.9	1.7	1.7	1.9	1.7	1.7
Finance and insurance	4.7	3.5	3.3	4.5	3.1	2.8	4.9	3.6	2.8
Other services	3.0	2.9	1.1	2.5	2.4	0.6	2.7	2.5	0.5
General government	3.4	3.1	2.4	3.1	2.9	2.0	4.0	3.4	2.1
Central government	3.5	2.8	2.2	3.2	2.4	1.7	3.6	4.1	1.7
Local government	3.2	3.3	2.5	3.0	3.2	2.2	4.2	2.9	2.5

Source: Statistics Norway.

Box 5. Compositional changes among industries reduced the growth in average annual wages by 0.3 percentage point in 2016

This box illustrates some of the reasons why annual wage growth was as low as 1.7 per cent in 2016, while the guideline for the wage settlement, as proposed by the Confederation of Norwegian Business and Industry (NHO) in consultation with the Norwegian Confederation of Trade Unions (LO), was 2.4 per cent. In the national accounts, annual wages are defined as the pay a wage-earner will normally receive in the course of the calendar year, given that he or she works full time, has no absence and has no paid overtime. The average annual wage is a weighted sum of annual wages in each industry with weights given by the number of full-time equivalents (FTEs) in an industry relative to the total number of FTEs in the economy.

Average annual wages will increase over time as a consequence of collective or individual wage settlements, but growth in average annual wages is also affected by workers changing jobs within and between industries, and by new workers entering working life while others leave. Changes in the amount of shift work and changes in the composition of the labour force, for example in terms of age, inward labour migration and gender ratio are all changes that normally affect the wage level in an industry and hence growth in annual wages. When there are small changes in employment in and between industries, wage settlements are normally dominated by developments in annual wages, although some industries have bonuses that are affected by the business cycle, and not everyone works in areas with collective wage agreements.

In 2016, growth in average annual wages was depressed by the reduction in petroleum-related jobs, since these wages are normally higher than the average. The table shows that FTEs in the petroleum industry were reduced by 12 per cent. Average annual wages were also depressed as a result of the increase in the number of FTEs in industries where the wage level is lower than the average, such as healthcare services and the hotel and restaurant industry.

The table decomposes growth in average annual wages into contributions from composition and wage effects. The changes in employment among industries from 2015 to 2016 reduced average annual wages by 0.3 percentage point, while wage changes within the industries contributed in isolation to pushing up average annual wage growth by 2 percentage points. Growth in average annual wages was consequently 1.7 per cent. Composition effects show how changes in employment among industries affect developments in average annual wages. The wage effect, on the other hand, shows how wage growth within the individual industries contributes to changing average annual wages.¹

The composition and wage effects of the individual industries are shown in the last three columns in the table. The overall contribution from the petroleum industry pushes down average annual wages by 0.13 percentage point. However, the composition effect is larger than this, at -0.20 percentage point, while the wage effect is a countering 0.07 percentage point. The decomposition also shows that even though a higher number of FTEs in healthcare services pushes down average annual wages by 0.03 percentage point, the overall contribution of this industry to annual wage growth will be 0.33 percentage point, as there is growth in the industry's average annual wage and there are many jobs involved. The composition effects from the other industries are generally small, some positive and some negative, and as the table shows, relatively modest compared with the composition effect from the petroleum sector.

Composition effects as described above can also influence annual wage growth within an industry. The table only considers composition effects among industries. The number of industries used to calculate the composition effects among industries can also affect the size of the effects.

Annual wages, growth in FTEs and annual wage growth, and the industries' contributions to annual wage growth, decomposed into composition and wage effect¹. 2016

	Annual wages, in 1000s of NOK	FTEs, percentage change	Annual wages, percentage change	Contributions from the industries		
				Combined contributions	Wage effect ¹	Composition effect
Total for industries	528.6	0.0	1.7	1.72	2.03	-0.30
Agriculture, forestry, fishing	449.7	3.2	2.5	0.02	0.02	-0.01
Mining and petroleum extraction	848.0	-12.0	1.6	-0.13	0.07	-0.20
Manufacturing	535.3	-4.3	1.6	0.15	0.16	-0.01
Electricity, gas and hot water supply	669.2	2.4	2.4	0.02	0.02	0.00
Water supply, waste water and sanitation	511.2	3.6	2.0	0.01	0.01	0.00
Building and construction	508.9	2.5	2.7	0.21	0.22	-0.01
Retail trade and repair of motor vehicles	474.5	-0.3	2.3	0.26	0.26	0.00
Transportation and storage	470.3	-0.4	0.8	0.05	0.05	0.00
Hotel and restaurant	370.7	3.3	2.1	0.01	0.04	-0.03
Information and communication	706.3	-0.9	2.6	0.12	0.13	-0.01
Finance and insurance	775.5	-1.4	3.3	0.08	0.09	-0.01
Sale and operation of real property	663.9	1.6	2.4	0.03	0.02	0.00
Professional, academic and technical services	699.6	-1.2	1.2	0.05	0.07	-0.02
Commercial services	452.6	-1.2	2.2	0.10	0.09	0.01
Public administration and defence	536.9	0.9	2.4	0.20	0.20	0.00
Education	535.3	1.5	2.3	0.19	0.19	0.00
Health and care services	488.8	1.9	2.0	0.33	0.36	-0.03
Cultural services	487.2	1.6	1.0	0.02	0.03	0.00

¹ The wage effect is virtually equivalent to the effect calculated using a Laspeyres index.

Source: Statistics Norway.

Developments in wages and labour costs per hour worked are affected by changes in overtime, sickness absence and contractual working hours. Annual variations in the number of business days also lead to developments in hourly wages differing from annual earnings for full-time equivalents. Growth in hourly wages was 0.3 percentage point lower than annual wage growth in 2016. Table 5 shows that this increase corresponds largely to the effect of there being one more working day in 2016 than in 2015. Labour costs reflect the amount employers have to pay for each hour worked. This payment differs from hourly wages in that employer's social insurance and pension contributions are also included in this wage concept. The rise in hourly labour costs was 0.1 percentage point higher than hourly wage growth in 2016, and was due to increased pension costs. This expense has pushed up growth in labour costs for the past four years.

Table 6 shows developments in annual wages, hourly wage and hourly labour costs in the various industries from 2014 to 2016. Measures of wage growth vary from one industry to the next, but on the whole growth in wages and labour costs per hour worked was approximately the same in the different industries in 2016. The exceptions, with a higher increase in labour costs, are retail trade and repair of motor vehicles, manufacturing and mining, and local government.

