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Economic commentaries

Developments in consumer prices since 2009

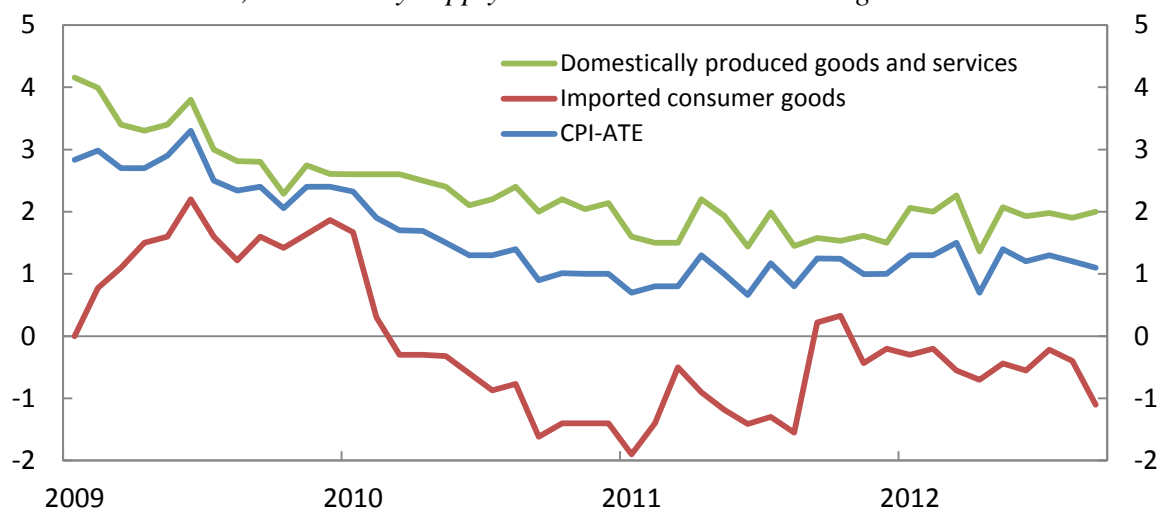
*by Kjetil Martinsen and Njål Stensland, Monetary Policy**

Developments in consumer prices since 2009

1. Introduction

In 2009, consumer price inflation adjusted for tax changes and excluding energy products (CPI-ATE) was 2.6 percent. Inflation has since slowed (see Chart 1), hovering around 1 percent for the past two years. The aim of this *Economic Commentary* is to explore the decrease in consumer price inflation since 2009. The analysis is limited to key subcomponents of the CPI-ATE, given developments in assumed primary economic driving forces such as labour costs, productivity, the krone exchange rate and import prices.

Chart 1: CPI-ATE, total and by supply sector. Twelve-month change. Percent



Source: Statistics Norway

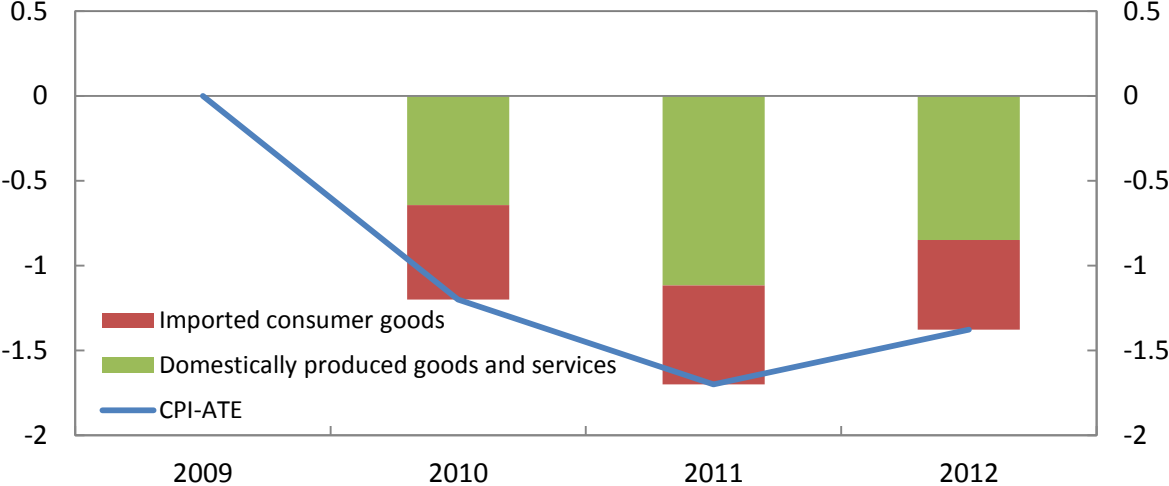
The rise in consumer prices can be broken down by supply sector. Imported consumer goods make up about 28 percent of the CPI-ATE, while domestically produced goods and services make up 72 percent. The rise in prices for imported consumer goods has been negative since 2010, pushing down total CPI-ATE inflation (see Chart 1). The rise in prices for domestically produced goods and services in the CPI-ATE has slowed from a good 3 percent in 2009 to below 2 percent so far in 2012. Around one-third of the decrease in CPI-ATE inflation since 2009 is due to developments in prices for imported consumer goods, while the remaining two thirds can be attributed to domestically produced goods and services (see Chart 2).

