

Boysen-Hogrefe, Jens et al.

**Article**

## German Economy Winter 2015 - The German economy is regaining momentum

Kiel Institute Economic Outlook, No. 14

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# German Economy

## Winter 2015

*Kiel Institute Economic Outlook No. 14 (2015|Q4)*

## The German economy is regaining momentum

Jens Boysen-Hogrefe, Salomon Fiedler, Dominik Groll, Nils Jannsen, Stefan Kooths,  
Martin Plödt and Galina Potjagailo

*German GDP is expected to increase by 1.8 percent (2015), 2.2 percent (2016), and 2.3 percent (2017). With capacity utilization currently being at normal levels, Germany is on the road to overheating in the next years. GDP growth is backed by high growth rates in private consumption. In addition to the strong labor market that comes along with increasing employment and wages, temporary factors, such as low oil prices, lower income taxes, and higher transfer payments are further stimulating consumption in the current and the next year. Moreover, with increasing capacity utilization and very favorable financing conditions investment is expected to pick up over the forecast horizon. Exports are expected to regain momentum after a weak second half of the current year due to solid GDP growth in other advanced economies and strong gains in price competitiveness due to the depreciation of the euro. Additional government expenditures due to the high number of refugees will stimulate GDP growth somewhat but will not become a main driver of business cycle dynamics in Germany.*

- **Germany is regaining momentum after showing some weakness in autumn.** Industrial production has been weak in the last months following sluggish exports. October figures are indicating at best a moderate increase in GDP in the fourth quarter. However, business confidence is still at reasonably high levels and increasing. This is particularly true for the service sector where firms' assessment of the current business situation is the best since the German reunification boom. Moreover, additional government expenditures associated with the high inflow of refugees are expected to stimulate GDP growth for the time being. Overall, we expect GDP to grow by 0.5 percent in the fourth quarter.
- **Opening the labor market as fast as possible is key for the medium-run macroeconomic impact of the unprecedented influx of refugees.** In our forecast, we assume that about 2.7 million refugees will arrive in Germany from 2015 to 2017 (2015: 1.1 million, 2016: 1 million, 2017: 0.6 million). Currently, their impact on the real economy works mainly via triggering additional public expenditures. These additional government expenditures will stimulate GDP growth temporarily, however, without becoming a main driver of business cycle dynamics in Germany. The medium- to long-run macroeconomic impact crucially depends on how fast the refugees will become available for the labor market and how fast they find employment. At the current juncture, they are facing significant legal and practical constraints. First, the legal procedures necessary to be granted asylum are expected to take about one year on average. Second, the minimum wage may be a significant obstacle for many refugees to get a job if their productivity is lower (e.g., due to skill mismatches or low language skills). The more these obstacles are reduced, the more favorable will be the medium-run outlook with regard to the refugee influx.

- **Private consumption is still the main driver of economic expansion in Germany.** Private consumption is expected to increase by 2 percent (2015), 2.3 percent (2016), and 2.2 percent (2017) due to strong growth in real disposable income of private households. The main driver of income growth is the strong labor market, which is reflected in increasing employment numbers and rising wages. Moreover, temporary factors are further stimulating real disposable income. While the slump in oil prices and the introduction of the minimum wage were important factors this year, a decline in income taxes and a strong increase in pension payments will temporarily stimulate growth in private consumption next year.
- **Foreign trade will pick up after a weak second half of this year.** Exports almost stagnated in the third quarter, and monthly indicators signal only moderate growth for the fourth quarter even though export expectations and foreign business confidence increased somewhat in November. Next year, export growth should gain momentum with foreign demand, in particular in other advanced economies, accelerating somewhat and with higher price competitiveness due to the depreciation of the euro. Imports are expected to grow with somewhat higher rates over the whole forecasting horizon because the upswing in Germany is driven mainly by domestic factors, increasing the demand for imports. Exports are expected to increase by 5.6 percent (2015), 5.2 percent (2016), and 6.4 percent (2017). Imports are expected to increase by 6 percent (2015), 6.7 percent (2016), and 7.6 percent (2018). Net exports will contribute 0.2 percentage points to GDP growth this year, and subtract 0.2 percentage points next year while being neutral in 2017.
- **Gross Fixed Capital Formation is expected to pick up but to grow only with moderate rates.** After a soft patch in the middle of the year, we expect GFCF growth to pick up in the fourth quarter. Short-run indicators signal that residential investment and construction will rebound in the fourth quarter. With very low interest rates and increasing demand for living space the outlook for residential investment is very good anyway. Also, growth in business investment is expected to accelerate with increasing capacity utilization over the forecast horizon. However, we expect business investment to grow somewhat less pronounced than in earlier upswings. The reason is that the somewhat sluggish investment activity in the recent years seems not only to be caused by a series of temporary dampening factors (such as high uncertainty) but mirrors also a weaker pattern of GFCF response to higher capacity utilization.
- **After a record high budget surplus in the current year, the budget will be by and large balanced in 2016 and 2017.** Expenditures for managing the influx of refugees are considerably higher than expected some months ago. So far, there are no signs that the government is planning to raise taxes or to cut other expenditures to finance these additional expenditures. However, public investment is also expected to increase. Gross public debt is expected to decline from about 75 percent (relative to GDP) in 2014 to about 65 percent in 2017.

**Table 1:**  
**Key indicators, 2014–2017**

	2014	2015	2016	2017
Gross domestic product (GDP), price-adjusted	1.6	1.8	2.2	2.3
Gross domestic product, deflator	1.7	2.0	1.8	1.8
Consumer prices	0.9	0.3	1.2	1.8
Labor productivity (per hour worked)	0.4	0.6	1.2	1.4
Employment (1,000 persons)	42,703	43,027	43,441	43,870
Unemployment rate (percent)	6.7	6.4	6.3	6.3
<i>In relation to nominal GDP</i>				
Public sector net lending	0.3	0.9	0.1	0.2
Gross public debt	74.9	70.9	68.2	64.7
Current account balance	7.3	8.8	8.7	8.5

GDP, consumer prices, labor productivity: percentage change on previous year; unemployment rate: as defined by the Federal Employment Agency.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; Federal Employment Agency, *Monthly Bulletin*; Federal Employment Agency, *Employment Statistics*; shaded: IfW forecast.