Inflation

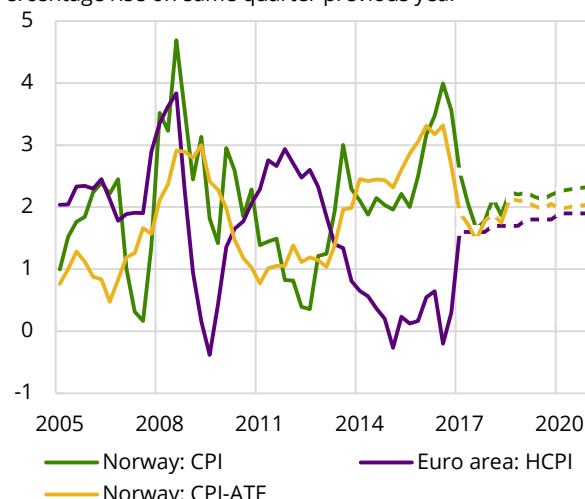
After three years with an almost 2.0 per cent rise in the consumer price index (CPI), the CPI as an annual average increased by a full 3.6 per cent in 2016. A very strong rise in electricity prices, which followed a somewhat abnormal course through the year, made a substantial contribution to the high annualised price rise, and to wide fluctuations through the year. Inflation rose gradually from 2.3 per cent in December 2015 to 4.4 per cent in July 2016. Since then it has declined appreciably, to 2.8 per cent in January 2017.

Consumer price inflation adjusted for taxes and excluding energy products (CPI-ATE) rose to 3.0 per cent in 2016. The depreciation of the krone from early in 2013 was rapidly reflected in a strong rise in the CPI-ATE, which peaked in July 2016 at 3.7 per cent. This is the highest year-on-year rise observed in this price index in the course of its 16-year history. The impact of a moderate strengthening of the krone from early 2016 was first felt in August 2016, in the form of a gradual reduction of inflation to 2.5 per cent in December 2016 and further down to 2.1 per cent in January 2017.

Seasonally adjusted figures show that the CPI-ATE did not change from July 2016 to January 2017. Through the first seven months of last year, however, the CPI-ATE rose at an annualised average rate of as much as 4.3 per cent, and thus far more strongly than at any time earlier in a similar time span, despite the appreciation of the krone and low wage growth during the period. Elements of what can be regarded as chance

Figure 16. Consumer price indices

Percentage rise on same quarter previous year



Source: Statistics Norway

clearly contributed to the strong inflation through the first half of the year, and hence also to the slowing of inflation through the second half. Measurements of prices for air travel can serve as an example. Precisely which prices are collected, and when, strongly influences what the results will be. Whereas prices for air travel rose by 11 per cent through the first seven months of 2015, the increase in the same period in 2016 was 42 per cent. And whereas prices from July to December fell by 9 per cent in 2015, the decline in the same period in 2016 was 32 per cent.

The CPI-ATE rose 3.5 per cent in 2016. Thus last year's changes in indirect taxes added 0.1 percentage point to CPI inflation. The price of crude oil fell appreciably from 2015 to 2016, which pushed down prices for fuel and heating oil. However, the surge in electricity prices of a whole 22.2 per cent had a greater impact, as indicated previously. The CPI excluding energy products increased by 3.2 per cent in 2016, so that in combination energy prices pushed CPI inflation up by 0.4 percentage point. In the three previous years, however, movements in prices for energy products strongly counteracted the changes in underlying inflation, thereby helping to keep overall inflation in those years stable at 2 per cent.

Imported consumer goods account for almost one third of the CPI-ATE. The 12-month change in prices for these products was -1.1 per cent in March 2013, when CPI-ATE inflation was down to 0.9 per cent. The rise in prices for this group then gathered pace gradually, peaking in July 2016 at 4.6 per cent. The change in the contribution of the rise in prices for this product group to inflation can explain approximately three-quarters of the rise in inflation during the period. The year-on-year rise in prices for imported goods has subsequently slowed, and in January 2017 was 1.6 per cent. The contribution from this decline also accounts for about two thirds of the fall in inflation over the past six months.

Table 7. The consumer price index. Goods and services by consumption group

	Weight ¹	Change on previous year, per cent				Jan. 2017
		2013	2014	2015	2016	
Total	1 000.0	2.1	2.0	2.1	3.6	2.8
Food and non-alcoholic beverages	41.2	4.3	3.4	3.0	3.3	2.0
Alcoholic beverages and tobacco	52.0	-2.0	-0.6	0.4	5.0	-1.2
Clothing and footwear	227.6	5.3	1.3	1.3	4.5	3.0
Housing, water, electricity and fuels	229.8	-1.8	5.3	1.3	1.3	3.0
Of which: Electricity, heating oils and other fuels	34.0	14.7	-5.7	-3.4	19.3	7.9
Furniture, household equipment and routine maintenance	67.3	0.4	3.2	5.2	5.4	1.3
Health	32.4	2.6	2.5	1.7	2.0	3.3
Transport	158.8	1.4	2.3	1.3	2.5	4.1
Of which: Purchase of vehicles	60.7	-0.3	1.4	1.4	2.2	0.9
Communications	23.0	-2.1	-0.8	1.1	4.1	2.7
Recreation and culture	115.2	0.9	2.1	3.4	4.5	3.4
Education	5.6	7.5	3.3	2.1	3.4	5.3
Restaurants and hotels	57.7	2.9	2.5	2.4	3.3	3.9
Misc. goods and services	89.4	1.9	2.5	1.9	1.9	2.0

¹ The weights apply from January 2017 to December 2017.
Source: Statistics Norway.

Table 8. The consumer price index adjusted for tax changes and excluding energy products (CPI-ATE), by supplier sector¹

	Weight ²	Change on previous year, per cent				Jan. 2017
		2013	2014	2015	2016	
Total	1 000.0	1.6	2.4	2.7	3.0	2.1
Norwegian agricultural products ³	36.7	0.6	2.7	2.4	2.1	1.3
Fish products ¹		0.5	5.2	4.6	..	..
Norwegian goods excluding agricultural products ⁴	112.5	3.1	3.3	3.6	4.1	2.2
Imported goods	335.5	-0.2	1.4	3.0	3.8	1.6
Rent	210.3	3.0	2.8	2.4	1.8	2.0
Services excluding rent	305.0	2.3	2.8	2.4	3.0	3.0

¹ The breakdown by supplier sector has been changed with effect from January 2016. Fish products are distributed between imported products and Norwegian products excluding agricultural products, while imported agricultural products are included in imported products.

² The weights apply from January 2017 to December 2017.

³ Included imported agricultural products prior to 2016.

⁴ Excluded fish products prior to 2016

Source: Statistics Norway.

Prices for goods produced in Norway showed no clear tendency through 2016 until right at the end of last year and in January 2017, when the rise in prices slowed appreciably. Movements in the krone exchange rate can contribute to some extent to explaining this too, because a significant portion of Norwegian goods manufacturing is based on imported intermediate inputs. The rise in prices for services remained relatively stable in 2016, however, if one disregards some individual months with a very high rise in prices. This inflation is also quite stable in a somewhat longer perspective. The effects of the slower rise in labour costs recently are countered by weaker developments in productivity.

There are prospects of continued low growth in Norwegian wages, albeit not as low as in 2016. There is also likely to be a moderate global rise in prices for finished products. Time-lagged effects of this year's moderate strengthening of the krone and the slowing of the rise in labour costs will probably also push underlying inflation down further in 2017. Given a stable krone exchange rate in the near term and slightly higher wage growth, there are prospects that inflation will pick up a little after that. Productivity growth normally increases

when activity growth picks up, which will curb the rise in inflation.