2. Prices for imported consumer goods

Prices for imported goods are largely determined by foreign prices for these goods and by the exchange rate. Norges Bank has constructed an indicator for external price impulses in foreign currency (EPC).¹ The index is based on changes in prices for each group of imported goods to ensure that the composition of both countries and goods in the index reflects actual imports of consumer goods over time.

¹ See "External price impulses to imported consumer goods" by Johan Ø. Røstøen, Monetary Policy, Norges Bank, in *Economic Bulletin* 3/2004.

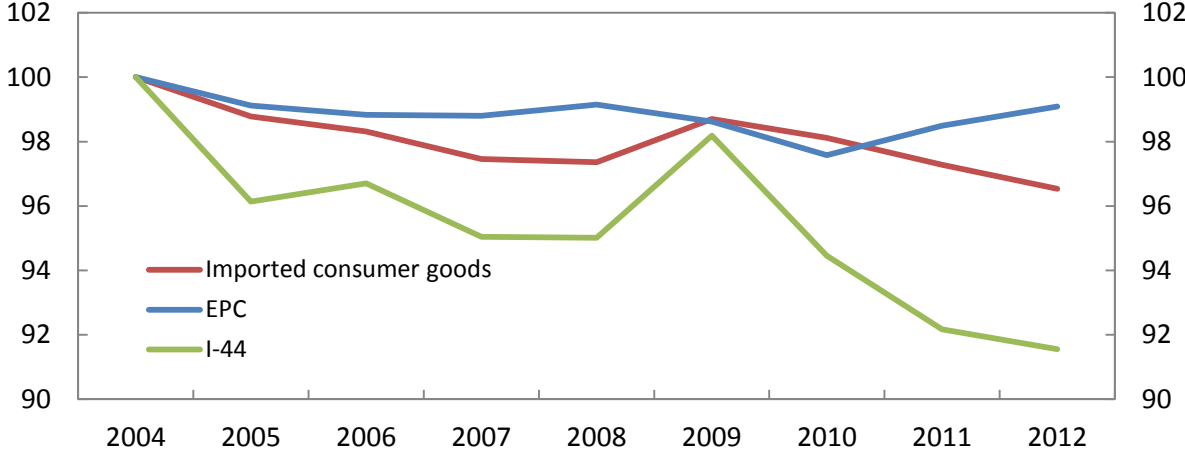
Chart 2: Change in the CPI-ATE since 2009 and contribution to the change from prices for imported consumer goods and domestically produced goods and services. Annual change¹⁾. Percentage points



1) For 2012: Average twelve-month change to end-September
Sources: Statistics Norway and Norges Bank

As shown in Chart 3, external price impulses to Norwegian consumer prices have been zero or negative in recent years, reflecting moderate global inflation and a shift in trading patterns towards increased imports from low-cost countries. The index for external price impulses is at about the same level now as in 2009. Import prices in the CPI-ATE are measured in NOK and are thus also affected by changes in the krone exchange rate. The Norwegian krone has appreciated in recent years. The krone exchange rate, as measured by the import-weighted exchange rate index (I-44), has so far this year been more than 3 percent stronger than the average for 2010. Compared with 2009 during the financial crisis, the krone has appreciated by about 7 percent. The appreciation of the krone is contributing to the fall in prices for imported consumer goods in NOK.