## Data annex

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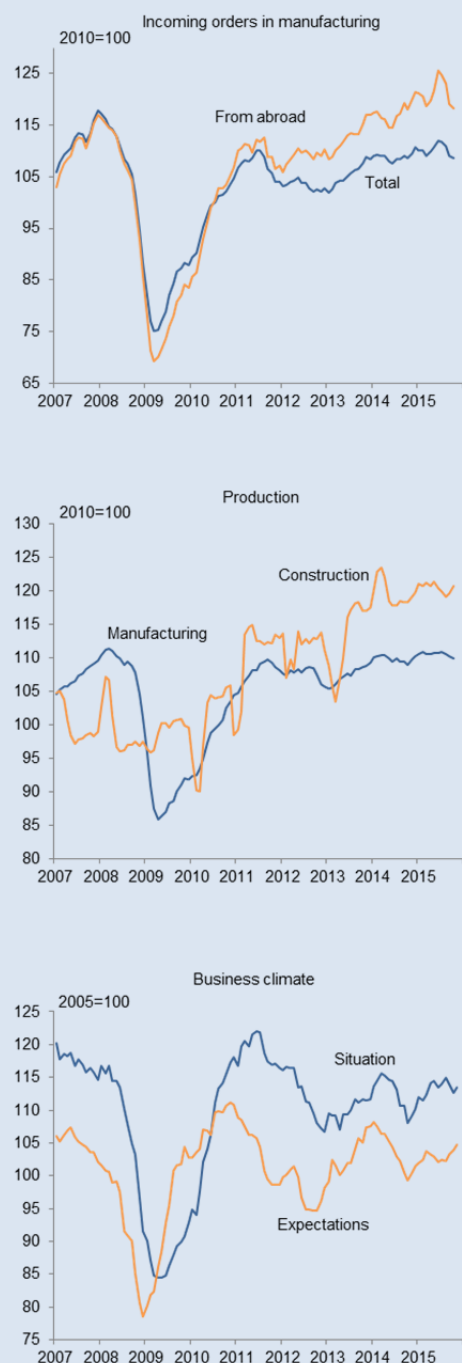
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## 1. Leading indicators

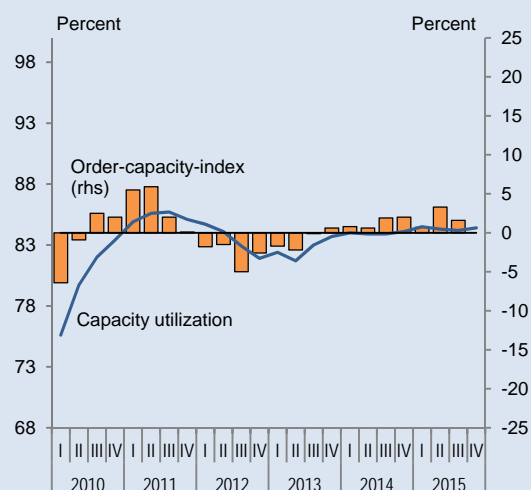
**Figure 1.1:**  
Leading indicators, 2007–2015



Monthly data, seasonally adjusted; incoming orders in manufacturing and production: 3-month moving average.

Source: Deutsche Bundesbank, *Saisonbereinigte Wirtschaftszahlen*; ifo, *Konjunkturperspektiven*; own calculations.

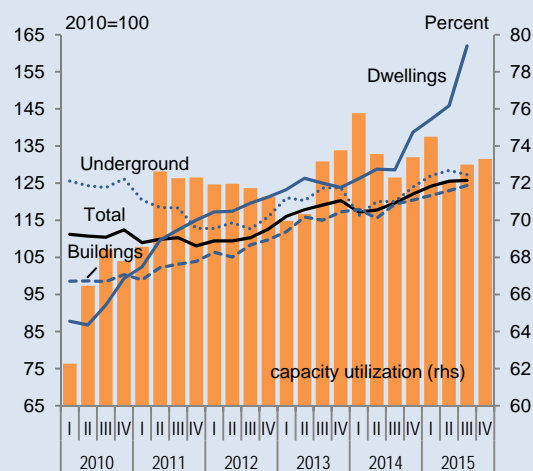
**Figure 1.2:**  
Capacity utilization, 2010–2015



Quarterly data, seasonally adjusted; capacity utilization in manufacturing (axes cross at normal capacity utilization).

Source: EU Commission, Business Survey; Deutsche Bundesbank, *Monthly Report*.

**Figure 1.3:**  
Order stocks and capacity utilization in construction industry, 2010–2015



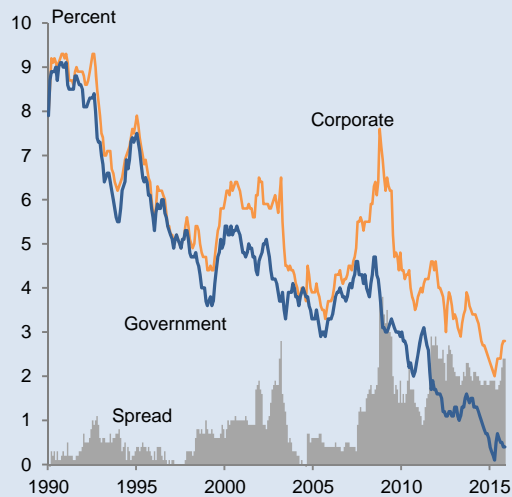
Quarterly data. Capacity utilization: seasonally adjusted (2014-Q4: october/november); order stocks: price, seasonally and working-day adjusted.

Source: Federal Statistical Office, *GENESIS database*; ifo, *Konjunkturperspektiven*.



## 2. Monetary conditions and prices

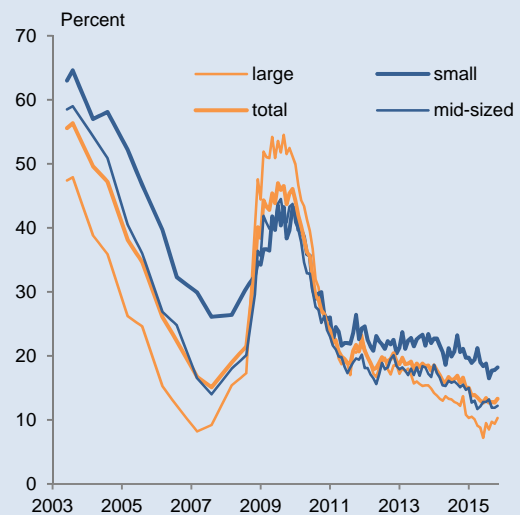
**Figure 2.1:**  
Bond yields, 1990–2015



Monthly data, corporate bonds: maturing within 3 years; government bonds: maturing within 5 years.

Source: Deutsche Bundesbank, *Monthly Reports*; own calculations.