In the electricity forward market, prices for future deliveries will decline this year and the next two years. However, grid rental is going up sharply this year, and large investment projects associated with the grid, including household electricity meters, point to a high rise in grid rental prices also in the time ahead. We assume that overall electricity prices for households will remain fairly stable as an annual average this year and for the next two years and then rise a little more than general inflation in 2020. Although the price of crude oil is expected to increase somewhat more than the CPI-ATE, it will not push up fuel prices to any particular degree. The crude oil price accounts for a very small part of the price of fuel to consumers in Norway. On the other hand, we anticipate increasing environmental taxes equivalent to 0.2 percentage point of the CPI. These are expected to result in slightly higher CPI inflation than CPI-ATE inflation. We forecast a CPI increase of 2.0 per cent for 2017 and slightly higher the following next three years.

Decidedly the most uncertain factor in this projection is electricity prices. Fluctuations in precipitation and temperature have a strong impact on these prices. Power production elsewhere in Northern Europe also has a bearing on Norwegian prices. They are influenced by various factors associated with nuclear power, and the emergence of green energy production, which is strongly linked to policy instruments. Some of this can be captured in forward prices, but they definitely do not capture how the weather will deviate from the norm in the future. The probability of price developments as stable as those we predict is small, but it is far more probable that our picture of prices for the coming four year period as a whole will be fairly accurate. The exchange rate is clearly another major uncertainty factor for our inflation scenario. See also the next section with regard to how certain we can be about our inflation projections.

Uncertainty surrounding the projections

Statistics Norway presented its first quantified projections for the Norwegian economy in 1988, and since 1990 has with few exceptions published projections for at least two years ahead in February/March, May/June, September and November/December each year in the publication *Økonomiske analyser* and the English language version, *Economic Survey*. The following is an evaluation of our forecasting activities. The evaluation considers three important macroeconomic variables: growth in mainland gross domestic product (mainland GDP), inflation measured by the consumer price index (CPI), and unemployment as a percentage of the labour force (LFS unemployment). The focus is on whether the projections have deviated systematically from the ex post outcome, and on the spread of the deviations. The analysis is also used to say something about the uncertainty surrounding Statistics Norway's projections for 2017 and 2018.

There are often differences between the preliminary GDP figures published in February the year after the accounting year and the final figures, which are normally only available almost two years later. The «final» figures may also be revised in connection with periodic revisions when new statistics are incorporated or when the calculation principles are changed. We nevertheless use provisional GDP figures from the preliminary accounts as «actual outcome» for three reasons: First, the final accounts figures are not available for the years following 2014. The projections for these years must therefore be compared with preliminary accounts figures under any circumstances. Second, the projections are made on the basis of preliminary – not final – accounts figures for the recent past. Third, changes were made in definitions in connection with the main revisions in 1995, 2002, 2006 and 2014, which means that projections and final figures are not associated with the same measuring system¹. For example, our projections for

¹ The main revision in 2011 did not result in major changes in macro figures.

Figure 17. Projection for percentage change in mainland GDP. Absolute deviation from preliminary accounts

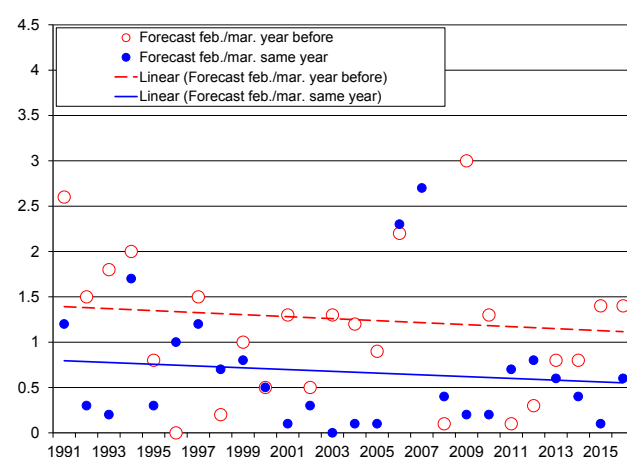


Figure 18. Projection for percentage change in the CPI. Absolute deviation from published figures

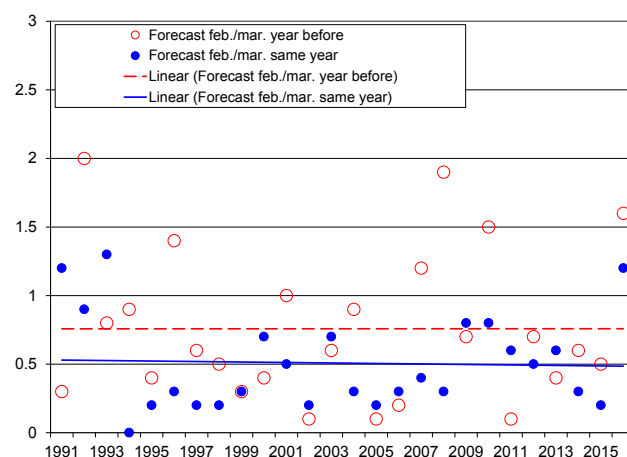


Figure 19. Projection for unemployment (LFS). Absolute deviation from published figures

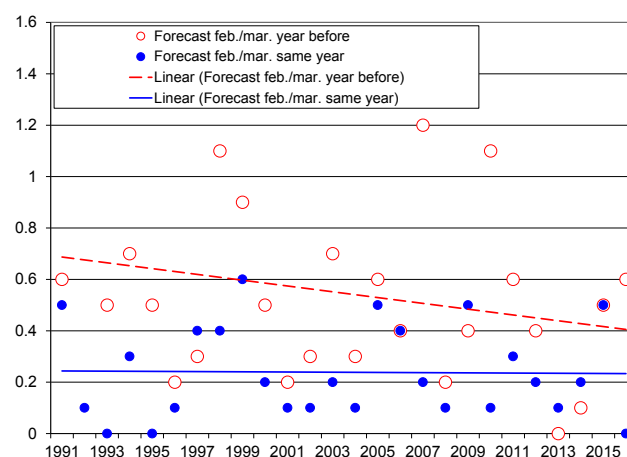


Figure 20. **Projected percentage change in mainland GDP. Absolute deviation from preliminary accounts figures and the spread of deviations. The intervals show 50, 80 and 90 per cent confidence intervals**

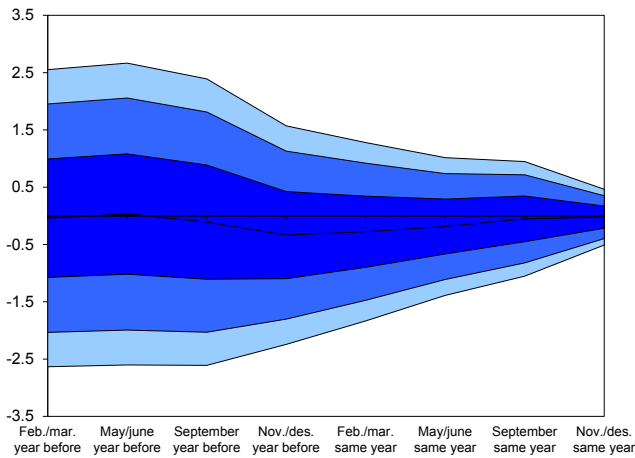


Figure 21. **Projection for percentage change in the CPI. Absolute deviations and spread of deviations. The intervals show 50, 80 and 90 per cent confidence intervals**