Chart 3: External price impulses to Norwegian consumer prices (EPC), import-weighted exchange rate (I-44) and prices for imported consumer goods (CPI-ATEIMP). Index. 2004 = 100



Sources: Statistics Norway and Norges Bank

Even though prices for imported consumer goods are also affected by transport and distribution costs, such as domestic labour costs and wholesale and retail margins, the fall in these prices since 2009 can largely be attributed to a stronger krone and weak external price impulses.

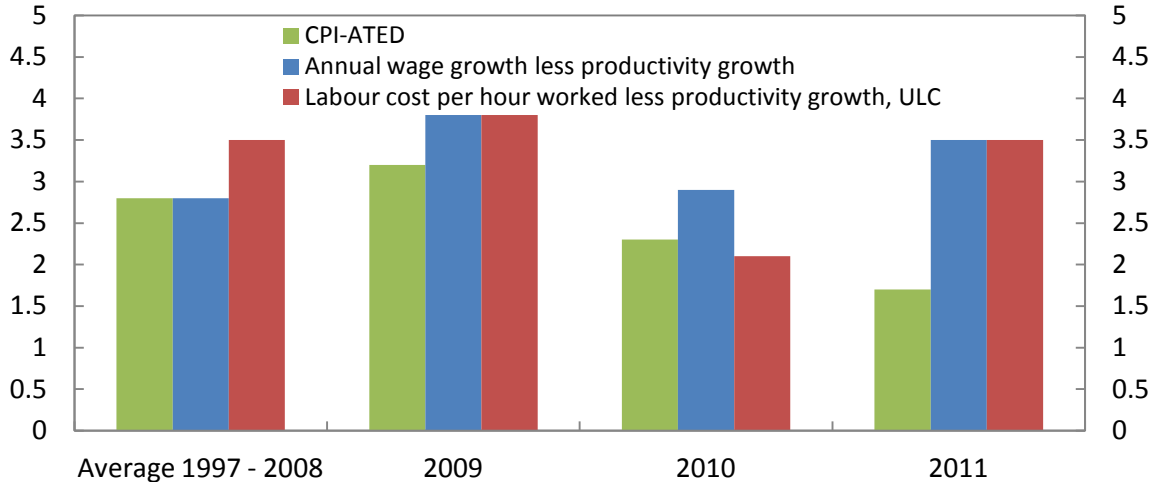
3. Prices for domestically produced goods and services

The rise in labour costs in Norwegian firms is an important factor behind the rise in prices for domestically produced goods and services. Higher wages that are not offset by higher labour productivity will drive up unit labour costs. To maintain profitability, firms can either reduce other costs or raise prices to increase their margins.²

Chart 4 shows cost growth in the Norwegian economy and the rise in prices for domestically produced goods and services. We have used two measures of cost growth. The red bars show growth in labour costs per hour worked less productivity growth. By this measure, costs have risen considerably faster than prices for domestically produced goods and services, with the exception of 2010, when cost inflation was slightly lower (see Chart 4). The blue bars in Chart 4 show annual wage growth, as measured by the Technical Reporting Committee on Income Settlements (TBU), less productivity growth. By this measure, costs have risen on average at the same pace as prices for domestically produced goods and services in the period 1997–2008.

The rise in prices for domestically produced goods and services has on average been lower than cost inflation in recent years, irrespective of the measure applied. In 2011, the difference was close to 2 percentage points. If prices for domestically produced goods and services had increased at the same rate as costs, the CPI-ATE would have risen by about 2 percent in 2011, given import prices. This is about 1 percentage point higher than the actual rise in prices.