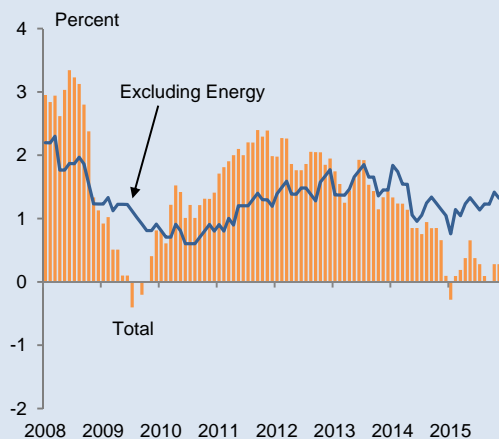
**Figure 2.2:**  
Credit constraints by firm size, 2003–2015



Monthly data since November 2008; share of firms assessing that credit access is restrictive.

Source: ifo, *Credit Constraint Indicator*.

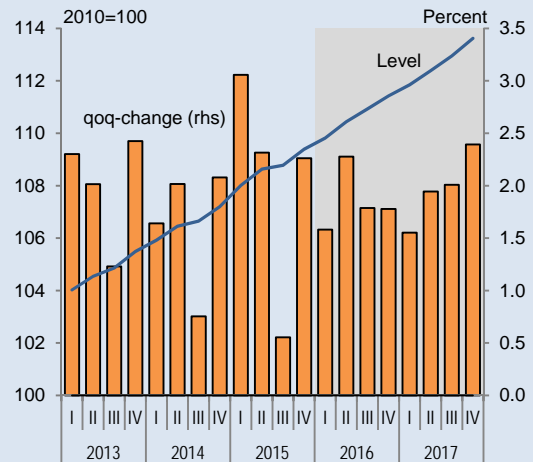
**Figure 2.3:**  
Consumer prices, 2008–2015



Monthly data, seasonally adjusted; year-on-year change.

Source: Deutsche Bundesbank, *Seasonally adjusted business statistics*; own calculations.

**Figure 2.4:**  
GDP deflator, 2013–2017



Quarterly data, seasonally and working-day adjusted, annualized.

Source: Federal Statistical Office, *Fachserie 18, Series 1.3*; own calculations; shaded: IfW forecast.



**Table 2.1:**  
**Projections and assumptions on the international environment, 2014–2017**

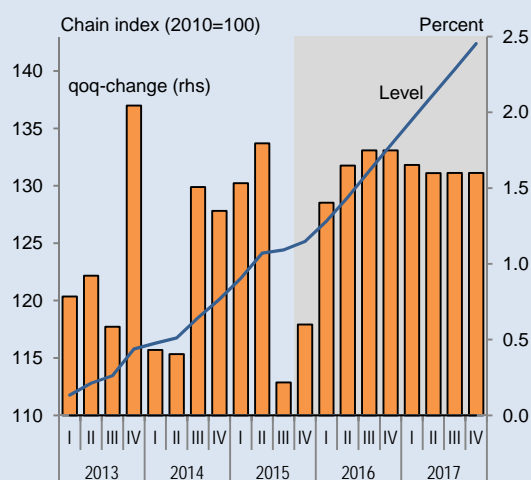
	2014				2015				2016				2017			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
ECB key interest rate	0.25	0.23	0.10	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Long-term interest rate	1.7	1.4	1.1	0.8	0.4	0.5	0.6	0.5	0.6	0.6	0.7	0.8	0.9	0.9	1.0	1.0
US-dollar/euro exchange rate	1.37	1.37	1.33	1.25	1.13	1.10	1.12	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Price competitiveness	87.1	87.2	86.1	85.5	83.1	82.4	83.2	82.7	82.4	82.2	82.0	81.8	81.7	81.8	81.9	82.0
Export markets	0.3	0.4	0.6	0.5	0.6	0.5	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Oil price	107.9	109.8	102.1	76.0	54.1	62.1	49.9	45.0	45.1	47.0	50.0	52.0	54.0	57.0	60.0	62.0

ECB key interest rate: main refinancing operations; long-term interest rate on 9–10 year bonds; price competitiveness: against 36 trading partners, based on the deflators of total sales, index: 1991:I = 100, increasing values indicate deterioration of price competitiveness; export markets: GDP growth in 41 countries, weighted with shares in German exports, change over previous quarter. Oil Price: US-Dollar per barrel North Sea Brent.

Source: ECB, *Monthly Bulletin*; Deutsche Bundesbank, *Monthly Bulletin*; IMF, *International Financial Statistics*; own calculations; shaded: IfW forecast or assumption.

### 3. External trade

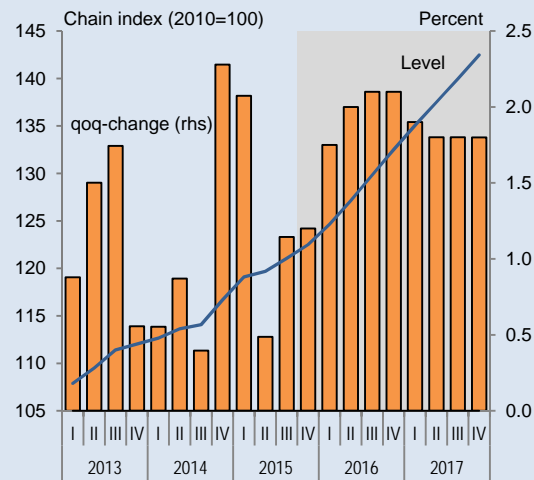
**Figure 3.1:**  
Exports, 2013–2017



Quarterly data, volumes, seasonally and working-day adjusted.

Source: Federal Statistical Office, *Fachserie 18*, Series 1.3; shaded: IfW forecast.

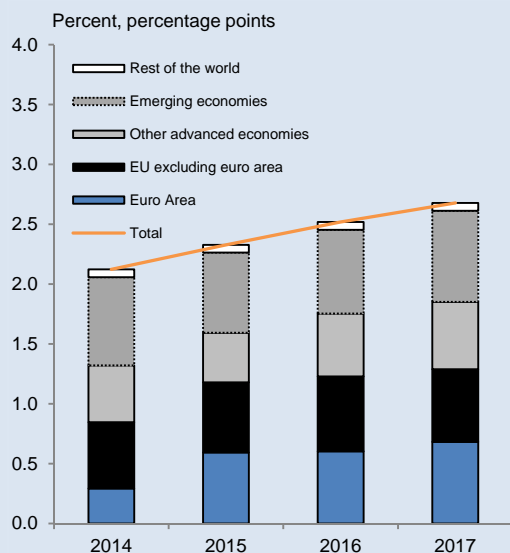
**Figure 3.2:**  
Imports, 2013–2017



Quarterly data, volumes, seasonally and working-day adjusted.

Source: Federal Statistical Office, *Fachserie 18*, Series 1.3; shaded: IfW forecast.