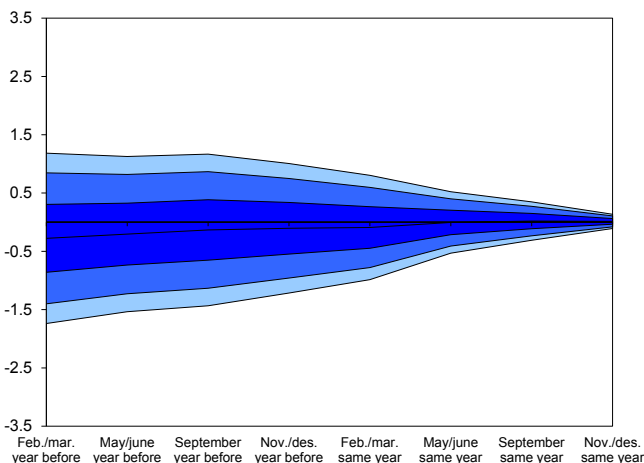
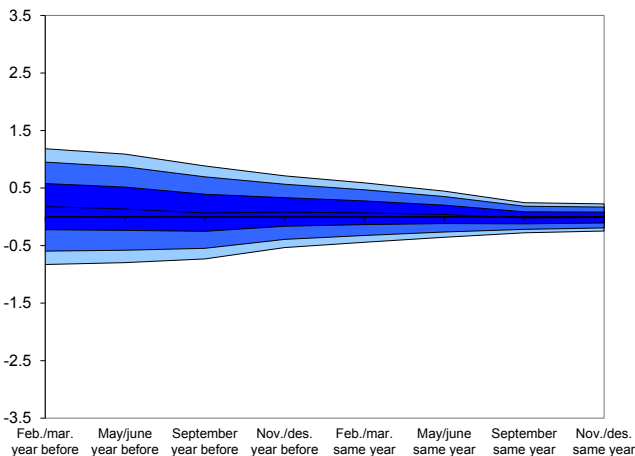


Figure 22. **Projection for unemployment (LFS). Absolute deviations and spread of deviations. The intervals show 50, 80 and 90 per cent confidence intervals**



mainland GDP in 2013 made before the main revision in 2014 would have been different if we had used the new definition at the times of making the projections. Final figures for the CPI and for LFS unemployment are available shortly after the end of the year.²

How accurate have our projections been?

Figures 17, 18 and 19 show developments over time in the absolute deviations between projections and preliminary accounts figures for mainland GDP growth, the rise in the CPI and LFS unemployment this year and the following year in the first report of the year. Projections for LFS unemployment made the year before the projection year have improved over time, while the projections for GDP growth improved both times the projections were made.

Figures 20, 21 and 22 show the average deviations between projections made at different times and accounts figures for growth in mainland GDP, the change in the CPI and unemployment. The figures also provide an indication of the spread in the deviations by including three intervals around the average. These intervals are calculated against the background of the historical spread. They do not say anything about how many of the deviations actually lie within these intervals. Under given conditions,³ the probabilities that the difference between projections and accounts figures lie within these intervals are 50, 80 and 90 per cent, respectively. We have only used the projections for the years from 1995 onwards when calculating the intervals.

Have there been systematic deviations?

The projections for GDP growth have often been slightly too low from September, and in particular November/December, the year before the projection year, but this deviation is reduced as the projections are updated through the projection year. On average, the GDP growth projections published in the first half of the year prior to the projection year have been approximately the same as the actual outcomes.

The average deviation in the CPI inflation projection is reduced from 0.3 percentage point in February/March of the year prior to the projection year to almost zero in February/March of the projection year.

In line with our overly low GDP projections, we find that the projections for employment have had a tendency to become systematically somewhat too high. The projections made in February/March prior to the projection year are 0.2 percentage point too high. The

² With effect from the publication of the January index on 10 February 2017, the reference year in the CPI has been changed to 2015 (2015=100). A change in the reference year may result in deviations in already published figures as a result of rounding effects. As the CPI is final the first time it is published, it is the figures that are first published that represent the official and final figures.

³ That all deviations form part of a given statistical distribution (normal distribution with the same expectations and spread) and are independent.

Figure 23. Projected percentage change in mainland GDP. The intervals show 50, 80 and 90 per cent confidence intervals

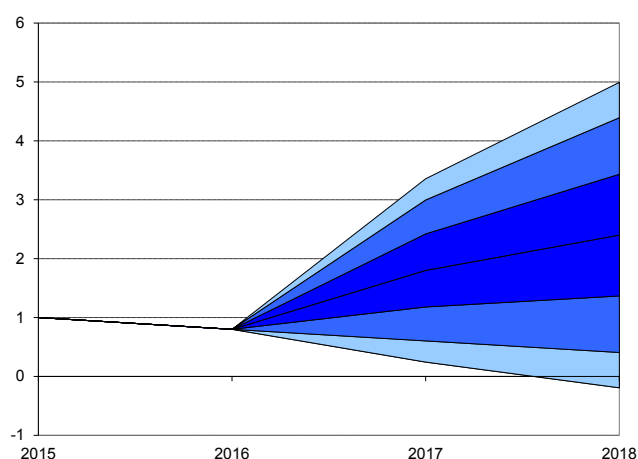


Figure 24. Projection for percentage change in the CPI. The intervals show 50, 80 and 90 per cent confidence intervals

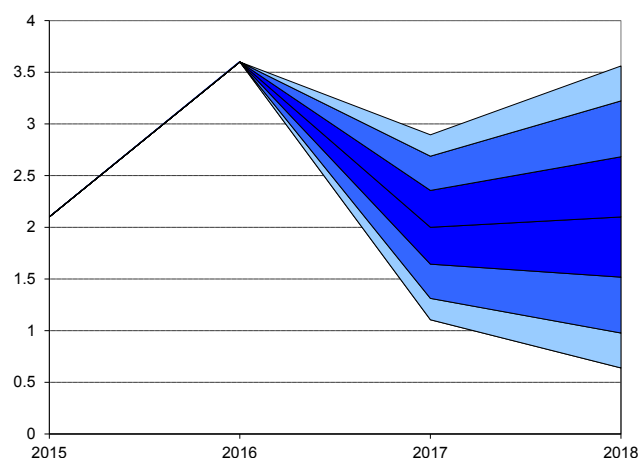
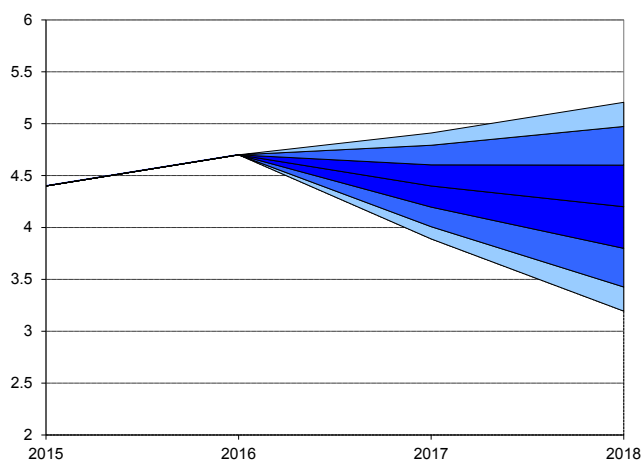