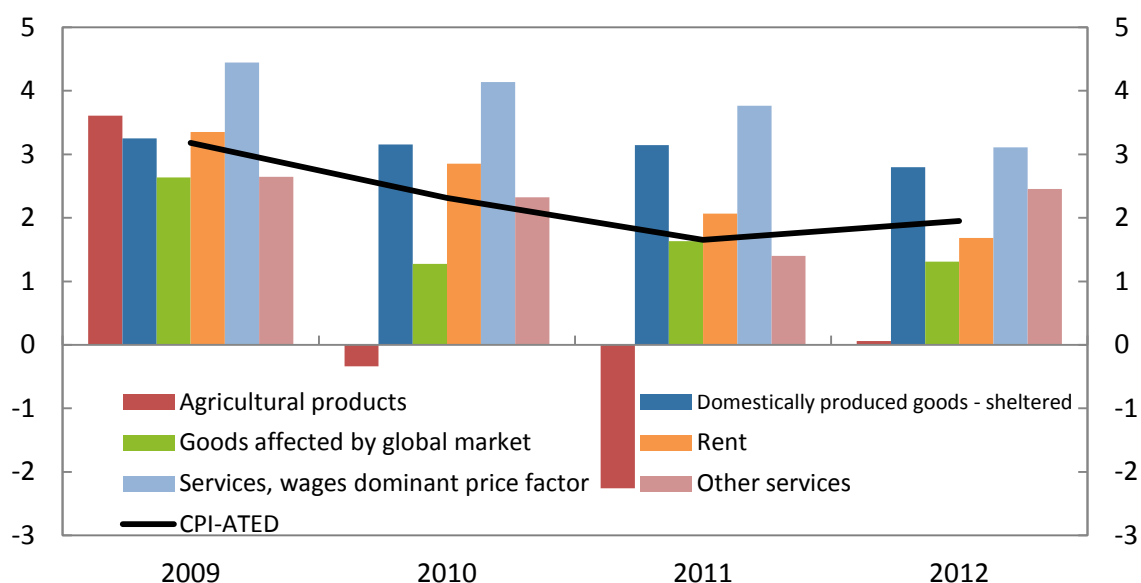
Chart 4: The rise in the domestically produced goods and services (CPI-ATED), growth in unit labour costs (ULCs) mainland Norway and annual wage growth less productivity growth. Annual growth. Percent



Sources: Statistics Norway, TBU and Norges Bank

² A common assumption in a theoretical model for price setting is that firms have some degree of market power in the pricing of their products (monopolistic competition). They will therefore set their prices as a (variable) markup on top of marginal costs. Unit labour costs are commonly used as a measure of marginal costs.

Chart 5: Rise in prices for domestically produced goods and services (CPI-ATED) by supply sector. Annual change.¹⁾ Percent



1) For 2012: Average twelve-month change to end-September

Sources: Statistics Norway and Norges Bank

Domestically produced goods and services can be broken down into subgroups. As shown in Chart 5 and Table 1, the rise in prices differs widely across the different groups. On the one hand, the rise in prices for sheltered goods and for services with wages as the dominant price factor is relatively high and close to the cost inflation. On the other hand, the rise in prices for domestic agricultural products, rent and goods affected by global market, through the import content of production or competitiveness, is low.

Table 1: CPI-ATE by supply sector. Annual change. Percent

	2011	So far in 2012 ³	Weight
CPI-ATE	1.0	1.2	100
Imported consumer goods	-0.9	-0.5	27.8
Domestically produced goods and services	1.7	1.9	72.2
Of which			
Agricultural products	-2.3	0.1	6.4
Fish products	3.7	1.3	1.3
Sheltered goods	3.2	2.8	4.4
Goods affected by global market	1.6	1.1	10.4
Rent	2.1	1.7	19.4
Services with wages as the dominant price factor	3.8	3.1	6.8
Services with other important price components	1.4	2.5	23.6

Agricultural products

Prices for domestic agricultural products have fallen in recent years. In the same period, producer prices for agricultural products have shown a marked increase. This may indicate that the fall in prices can be attributed to factors not related to the annual agricultural agreement (between farmers' unions and the government), such as keen price competition

³ Average twelve-month change to end-September 2012.