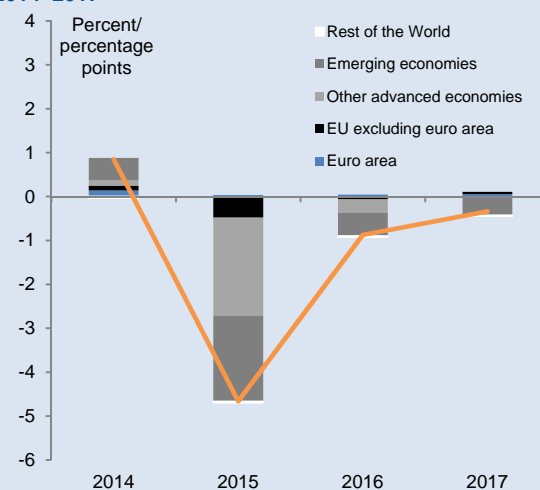
**Figure 3.3:**  
German export markets, 2014–2017



Annual data, volumes; GDP growth in 59 countries, weighted with shares in German exports.

Sources: Statistisches Bundesamt; national sources; 2015–2017: IfW forecast.

**Figure 3.4:**  
Germany's price competitiveness (56 countries, CPI), 2014–2017



Annual data; against 56 countries based on consumer prices; weights according to German's price competitiveness indicator against 56 trading partners based on consumer price indices of the Deutsche Bundesbank.

Source: Deutsche Bundesbank; national sources; 2015–2017: IfW forecast.

**Figure 3.5:**  
**Export indicators, 2001–2015**

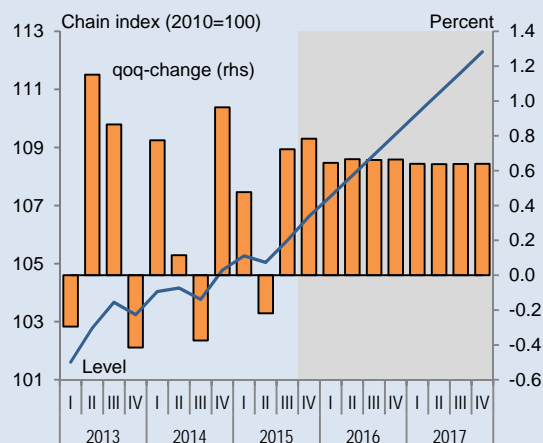


Quarterly data; Exports, industrial production, order inflow: volumes, change on previous year; Export expectations, Foreign orders on hand: volumes; Business expectations, industrial production: Based on 41 countries weighted by shares of German exports.

Source: Deutsche Bundesbank, *Saisonbereinigte Wirtschaftszahlen* (ong. vols); Thomson Financial Datastream; ifo, *Konjunkturperspektiven* (lfd. Jgg.); own calculations.

## 4. Domestic expenditure

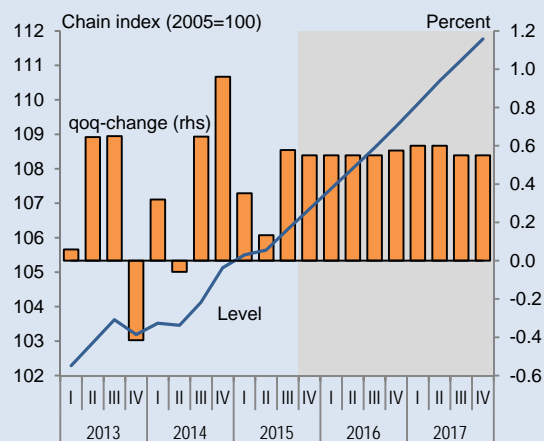
**Figure 4.1:**  
Domestic expenditure, 2013–2017



Quarterly data, volumes, seasonally and working-day adjusted.

Source: Federal Statistical Office, *Fachserie 18, Series 1.3*; shaded: IfW forecast.

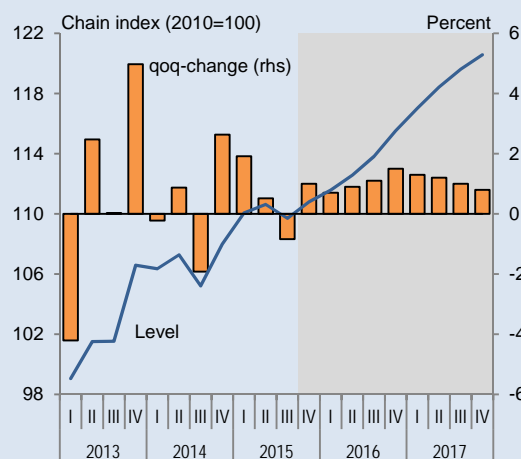
**Figure 4.2:**  
Private consumption, 2013–2017



Quarterly data, volumes, seasonally and working-day adjusted.

Source: Federal Statistical Office, *Fachserie 18, Series 1.3*; shaded: IfW forecast.

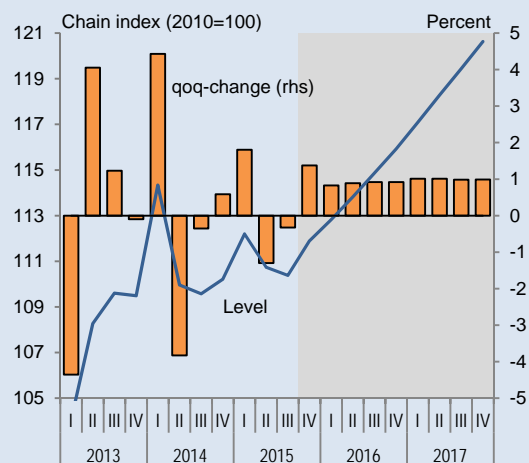
**Figure 4.3:**  
M & E Investments, 2013–2017



Quarterly data, volumes, seasonally and working-day adjusted.

Source: Federal Statistical Office, *Fachserie 18, Series 1.3*; shaded: IfW forecast.

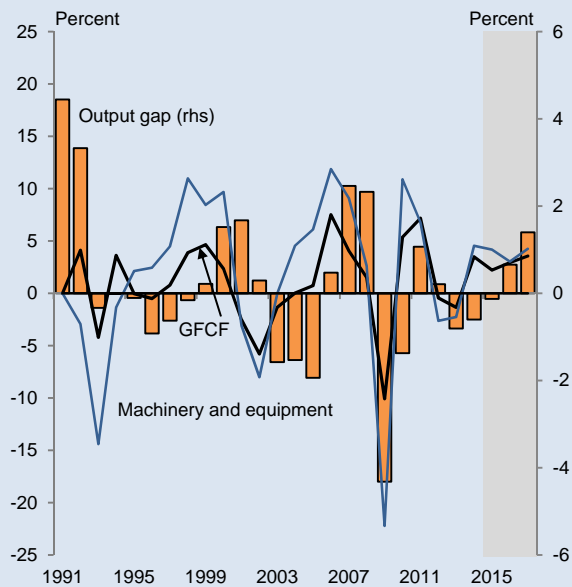
**Figure 4.4:**  
Constructions, 2013–2017



Quarterly data, volumes, seasonally and working-day adjusted.