Figure 25. Projection for unemployment (LFS). The intervals show 50, 80 and 90 per cent confidence intervals



average deviation subsequently is approximately 0.1 percentage point up to and including May/June the same year. After this the deviations are virtually zero on average. Bearing in mind the large spread in these projections, the results indicate that there are no large systematic errors in our projections for the three main variables.

The spread in the projections

There has been a relatively large spread in the deviations between the projections for GDP growth made in the first three analyses the year prior to the projection year and the preliminary accounts figure. Of the 22 projections we have made up to the present, from and including the 1995 projection, 10 deviate more than 1 percentage point from the preliminary accounts figure. Once the projection was absolutely accurate – in 1996. The projections in 1998, 2008, 2011 and 2012 were also very accurate, with deviations of only 0.1–0.3 percentage point. The variation in the deviations is considerably less, on average, in the projections made in December the previous year, but 7 out of 22 projections are still more than 1 percentage point off the mark. Despite possessing increasing amounts of information about economic developments in the year for which projections are made, the spread in deviations is therefore only a little less right up to and including the projections in September the same year. One important reason for this is that the quarterly GDP figures have often been revised quite considerably through the projection year. Only the last projection we make before the actual outcome is available once again shows a distinct decline in the spread of the deviations.

We find a similar pattern in the projections for the annual change in the CPI. There is substantial variation between the first three projections and the outcome, then the spread decreases gradually. The variation in the projections made the year prior to the projection year are approximately three times as large as the variation in the projections made in the projection year. As the CPI is not revised, this reflects the fact that uncertainty lessens through the year as the actual development of the CPI gradually emerges.

The spread in the deviation between the unemployment projection and the outcome shows a steadier decline as the projection horizon shortens. The average absolute deviation is 0.6 percentage point in February/March the preceding year and 0.3 percentage point in February/March of the same year. After that the spread narrows gradually. The projection error for unemployment is considerably reduced in the last two projections before the outcome is available. As in the case of the CPI, this is because the figure is not revised but gradually emerges in the course of the year.

Projections for 2017 and 2018 uncertain

The uncertainty associated with our projections for 2017 and 2018 is illustrated in Figures 23, 24 and 25. Mainland GDP growth is now projected at 1.8 per cent in 2017 and 2.4 per cent in 2018. In light of the above analysis, there is a 50 per cent probability that mainland GDP growth will be between 1.2 and 2.4 per cent in 2017 and between 1.4 and 3.4 per cent in 2018. Intervals of a total of 3.1 percentage points in 2017 and 5.2 percentage points in 2018 cover the outcome growth with 90 per cent probability.

CPI inflation was 3.6 per cent in 2016. In 2017 and 2018 it is projected to rise to 2.0 and 2.1 per cent, respectively. There is an 80 per cent probability that the projections for 2016 and 2017 will not be more than 0.6 and 1.1 percentage point, respectively, off the mark.

The unemployment level is projected to fall from 4.7 per cent in 2016 to 4.4 per cent in 2017 and then further to 4.2 per cent in 2018. Whereas historical forecast errors indicate that the projection for 2017 can be regarded as relatively certain, there is more uncertainty attached to the projection for the following year. For example, there is an 80 per cent probability that the accounts figure will not differ more than 0.4 percentage point from our projection for 2017. In 2018, on the other hand, there is an 80 per cent probability that unemployment will lie within an interval of 0.8 percentage point above or below the projection.

How accurate were Statistics Norway's projections for 2016?

The first time we published projections for 2016 as part of our ongoing monitoring of the business cycle was at the beginning of 2013. The table shows the projections made then, one year later, and thereafter all the projections published through 2015 and 2016.

The first projections for 2016 were based on assumptions about global impulses that were quite different from the actual outcome. Although we assumed before the summer of 2014 that the oil price would fairly rapidly move to a lower level than had been seen for a while, the decline was substantially larger. The slump in oil prices is an important factor underlying the far too optimistic projections for investment in the petroleum industry.

Developments in the global economy were also overestimated in 2013, as we assumed that the normalisation of the global economic situation would proceed faster than later proved to be the case. As a result, exports were overestimated, but other factors have been equally important.

The projections from the beginning of 2015 and later, after at least half a year of substantially falling oil prices, captured the fall in petroleum investment well. We did underestimate the decline in investment a little, and this, combined with far too optimistic projections for exports of traditional goods, led to the conclusion that the cyclical downturn would be over in early 2016. Overly high projections for GDP growth were also reflected in overly high projections for employment, leading to underestimation of unemployment in 2016. There are many self-regulating mechanisms in the labour market, with the result that the unemployment projections made in the second half of 2015 were only 0.1 percentage point too low, and all the projections made in 2016 were right on target for unemployment as measured by the LFS.

Expectations of a moderate cyclical upturn through 2016 led to wage growth being overestimated, but the historically low wage growth surprised most analysts. The projections made in 2016 were also appreciably too high. The forecast for consumer price inflation, on the other hand, was too low. The early projections, right up to and including those made in June 2015, were based on far too strong a krone exchange rate, because we did not foresee the sharp depreciation up to year-end 2015/2016. As the course of the krone exchange rate became clearer, the rise in underlying inflation, the CPI-ATE, was forecast fairly correctly, albeit a little too low, until the last two reports, which were right on target. The underestimation of electricity prices led to CPI inflation being underestimated a little more.

A closer look at the projections for 2016 reveals some surprising features. Forecasts for the rise in housing investment and house prices were too low, while the sharp decline in tradition exports was not forecast one year earlier. The weak developments in real wages came as a surprise, while labour market developments were well foreseen. GDP growth was accurately projected, while mainland economic growth was somewhat overestimated a year ago, but since then the projections have been accurate.