among grocery chains, as reflected in frequent promotions. Furthermore, the emergence of store brands may have led to increased price competition and a focus on costs.⁴ The actual rise in food prices may also have been somewhat higher than captured by the CPI-ATE.⁵

Goods affected by global market

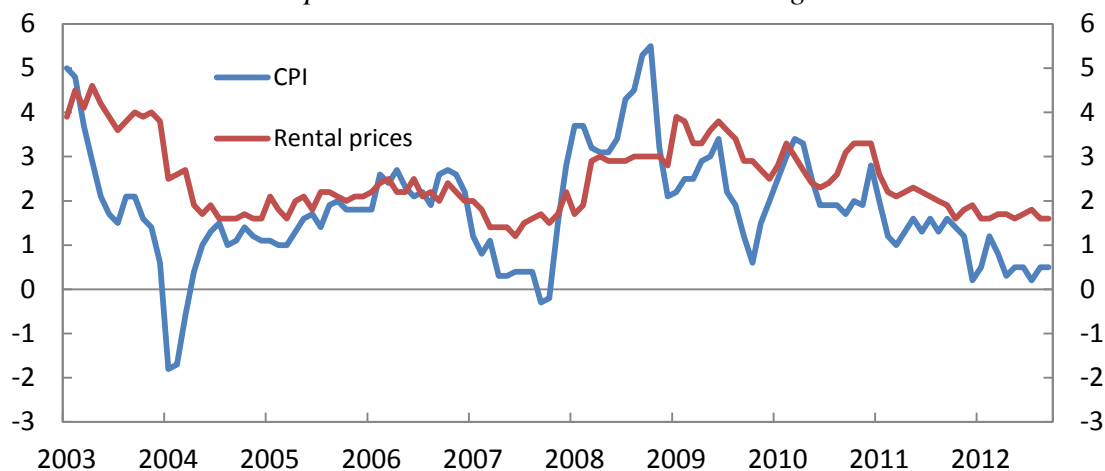
Prices for some domestically produced goods and services are affected by external developments, through the import content of production or through competition. The rise in prices for goods of this type has, in recent years, been substantially lower than the rise in costs and was 1.6 percent in 2011. For enterprises that produce goods or services with import content, a stronger krone and low inflation abroad may increase operating margins and profitability. This may reduce the need to raise prices.

Lower labour costs among Norway's trading partners and a strong krone result in a low rise in prices for imported goods. As a result, Norwegian firms that face competition in the domestic market from foreign suppliers have limited scope for raising their prices. Over time, this can reduce operating margins and weaken profitability.

Rent

Rental price inflation, as measured in the consumer price index, has been falling over the past few years and has slowed from 3.5 percent in 2009 to 1.7 percent so far in 2012. Rental prices are influenced by developments in general consumer price inflation, CPI. The effect on rent of changes in consumer prices usually occurs with a lag (see Chart 6). A slower rise in rental prices has pulled down the rise in domestically produced goods and services below the level suggested by the increase in costs in isolation.

Chart 6: CPI and rental prices in the CPI. Twelve-month change. Percent



Source: Statistics Norway

Services may have price components other than wages

For services that have other important price components other than wages, the rise in prices has also been lower than the rise in costs in the Norwegian economy. However, there are wide variations across industries. Prices for telecommunications services are falling, which likely reflects the competitive environment. Prices for hotel services are also falling, which may be