Source: Federal Statistical Office, *Fachserie 18, Series*; shaded: IfW forecast.

**Figure 4.5:**  
Investment cycles, 1991–2017



Annual data; GFCF, machinery and equipment: volumes, change on previous year; output gap: in percent of potential output.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; own calculations; shaded: IfW forecast.

**Table 4.1:**  
Gross fixed capital formation, 2014–2017

	2014	2015	2016	2017
Total	3.5	2.2	2.9	3.6
Corporate investment	3.7	2.4	2.6	3.4
Machinery and equipment	4.5	4.2	3.0	4.3
Construction (non-dwellings)	2.3	-2.1	1.4	1.9
Other	3.1	2.7	2.7	3.0
Dwellings	3.3	2.7	3.6	4.0
Public (nondwellings)	2.7	-1.9	3.6	3.3
Memorandum item:				
Construction	2.9	0.8	3.0	3.3

Volumes; change over previous year in percent.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; shaded: IfW forecast.

## 5. Industries

**Table 5.1:**  
**Gross value added for industries 2015–2016**

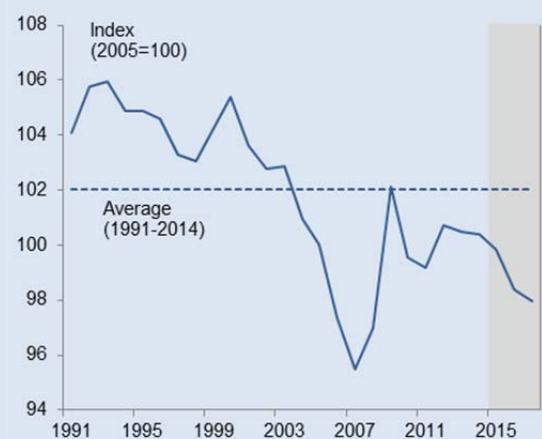
	2015			2016		
	II	III	IV	I	II	III
	Seasonally and calendar adjusted, quarter-on-quarter change in percent					
Gross domestic product	0.4	0.3	0.5	0.6	0.6	0.6
Gross value added	0.3	0.2	0.5	0.6	0.6	0.6
Industry excluding construction	0.8	-0.1	-0.2	0.5	0.7	0.7
Manufacturing	0.6	-0.2	-0.2	0.5	0.7	0.7
Construction	-1.0	-0.7	1.3	1.0	1.0	1.0
Trade, transport, accommodation, and food services	-0.4	0.3	1.0	0.8	0.8	0.8
Information and communication	1.9	0.8	1.6	1.3	1.2	1.2
Financial and insurance services	-1.5	-0.6	-0.2	-0.2	-0.2	-0.2
Real estate activities	0.4	0.9	0.5	0.5	0.5	0.5
Business services	1.3	0.5	1.1	0.8	0.7	0.7
Public services, education, health	-0.4	0.2	0.6	0.5	0.5	0.5
Other services	0.4	0.1	0.1	0.2	0.2	0.2

Quarterly data, volumes.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2 and 1.3*; shaded: IfW forecast.

## 6. Wages

**Figure 6.1:**  
Real unit labor costs, 1991–2017



Yearly data; compensation of employees per hour (nominal) in relation to gross value added per hour (nominal).

Source: Federal Employment Agency, *Fachserie 18, Series 1.2*; shaded: IfW forecast.

**Table 6.1:**  
Wages and productivity, 2014–2017

	2014	2015	2016	2017
<i>Per hour</i>				
Negotiated wages	3.0	2.4	2.6	2.9
Gross wages and salaries	2.1	2.4	2.2	3.2
Wage drift	-0.9	0.0	-0.4	0.3
Compensation of employees	2.0	2.2	2.1	3.0
Labor productivity	0.4	0.6	1.2	1.4
Unit labor costs	1.7	1.6	0.9	1.6
Unit labor costs (real)	-0.1	-0.4	-0.9	-0.2
<i>Per capita</i>				
Negotiated wages	2.9	2.4	2.6	2.9
Gross wages and salaries	2.7	2.9	2.3	3.0
Wage drift	-0.2	0.6	-0.3	0.1
Compensation of employees	2.6	2.8	2.1	2.9
Labor productivity	0.7	1.0	1.3	1.3
Unit labor costs	1.9	1.8	0.9	1.6
Unit labor costs (real)	0.2	-0.2	-0.9	-0.3

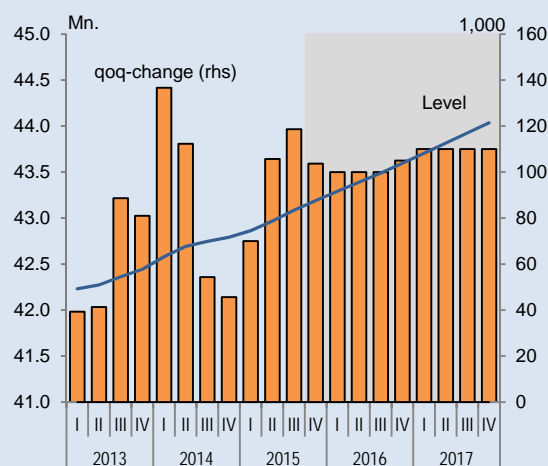
Change over previous year in percent; wage drift: difference between change of negotiated wages and change of gross wages and salaries in percentage points; labor productivity: real GDP per hour or per capita; unit labor costs: compensation of employees (per hour or per capita) in relation to labor productivity; unit labor costs (real): unit labor costs deflated by GDP deflator.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; Deutsche Bundesbank, *Negotiated Pay Rate Statistics*; shaded: IfW forecast.



## 7. Employment

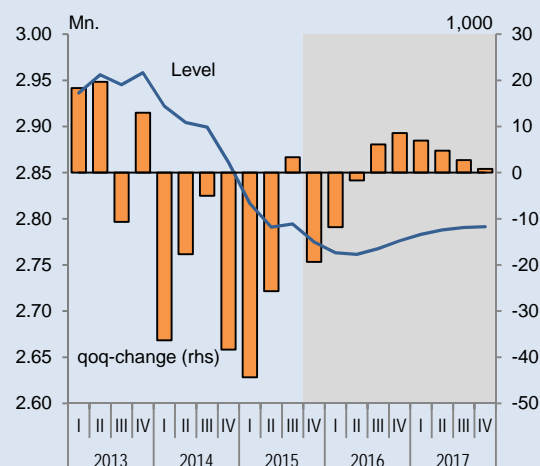
**Figure 7.1:**  
Employment, 2013–2017



Quarterly data, seasonally adjusted.