Table 9. Projections for 2016 published at different times. Percentage increase unless otherwise specified

	ES 1/13	ES 1/14	ES 1/15	ES 2/15	ES 3/15	ES 4/15	ES 1/16	ES 2/16	ES 4/16	ES 5/16	ES 1/17
Real economy											
Consumption by households etc.	3,3	3,6	2,2	2,1	1,8	1,5	1,2	1,3	1,9	1,5	1,6
General government consumption	2,5	2,3	2,4	2,3	2,6	3,5	2,7	3,0	2,6	2,2	2,3
Gross capital formation	3,1	3,0	1,1	1,5	0,0	0,6	-1,0	-1,5	-1,7	0,0	0,5
Extraction and pipeline transport	3,5	0,7	-8,1	-8,3	-10,3	-13,6	-13,5	-16,2	-19,1	-15,8	-14,7
Mainland Norway	3,1	4,3	4,2	4,9	3,6	5,0	3,2	3,5	4,3	5,6	5,9
Housing investment	1,6	4,0	3,2	5,3	3,5	4,9	5,5	6,1	8,4	9,3	9,9
Exports	2,2	2,2	1,7	2,1	1,8	2,4	1,8	1,4	-0,1	-1,7	-1,2
Crude oil and gas	0,6	0,4	-0,1	-0,7	-0,5	0,7	0,8	1,4	0,6	0,8	3,8
Exports, traditional goods	3,8	4,2	3,8	4,3	4,4	4,2	2,8	0,4	-1,4	-5,1	-8,2
Imports	3,9	4,3	2,8	3,5	2,5	2,1	1,6	1,1	0,8	1,1	0,3
Imports, traditional goods	4,4	4,0	2,8	3,0	2,7	2,1	1,5	0,3	-0,6	0,1	-0,6
GDP	2,4	2,3	1,7	1,7	1,2	1,7	1,1	0,9	0,8	0,4	1,0
Mainland GDP	2,8	2,9	2,2	2,4	1,8	2,0	1,4	0,9	0,9	0,7	0,8
Labour market											
Number employed	1,4	1,1	0,3	0,2	0,5	0,7	0,2	0,3	-0,2	-0,1	0,1
LFS rate of unemployment (level)	3,3	3,9	4,1	4,3	4,6	4,6	4,7	4,7	4,7	4,7	4,7
Prices, wages and income											
Annual wages	4,5	3,5	3,1	3,0	2,9	2,6	2,5	2,6	2,3	2,2	1,7
Household real disposable income	2,5	3,7	2,8	2,4	1,8	1,5	1,3	1,1	-2,5	-2,9	-1,7
Consumer price index (CPI)	2,4	1,7	2,0	2,1	2,9	2,8	2,4	2,9	3,4	3,6	3,6
CPI-ATE	2,4	1,7	1,9	1,9	2,5	2,6	2,5	2,4	3,0	3,0	3,0
Export price traditional goods	3,7	1,2	1,7	1,3	0,2	2,0	0,0	2,8	2,9	3,1	4,3
Import price traditional goods	2,6	0,8	1,0	1,9	1,8	3,5	2,0	0,9	1,4	0,9	1,2
House prices	4,7	2,8	1,2	2,5	2,7	1,5	1,4	4,4	7,1	7,3	7,1
MEMO:											
Money market interest rate (level)	4,0	2,1	1,0	1,3	1,0	0,8	0,7	0,9	1,0	1,1	1,1
Lending rate, credit loans (level) ¹	5,5	4,0	3,0	3,0	2,8	2,6	2,4	2,6	2,6	2,6	2,6
Import-weighted krone exchange rate (44 countries)	1,7	-0,6	-2,3	-0,6	1,7	3,9	2,4	2,4	2,5	1,9	1,8
Current account balance, billions of NOK	247	259	171,5	233,7	158,8	231	146,9	219	190	159	152
Export market indicators	6,1	5,7	4,8	4,7	4,4	4,4	4,0	3,4	3,2	3,1	2,8
Crude oil price, NOK/barrel.	575	572	502	523	431	438	329	366	377	375	378

Source: Statistics Norway.

Table 10. National accounts: Final expenditure and gross domestic product. At constant 2014 prices. Million kroner

	Unadjusted		Seasonally adjusted							
	2015*	2016*	15.1	15.2	15.3	15.4	16.1	16.2	16.3	16.4
Final consumption expenditure of households and NPISHs	1 311 465	1 332 325	326 075	328 169	329 142	330 808	331 756	333 240	333 091	335 409
Household final consumption expenditure	1 245 216	1 265 601	309 545	311 805	312 507	314 113	315 484	316 260	316 378	318 664
Goods	579 798	579 522	144 793	146 363	146 025	145 626	145 700	145 307	144 510	145 407
Services	604 358	624 457	149 342	150 251	151 450	153 005	154 132	155 746	156 706	157 719
Direct purchases abroad by resident households	99 797	103 381	24 560	24 802	25 030	25 418	25 536	25 610	26 174	25 979
Direct purchases by non-residents	-38 737	-41 759	-9 149	-9 611	-9 997	-9 937	-9 884	-10 403	-11 011	-10 441
Final consumption expenditure of NPISHs	66 249	66 724	16 529	16 364	16 635	16 696	16 272	16 980	16 713	16 745
Final consumption expenditure of general government	706 366	722 756	175 692	176 110	176 776	177 794	178 916	180 140	181 099	181 956
Final consumption expenditure of central government	354 962	363 716	88 280	88 453	88 844	89 390	89 988	90 637	91 051	91 437
Central government, civilian	313 292	321 477	77 838	78 055	78 491	78 921	79 514	80 137	80 410	80 817
Central government, defence	41 670	42 239	10 443	10 399	10 353	10 469	10 474	10 500	10 641	10 621
Final consumption expenditure of local government	351 404	359 040	87 412	87 656	87 932	88 404	88 929	89 503	90 048	90 519
Gross fixed capital formation	711 392	714 616	178 905	179 154	177 477	175 869	176 693	177 050	179 172	180 313
Extraction and transport via pipelines	183 085	156 134	49 553	47 425	43 794	42 279	40 040	38 565	38 094	39 463
Ocean transport	1 959	1 059	799	620	235	394	733	134	256	-16
Mainland Norway	526 349	557 424	128 552	131 109	133 448	133 196	135 921	138 351	140 822	140 866
Industries	219 501	225 726	55 795	56 386	53 599	53 602	55 850	56 807	55 659	57 110
Service activities incidental to extraction	4 205	1 252	1 332	1 504	760	609	480	230	166	375
Other services	133 822	137 404	33 942	34 262	32 544	33 025	33 516	35 273	34 178	34 410
Manufacturing and mining	31 447	32 915	7 808	7 944	7 862	7 811	8 540	8 405	7 852	8 106
Production of other goods	50 027	54 155	12 713	12 676	12 434	12 157	13 314	12 899	13 463	14 218
Dwellings (households)	158 051	173 751	38 281	39 256	39 738	40 896	41 395	42 472	43 836	45 015
General government	148 796	157 947	34 476	35 467	40 111	38 698	38 675	39 071	41 327	38 742
Acquisitions less disposals of valuables	334	334	85	82	81	87	83	84	80	87
Changes in stocks and statistical discrepancies	151 488	161 490	45 638	40 482	31 743	31 704	47 499	42 947	32 918	38 054
Gross capital formation	863 215	876 440	224 544	219 636	209 220	207 572	224 192	219 996	212 090	218 366
Final domestic use of goods and services	2 881 046	2 931 521	726 310	723 915	715 138	716 174	734 864	733 377	726 280	735 731
Final demand from Mainland Norway	2 544 180	2 612 505	630 319	635 388	639 366	641 798	646 593	651 731	655 012	658 231
Final demand from general government	855 163	880 703	210 168	211 577	216 886	216 492	217 591	219 211	222 427	220 698
Total exports	1 265 859	1 250 839	309 877	311 083	326 785	319 173	315 558	312 017	313 379	309 261
Traditional goods	363 233	333 578	90 264	90 909	90 874	91 210	86 513	85 103	84 737	77 473
Crude oil and natural gas	569 005	590 433	137 726	138 962	151 377	142 222	148 172	146 060	147 401	148 079
Ships, oil platforms and planes	7 471	13 564	1 922	1 483	1 991	2 044	1 909	2 500	2 689	6 459
Services	326 150	313 264	79 965	79 729	82 543	83 698	78 963	78 354	78 551	77 250
Total use of goods and services	4 146 904	4 182 360	1 036 187	1 034 998	1 041 923	1 035 347	1 050 422	1 045 393	1 039 659	1 044 992
Total imports	955 940	958 708	243 523	238 179	232 963	240 443	244 341	240 016	238 731	235 217
Traditional goods	554 823	551 586	140 718	139 512	134 595	139 459	140 583	137 624	136 442	136 547
Crude oil and natural gas	13 471	11 331	3 867	3 443	2 823	3 398	3 534	2 753	3 060	1 836
Ships, oil platforms and planes	29 368	32 483	9 027	7 081	7 186	5 926	8 272	7 995	9 708	6 436
Services	358 279	363 307	89 910	88 142	88 358	91 660	91 951	91 644	89 521	90 397
Gross domestic product (market prices)	3 190 964	3 223 652	792 664	796 819	808 960	794 904	806 081	805 377	800 927	809 776
Gross domestic product Mainland Norway (market prices)	2 561 433	2 582 862	640 272	640 897	641 307	640 458	642 273	645 327	645 959	648 069
Petroleum activities and ocean transport	629 530	640 790	152 393	155 922	167 653	154 447	163 808	160 050	154 968	161 707
Mainland Norway (basic prices)	2 223 947	2 236 571	556 005	556 919	556 685	555 200	556 670	558 641	559 409	561 521
Mainland Norway excluding general government	1 676 707	1 678 589	420 105	420 583	419 634	417 193	417 916	419 549	419 829	420 976
Manufacturing and mining	211 627	202 200	54 548	53 786	52 445	51 533	51 342	50 853	50 178	50 240
Production of other goods	276 050	282 735	67 955	69 287	70 047	69 006	70 927	70 305	70 472	70 945
Services incl. dwellings (households)	1 189 030	1 193 655	297 602	297 510	297 142	296 654	295 646	298 391	299 179	299 791
General government	547 240	557 982	135 900	136 337	137 051	138 006	138 755	139 093	139 580	140 545
Taxes and subsidies products	337 486	346 291	84 267	83 977	84 622	85 258	85 603	86 686	86 550	86 548