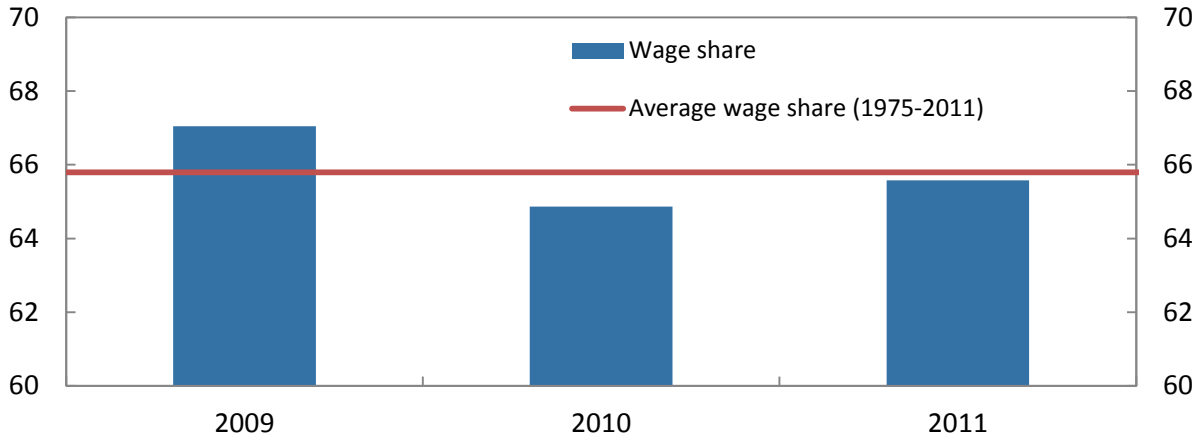
⁴ See "Dagligvarehandel og mat 2010" [The Norwegian grocery trade and food 2010], Norwegian Agricultural Economics Research Institute. In Norwegian with brief summary in English.

⁵ See "Skjevheter i prisindeksen for matvarer og alkoholfrie drikkevarer?" [Distortions in the price index for food products and non-alcoholic beverages?] at <http://www.ssb.no>. In Norwegian only.

due to developments abroad and increased hotel capacity. The rise in prices for social care services such as day care and after-school programmes is relatively low. This may reflect in part the substantial element of government regulated prices in these services. For other types of services, price increases are closely in line with wage growth. This applies, for example, to restaurant meals, financial services and transport services.

A faster increase in costs than in prices will normally be reflected in reduced operating margins and higher labour cost shares in firms. Chart 7 shows that the total wage share for the Norwegian economy fell between 2009 and 2010, but edged up between 2010 and 2011. Developments in the wage share may suggest that operating margins in Norwegian firms overall are not under as much pressure as Chart 4 appears to indicate. This can be attributed to a number of factors.

Chart 7: Wage share for mainland Norway excluding public sector. Percent



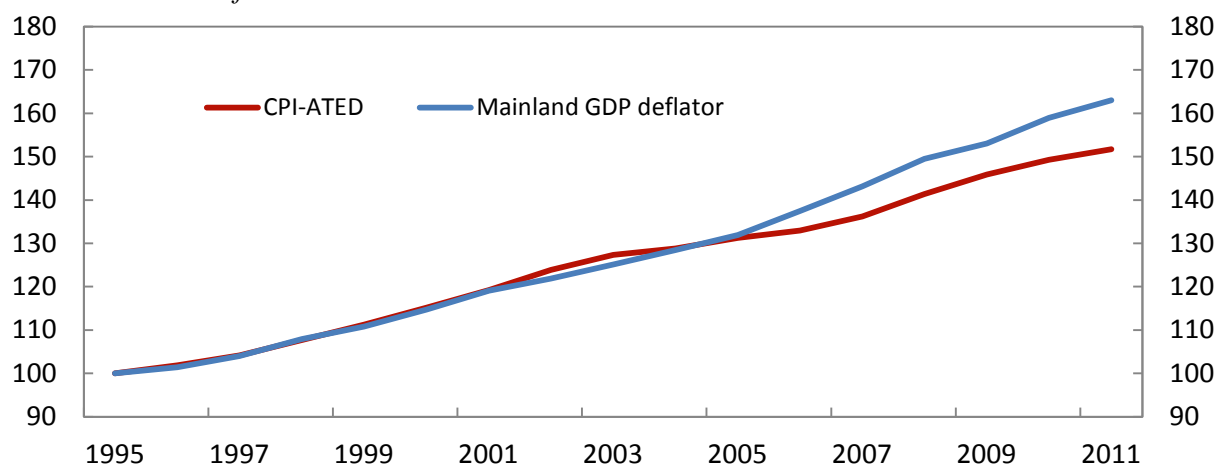
Sources: Statistics Norway and Norges Bank

Labour immigration accounted for as much as 70 percent of employment growth in 2011.⁶ High labour immigration may have affected productivity growth in the Norwegian economy. Employment growth is particularly high in sectors with a relatively low level of productivity as capital stock per employee in these sectors is low, such as the construction, health and service sectors. An aggregate measure of productivity growth does not therefore necessarily provide an accurate picture of developments in productivity in sectors that are important to consumer price inflation.