Source: Federal Statistical Office, *Fachserie 18, Series 1.3*; shaded: IfW forecast.

**Figure 7.2:**  
Unemployment, 2013–2017



Quarterly data, seasonally adjusted.

Source: Federal Employment Agency, *Monthly Bulletin*; shaded: IfW forecast.

**Table 7.1:**  
Employment, 2013–2017 (1,000 persons)

	2013	2014	2015	2016	2017
Hours worked (domestic concept, mn. hours)	57,639	58,349	59,037	59,636	60,188
Persons in employment (domestic concept)	42,328	42,703	43,027	43,441	43,870
Self-employed	4,459	4,397	4,301	4,255	4,215
Employees (domestic concept)	37,869	38,305	38,726	39,186	39,655
Employees subject to social security contributions	29,729	30,219	30,801	31,154	31,649
Minijobs	5,018	5,028	4,843	4,811	4,811
Net commuting	59	63	68	67	67
Persons in employment (national concept)	42,269	42,639	42,959	43,375	43,804
Employees (national concept)	37,810	38,242	38,658	39,120	39,589
Unemployed persons (registered)	2,949	2,897	2,794	2,767	2,788
Unemployment rate (registered; percent)	6.9	6.7	6.4	6.3	6.3
Unemployment rate (ILO; percent)	4.9	4.7	4.3	4.0	3.7

Self-employed: including family workers; unemployed persons (registered): definition of the Federal Employment Agency (BA).

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; Federal Employment Agency, *Monthly Bulletin*; Federal Employment Agency, *Employment Statistics*; shaded: IfW forecast.

## 8. Public finances

**Table 8.1:**  
Revenues and expenditures of the general government, 2013–2017 (bn. euro)

	2013	2014	2015	2016	2017
<b>Revenues</b>	<b>1,252.5</b>	<b>1,299.6</b>	<b>1,351.4</b>	<b>1,389.3</b>	<b>1,447.6</b>
➤ relative to GDP	44.4	44.6	44.6	44.0	44.0
Taxes	637.4	659.6	692.9	712.2	744.4
➤ relative to GDP	22.6	22.6	22.9	22.6	22.6
Social contributions	464.9	481.9	501.3	518.2	541.6
➤ relative to GDP	16.5	16.5	16.6	16.4	16.5
Other revenues	150.1	158.1	157.2	159.0	161.6
➤ relative to GDP	5.3	5.4	5.2	5.0	4.9
<b>Expenditures</b>	<b>1,255.6</b>	<b>1,290.7</b>	<b>1,322.9</b>	<b>1,387.1</b>	<b>1,441.8</b>
➤ relative to GDP	44.5	44.3	43.7	44.0	43.8
Compensation of employees	218.6	224.6	231.6	239.1	245.9
Intermediate consumption	135.0	138.6	143.0	148.4	153.9
Social transfers in kind	227.1	240.1	254.4	273.0	286.8
Gross capital formation	63.5	63.2	64.3	67.0	70.4
Capital transfers	56.0	51.5	46.7	43.7	42.5
Social benefits	438.6	451.0	471.3	497.5	519.2
Subsidies	24.4	25.5	26.5	27.2	27.9
Other current transfers	63.0	61.6	62.2	62.1	65.8
Other capital transfers and investment grants	30.6	35.9	29.3	30.4	30.8
Other expenditures	-1.3	-1.3	-6.5	-1.3	-1.3
<b>Net lending/net borrowing</b>	<b>-3.1</b>	<b>8.9</b>	<b>28.4</b>	<b>2.2</b>	<b>5.7</b>
➤ relative to GDP	-0.1	0.3	0.9	0.1	0.2
<b>Revenues of central, state, and local governments</b>	<b>814.7</b>	<b>845.1</b>	<b>877.7</b>	<b>899.4</b>	<b>934.8</b>
Net of transfers from social security funds	813.6	844.0	876.6	898.3	933.8
Transfers from social security funds	1.0	1.1	1.1	1.1	1.1
<b>Expenditures of central, state, and local governments</b>	<b>823.1</b>	<b>839.5</b>	<b>851.0</b>	<b>898.1</b>	<b>932.4</b>
Net of transfers to social security funds	722.3	737.7	748.1	790.5	820.9
Transfers to social security funds	100.8	101.8	103.0	107.5	111.5
<b>Net lending/net borrowing central, state, and local government</b>	<b>-8.5</b>	<b>5.6</b>	<b>26.6</b>	<b>1.3</b>	<b>2.4</b>
<b>Revenues of social security funds</b>	<b>539.7</b>	<b>557.4</b>	<b>577.7</b>	<b>598.6</b>	<b>625.4</b>
Net of transfers from central, state, and local governments	438.9	455.7	474.8	491.1	513.8
<b>Expenditures of social security funds</b>	<b>534.3</b>	<b>554.1</b>	<b>575.9</b>	<b>597.7</b>	<b>622.1</b>
Net of transfers to central, state, and local governments	533.3	553.0	574.9	596.6	621.0
<b>Net lending/net borrowing social security funds</b>	<b>5.3</b>	<b>3.4</b>	<b>1.8</b>	<b>0.9</b>	<b>3.3</b>

Sums may deviate due to rounding.

Source: Federal Statistical Office, *internal worksheet*; shaded: IfW forecast.