Source: Statistics Norway.

Table 11. National accounts: Final expenditure and gross domestic product. At constant 2013 prices. Percentage change from the previous periodg fra foregående kvartal

	Unadjusted		Seasonally adjusted							
	2015*	2016*	15.1	15.2	15.3	15.4	16.1	16.2	16.3	16.4
Final consumption expenditure of households and NPISHs	2,1	1,6	0,5	0,6	0,3	0,5	0,3	0,4	0,0	0,7
Household final consumption expenditure	2,1	1,6	0,4	0,7	0,2	0,5	0,4	0,2	0,0	0,7
Goods	1,0	0,0	-0,4	1,1	-0,2	-0,3	0,1	-0,3	-0,5	0,6
Services	3,5	3,3	1,1	0,6	0,8	1,0	0,7	1,0	0,6	0,6
Direct purchases abroad by resident households	2,9	3,6	0,7	1,0	0,9	1,6	0,5	0,3	2,2	-0,7
Direct purchases by non-residents	10,3	7,8	-0,9	5,0	4,0	-0,6	-0,5	5,3	5,8	-5,2
Final consumption expenditure of NPISHs	2,2	0,7	1,2	-1,0	1,7	0,4	-2,5	4,4	-1,6	0,2
Final consumption expenditure of general government	2,1	2,3	0,2	0,2	0,4	0,6	0,6	0,7	0,5	0,5
Final consumption expenditure of central government	2,4	2,5	0,3	0,2	0,4	0,6	0,7	0,7	0,5	0,4
Central government. civilian	2,9	2,6	0,4	0,3	0,6	0,5	0,8	0,8	0,3	0,5
Central government. defence	-1,0	1,4	-0,6	-0,4	-0,4	1,1	0,0	0,2	1,3	-0,2
Final consumption expenditure of local government	1,7	2,2	0,2	0,3	0,3	0,5	0,6	0,6	0,6	0,5
Gross fixed capital formation	-3,8	0,5	-0,9	0,1	-0,9	-0,9	0,5	0,2	1,2	0,6
Extraction and transport via pipelines	-15,0	-14,7	-1,1	-4,3	-7,7	-3,5	-5,3	-3,7	-1,2	3,6
Ocean transport	138,3	-46,0	48,7	-22,5	-62,1	67,8	86,1	-81,7	90,7	-106,4
Mainland Norway	0,6	5,9	-1,0	2,0	1,8	-0,2	2,0	1,8	1,8	0,0
Industries	-1,6	2,8	-1,9	1,1	-4,9	0,0	4,2	1,7	-2,0	2,6
Service activities incidental to extraction	-14,0	-70,2	15,0	13,0	-49,5	-19,9	-21,1	-52,1	-27,9	126,2
Other services	-1,2	2,7	-3,0	0,9	-5,0	1,5	1,5	5,2	-3,1	0,7
Manufacturing and mining	-7,8	4,7	-13,2	1,7	-1,0	-0,6	9,3	-1,6	-6,6	3,2
Production of other goods	3,0	8,3	8,0	-0,3	-1,9	-2,2	9,5	-3,1	4,4	5,6
Dwellings (households)	1,6	9,9	1,4	2,5	1,2	2,9	1,2	2,6	3,2	2,7
General government	3,0	6,1	-2,1	2,9	13,1	-3,5	-0,1	1,0	5,8	-6,3
Acquisitions less disposals of valuables	0,4	-0,2	-1,0	-3,8	-1,4	7,4	-4,8	2,2	-4,7	7,7
Changes in stocks and statistical discrepancies	5,0	6,6	52,5	-11,3	-21,6	-0,1	49,8	-9,6	-23,4	15,6
Gross capital formation	-2,3	1,5	6,7	-2,2	-4,7	-0,8	8,0	-1,9	-3,6	3,0
Final domestic use of goods and services	0,7	1,8	2,3	-0,3	-1,2	0,1	2,6	-0,2	-1,0	1,3
Final demand from Mainland Norway	1,8	2,7	0,1	0,8	0,6	0,4	0,7	0,8	0,5	0,5
Final demand from general government	2,2	3,0	-0,2	0,7	2,5	-0,2	0,5	0,7	1,5	-0,8
Total exports	3,7	-1,2	-1,9	0,4	5,0	-2,3	-1,1	-1,1	0,4	-1,3
Traditional goods	5,8	-8,2	3,1	0,7	0,0	0,4	-5,1	-1,6	-0,4	-8,6
Crude oil and natural gas	3,2	3,8	-4,7	0,9	8,9	-6,0	4,2	-1,4	0,9	0,5
Ships. oil platforms and planes	-25,0	81,6	-22,9	-22,9	34,2	2,7	-6,6	31,0	7,6	140,2
Services	3,3	-4,0	-1,5	-0,3	3,5	1,4	-5,7	-0,8	0,3	-1,7
Total use of goods and services	1,6	0,9	1,0	-0,1	0,7	-0,6	1,5	-0,5	-0,5	0,5
Total imports	1,6	0,3	4,9	-2,2	-2,2	3,2	1,6	-1,8	-0,5	-1,5
Traditional goods	1,9	-0,6	3,8	-0,9	-3,5	3,6	0,8	-2,1	-0,9	0,1
Crude oil and natural gas	-1,3	-15,9	-3,1	-11,0	-18,0	20,4	4,0	-22,1	11,1	-40,0
Ships. oil platforms and planes	-11,7	10,6	92,4	-21,6	1,5	-17,5	39,6	-3,3	21,4	-33,7
Services	2,5	1,4	2,4	-2,0	0,2	3,7	0,3	-0,3	-2,3	1,0
Gross domestic product (market prices)	1,6	1,0	-0,2	0,5	1,5	-1,7	1,4	-0,1	-0,6	1,1
Gross domestic product Mainland Norway (market prices)	1,1	0,8	0,3	0,1	0,1	-0,1	0,3	0,5	0,1	0,3
Petroleum activities and ocean transport	3,7	1,8	-1,9	2,3	7,5	-7,9	6,1	-2,3	-3,2	4,3
Mainland Norway (basic prices)	1,1	0,6	0,2	0,2	0,0	-0,3	0,3	0,4	0,1	0,4
Mainland Norway excluding general government	0,8	0,1	0,2	0,1	-0,2	-0,6	0,2	0,4	0,1	0,3
Manufacturing and mining	-3,2	-4,5	-1,8	-1,4	-2,5	-1,7	-0,4	-1,0	-1,3	0,1
Production of other goods	2,8	2,4	0,9	2,0	1,1	-1,5	2,8	-0,9	0,2	0,7
Services incl. dwellings (households)	1,1	0,4	0,4	0,0	-0,1	-0,2	-0,3	0,9	0,3	0,2
General government	1,8	2,0	0,4	0,3	0,5	0,7	0,5	0,2	0,4	0,7
Taxes and subsidies products	1,5	2,6	0,5	-0,3	0,8	0,8	0,4	1,3	-0,2	0,0