The mainland GDP deflator differs from the consumer price index in that it is based on price increases in the entire economy. Chart 8 shows that in recent years, the GDP deflator has risen faster than prices for domestically produced goods and services. This indicates that inflation in parts of the economy is higher than what is reflected in consumer prices for domestically produced goods and services. This is reflected in part by the improvement over time in mainland terms of trade, which is the ratio of export prices to import prices, thus enabling Norwegian firms to maintain high wage and cost levels.

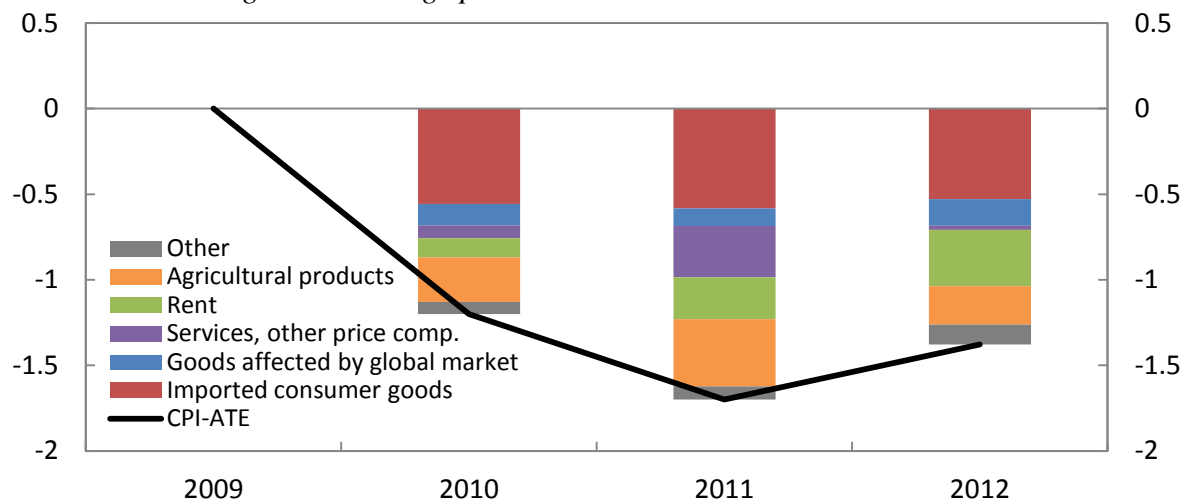
⁶ National Budget for 2013.

Chart 8: Rise in prices for domestically produced goods and services (CPI-ATED) and mainland GDP deflator. Index. 1995=100



Source: Statistics Norway

Chart 9: Change in CPI-ATE inflation since 2009 and contribution to the change by supply sector. Annual change.¹⁾ Percentage points.



1) For 2012: Average twelve-month change to end-September

Sources: Statistics Norway and Norges Bank

4. Conclusion

This article has explored how developments in key subcomponents of the CPI-ATE have contributed to the decrease in consumer price inflation in recent years. We find that around one-third of the decrease in CPI-ATE inflation since 2009 is due to developments in prices for imported consumer goods, while the remaining two thirds can be attributed to domestically produced goods and services.

Prices for imported consumer goods have fallen since 2010. This has pushed down overall consumer price inflation (see Chart 9). The fall in prices for these goods can largely be explained by a stronger krone exchange rate and weak external price impulses. The rise in prices for domestically produced goods and services has slowed since 2009. Prices for domestically produced goods and services have, in recent years, risen at a slower pace than implied by the rise in labour costs. This can be attributed to a number of factors. Prices for some domestically produced goods and services are affected by external developments, through import content in production or through competition, for example. In addition, prices for domestic agricultural products have fallen in recent years, probably reflecting the

competitive situation in the grocery sector. Developments in rental prices are also holding down the rise in prices for domestically produced goods and services.