## 9. GDP and its components

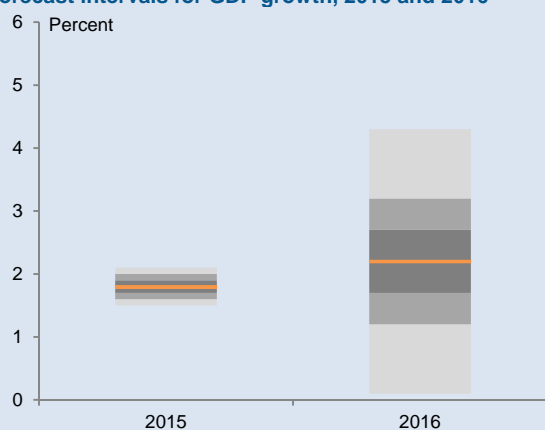
**Table 9.1:**  
Quarterly data, 2015–2017

	2015				2016				2017			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Gross domestic product	0.3	0.4	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Private consumption	0.4	0.1	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.5	0.6
Government consumption	0.4	0.7	1.3	1.2	0.9	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Machinery and equipment	1.9	0.5	-0.8	1.0	0.7	0.9	1.1	1.5	1.3	1.2	1.0	0.8
Constructions	1.8	-1.3	-0.3	1.4	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.0
Other investment	0.8	0.7	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.7	0.7	0.6
Change in inventories	-0.1	-0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Domestic expenditure	0.5	-0.2	0.7	0.8	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.6
Exports	1.5	1.8	0.2	0.6	1.4	1.6	1.7	1.7	1.7	1.6	1.6	1.6
Imports	2.1	0.5	1.1	1.2	1.8	2.0	2.1	2.1	1.9	1.8	1.8	1.8
Net exports	-0.1	0.6	-0.4	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment (domestic)	42,862	42,968	43,086	43,190	43,290	43,390	43,490	43,595	43,705	43,815	43,925	44,035
Unemployment (registered)	2,818	2,792	2,794	2,775	2,763	2,761	2,768	2,776	2,783	2,788	2,791	2,791

Volumes, seasonally and working-day adjusted. Change on previous quarter in percent; change in inventories, net exports: Lundberg component (contribution to GDP growth); employment, unemployment: seasonally adjusted, 1,000 persons; unemployment: as defined by the Federal Employment Agency (BA).

Source: Federal Statistical Office, *Fachserie 18, Series 1.3*; Federal Employment Agency, *Monthly Bulletin*; shaded: IfW forecast.

**Figure 9.1:**  
Forecast intervals for GDP growth, 2015 and 2016



GDP: volumes, change over previous year. Point forecasts: orange lines. Forecast intervals gray shaded areas with confidence levels of 33, 66, and 95 percent. Confidence levels calculated based on historical forecast errors of the Kiel Institute in the fourth quarter 1994–2013.

Source: Own calculations.

## 10. The German Economy, 2014–2017

	2015	2014	2015	2016	2017
	€ bill.	Change over previous year in percent			
GDP (constant prices)		1.6	1.8	2.2	2.3
Private consumption expenditure		0.9	2.0	2.3	2.2
Public consumption expenditure		1.7	2.7	3.5	2.1
Total fixed investment		3.5	2.2	2.9	3.6
Machinery and equipment		4.5	4.2	3.0	4.3
Construction		2.9	0.8	3.0	3.3
Other equipment		3.1	2.7	2.7	3.0
Changes in stocks		-0.3	-0.5	-0.1	0.0
Domestic Demand		1.3	1.6	2.6	2.5
Exports		4.0	5.6	5.2	6.4
Imports		3.7	6.0	6.7	7.6
Net exports		0.4	0.2	-0.2	0.0
GDP (current prices)	3,027.0	3.4	3.8	4.1	4.2
Private consumption expenditure	1,634.1	1.9	2.6	3.5	3.8
Public consumption expenditure	589.5	4.1	4.5	5.3	4.1
Total fixed investment	606.1	5.0	3.6	4.7	5.8
Machinery and equipment	198.6	4.7	4.6	3.6	5.0
Construction	299.1	5.2	2.5	5.4	6.6
Other equipment	108.4	4.8	4.7	4.7	5.1
Changes in stocks (€ bill.)		-22.0	-39.6	-44.9	-45.5
Domestic Demand	2,790.0	2.6	2.6	4.0	4.3
Exports	1,422.7	3.9	6.7	5.3	7.9
Imports	1,185.7	2.1	4.3	5.3	9.0
Net exports (€ bill.)		196.4	237.0	248.8	255.1
Gross national income	3,093.3	3.5	3.7	4.0	4.2
Deflator of GDP		1.7	2.0	1.8	1.8
Private consumption expenditure		0.9	0.7	1.1	1.6
Public consumption expenditure		2.3	1.8	1.7	2.0
Investment in machinery and equipment		0.2	0.4	0.5	0.7
Investment in construction		2.3	1.7	2.4	3.2
Investment in other equipment		1.6	2.0	2.0	2.0
Exports		-0.1	1.0	0.0	1.4
Imports		-1.6	-1.6	-1.2	1.2
<i>Addendum: Consumer prices</i>		0.9	0.3	1.2	1.8
Income distribution					
National income	2,265.0	3.8	4.1	4.4	4.6
Employment income	1,543.9	3.8	3.9	3.4	4.1
in percent of national income		68.3	68.2	67.5	67.2
Entrepreneurial and property income	721.1	3.8	4.4	6.6	5.6
Disposable income of private households	1,759.6	2.3	2.9	3.6	3.6
Savings rate		9.5	9.7	9.7	9.5
Wages and salaries	1,263.0	3.9	4.1	3.5	4.2
Wage per hour		2.1	2.4	2.2	3.2
Unit labor costs		1.7	1.6	0.9	1.6
Productivity per hour		0.4	0.6	1.2	1.4
Unemployment (1000)		2,897	2,794	2,767	2,788
Rate of unemployment (percent)		6.7	6.4	6.3	6.3
Total employment (1000)		42,703	43,027	43,441	43,870
Public sector budget balance (€ bill.)		8.9	28.4	2.2	5.7
Public sector budget balance (in percent of GDP)		0.3	0.9	0.1	0.2
Government debt (in percent of GDP)		74.9	70.9	68.2	64.7
Change in stocks, net exports: contribution to GDP growth.					

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; shaded: IfW forecast.

## 11. National accounts

Forecast period: 2014 to 2016

	2015	2016	2017	2016		2017	
				H1	H2	H1	H2
1. Production							
Change over the same period of the preceding year in %							
Persons in employment	0.8	1.0	1.0	1.0	0.9	1.0	1.0
Hours worked	1.2	1.0	0.9	1.6	0.5	0.9	0.9
Hours worked by person in employment	0.4	0.1	- 0.1	0.6	- 0.5	- 0.1	- 0.1
Labor productivity <sup>1</sup>	0.6	1.2	1.4	0.9	1.6	1.5	1.2
Gross domestic product, price-adjusted	1.8	2.2	2.3	2.4	2.0	2.4	2.2

### 2. Use of gross domestic product at current prices

a) EUR bn.