Source: Statistics Norway.

Table 12. National accounts: Final expenditure and gross domestic product. Price indices. 2014=100

	Unadjusted		Seasonally adjusted							
	2015*	2016*	15.1	15.2	15.3	15.4	16.1	16.2	16.3	16.4
Final consumption expenditure of households and NPISHs	102,3	105,6	101,4	101,4	102,0	103,3	104,6	105,4	105,7	105,8
Final consumption expenditure of general government	103,0	105,3	102,0	102,9	103,1	103,9	104,8	104,7	105,6	106,1
Gross fixed capital formation	102,6	104,5	101,8	103,0	101,6	103,8	103,6	104,9	105,2	104,4
Mainland Norway	102,7	105,1	101,4	102,2	103,0	104,0	103,8	104,7	106,0	106,0
Final domestic use of goods and services	102,3	104,8	102,0	101,9	101,5	103,6	104,7	104,4	105,2	105,0
Final demand from Mainland Norway	102,5	105,4	101,6	102,0	102,5	103,6	104,5	105,1	105,7	105,9
Total exports	92,1	84,1	94,0	94,3	93,3	87,5	82,1	83,9	83,3	86,2
Traditional goods	102,3	106,7	102,7	102,5	102,1	101,9	102,7	106,3	106,5	111,5
Total use of goods and services	99,2	98,6	99,6	99,6	99,0	98,6	97,9	98,3	98,6	99,4
Total imports	104,2	105,7	103,6	103,9	105,7	104,3	106,8	106,7	106,7	104,3
Traditional goods	104,7	106,0	103,9	104,2	105,3	105,4	105,5	106,3	106,1	106,4
Gross domestic product (market prices)	97,7	96,5	98,4	98,3	97,0	96,9	95,2	95,8	96,2	98,0
Gross domestic product Mainland Norway (market prices)	102,3	105,1	101,5	102,0	102,4	103,0	104,3	104,5	105,3	105,7

Source: Statistics Norway.

Table 13. National accounts: Final expenditure and gross domestic product. Price indices. Percentage change from previous period

	Unadjusted		Seasonally adjusted							
	2015*	2016*	15.1	15.2	15.3	15.4	16.1	16.2	16.3	16.4
Final consumption expenditure of households and NPISHs	2,3	3,3	0,9	0,0	0,6	1,4	1,2	0,8	0,3	0,0
Final consumption expenditure of general government	3,0	2,3	0,8	0,9	0,2	0,7	0,9	-0,2	0,8	0,5
Gross fixed capital formation	2,6	1,9	0,7	1,1	-1,4	2,2	-0,2	1,2	0,3	-0,7
Mainland Norway	2,7	2,4	0,1	0,8	0,7	1,0	-0,2	0,9	1,2	0,0
Final domestic use of goods and services	2,3	2,4	1,0	-0,2	-0,4	2,1	1,0	-0,3	0,8	-0,2
Final demand from Mainland Norway	2,5	2,8	0,7	0,4	0,5	1,1	0,9	0,5	0,6	0,2
Total exports	-7,9	-8,7	-1,9	0,3	-1,0	-6,3	-6,1	2,2	-0,8	3,5
Traditional goods	2,3	4,3	0,6	-0,2	-0,4	-0,2	0,8	3,5	0,2	4,7
Total use of goods and services	-0,8	-0,6	0,2	0,0	-0,6	-0,3	-0,7	0,4	0,3	0,8
Total imports	4,2	1,4	1,7	0,3	1,7	-1,3	2,3	-0,1	0,0	-2,2
Traditional goods	4,7	1,2	2,0	0,3	1,0	0,1	0,1	0,8	-0,2	0,3
Gross domestic product (market prices)	-2,3	-1,2	-0,3	-0,1	-1,3	-0,1	-1,7	0,6	0,4	1,9
Gross domestic product Mainland Norway (market prices)	2,3	2,8	0,5	0,5	0,4	0,6	1,2	0,2	0,8	0,4

Source: Statistics Norway.

Statistics Norway

Postal address:
PO Box 8131 Dept
NO-0033 Oslo

Office address:
Akersveien 26, Oslo
Oterveien 23, Kongsvinger

E-mail: ssb@ssb.no
Internet: www.ssb.no
Telephone: + 47 62 88 50 00

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