Consumption expenditure	2 223.6	2 311.9	2 401.3	1 125.0	1 186.9	1 167.7	1 233.6
Private households <sup>2</sup>	1 634.1	1 691.4	1 755.2	824.8	866.6	854.7	900.5
Government	589.5	620.5	646.1	300.2	320.3	313.1	333.1
Gross fixed capital formation	606.1	634.5	671.3	302.7	331.8	321.4	349.9
Machinery and equipment	198.6	205.7	215.9	97.2	108.5	102.8	113.1
Construction	299.1	315.3	336.0	150.3	165.0	160.6	175.5
Other products	108.4	113.6	119.4	55.2	58.4	58.0	61.3
Changes in inventories <sup>3</sup>	- 39.6	- 44.9	- 45.5	- 10.6	- 34.3	- 9.5	- 36.0
Domestic expenditure	2 790.0	2 901.5	3 027.1	1 417.1	1 484.4	1 479.7	1 547.5
Net exports	237.0	248.8	255.1	127.2	121.6	130.4	124.7
Exports	1 422.7	1 497.9	1 616.0	730.0	767.9	791.0	825.1
Imports	1 185.7	1 249.1	1 360.9	602.8	646.3	660.5	700.4
<b>Gross domestic product</b>	<b>3 027.0</b>	<b>3 150.4</b>	<b>3 282.2</b>	<b>1 544.4</b>	<b>1 606.0</b>	<b>1 610.1</b>	<b>1 672.1</b>

b) Change over the same period of the preceding year in %

Consumption expenditure	3.1	4.0	3.9	4.1	3.8	3.8	3.9
Private households <sup>2</sup>	2.6	3.5	3.8	3.5	3.5	3.6	3.9
Government	4.5	5.3	4.1	5.7	4.8	4.3	4.0
Gross fixed capital formation	3.6	4.7	5.8	4.3	5.0	6.2	5.4
Machinery and equipment	4.6	3.6	5.0	3.2	3.9	5.7	4.3
Construction	2.5	5.4	6.6	4.9	5.9	6.8	6.4
Other products	4.7	4.7	5.1	4.6	4.9	5.2	5.0
Domestic expenditure	2.6	4.0	4.3	4.0	4.0	4.4	4.2
Exports	6.7	5.3	7.9	4.5	6.0	8.3	7.4
Imports	4.3	5.3	9.0	4.1	6.5	9.6	8.4
<b>Gross domestic product</b>	<b>3.8</b>	<b>4.1</b>	<b>4.2</b>	<b>4.2</b>	<b>4.0</b>	<b>4.3</b>	<b>4.1</b>

### 3. Use of gross domestic product, price-adjusted (chain-linked, 2010=100)

a) EUR bn.

Consumption expenditure	2 063.7	2 118.4	2 163.9	1 038.2	1 080.2	1 060.1	1 103.8
Private households <sup>2</sup>	1 532.9	1 568.9	1 603.1	767.2	801.7	783.3	819.8
Government	530.6	549.1	560.4	270.8	278.3	276.6	283.9
Gross fixed capital formation	558.5	575.0	595.6	275.0	300.0	285.9	309.6
Machinery and equipment	194.7	200.6	209.2	94.4	106.3	99.0	110.1
Construction	264.5	272.4	281.5	130.8	141.6	135.5	146.0
Other products	99.6	102.2	105.3	49.9	52.4	51.4	53.9
Domestic expenditure	2 586.7	2 654.0	2 720.3	1 307.5	1 346.5	1 341.5	1 378.8
Exports	1 354.0	1 424.9	1 515.6	696.5	728.4	744.8	770.7
Imports	1 155.0	1 232.1	1 326.3	595.7	636.4	645.4	680.9
<b>Gross domestic product</b>	<b>2 784.5</b>	<b>2 846.9</b>	<b>2 912.2</b>	<b>1 407.8</b>	<b>1 439.0</b>	<b>1 441.6</b>	<b>1 470.6</b>

b) Change over the same period of the preceding year in %

Consumption expenditure	2.2	2.7	2.1	2.9	2.4	2.1	2.2
Private households <sup>2</sup>	2.0	2.3	2.2	2.5	2.2	2.1	2.3
Government	2.7	3.5	2.1	4.1	2.9	2.1	2.0
Gross fixed capital formation	2.2	2.9	3.6	2.8	3.1	4.0	3.2
Machinery and equipment	4.2	3.0	4.3	2.7	3.3	5.0	3.6
Construction	0.8	3.0	3.3	2.9	3.0	3.6	3.1
Other products	2.7	2.7	3.0	2.5	2.8	3.2	2.9
Domestic expenditure	1.6	2.6	2.5	2.7	2.5	2.6	2.4
Exports	5.6	5.2	6.4	4.8	5.6	6.9	5.8
Imports	6.0	6.7	7.6	6.0	7.3	8.3	7.0
<b>Gross domestic product</b>	<b>1.8</b>	<b>2.2</b>	<b>2.3</b>	<b>2.4</b>	<b>2.0</b>	<b>2.4</b>	<b>2.2</b>

**National Accounts (cont.)**

Forecast period: 2014 to 2016

	2015	2016	2017	2016		2017	
				H1	H2	H1	H2

**4. Deflators (2010=100)**

Change on the same period of the preceding year in %

Private consumption <sup>2</sup>	0.7	1.1	1.6	1.0	1.3	1.5	1.6
Government consumption	1.8	1.7	2.0	1.6	1.8	2.1	1.9
Gross fixed capital formation	1.3	1.7	2.2	1.4	1.9	2.1	2.2
Machinery and equipment	0.4	0.5	0.7	0.5	0.6	0.7	0.7
Construction	1.7	2.4	3.2	1.9	2.8	3.1	3.2
Exports	1.0	0.0	1.4	- 0.3	0.4	1.3	1.5
Imports	- 1.6	- 1.2	1.2	- 1.8	- 0.7	1.1	1.3
<b>Gross domestic product</b>	<b>2.0</b>	<b>1.8</b>	<b>1.8</b>	<b>1.7</b>	<b>1.9</b>	<b>1.8</b>	<b>1.9</b>

**5. National income**

a) EUR bn.

Primary income of private households <sup>2</sup>	2 122.9	2 188.1	2 274.8	1 073.8	1 114.3	1 113.9	1 160.9
Employers social contributions	280.9	288.7	299.8	139.8	148.8	145.0	154.9
Gross wages and salaries	1 263.0	1 307.1	1 361.9	624.8	682.3	648.9	713.0
Other primary income <sup>4</sup>	579.0	592.4	613.1	309.2	283.2	320.0	293.1
Primary income of other sectors	439.3	482.1	514.8	219.3	262.8	238.2	276.6
<b>Net national income</b>	<b>2 562.2</b>	<b>2 670.3</b>	<b>2 789.7</b>	<b>1 293.1</b>	<b>1 377.2</b>	<b>1 352.1</b>	<b>1 437.6</b>
Consumption of fixed capital	531.1	546.4	562.6	272.0	274.4	279.9	282.6
<b>Gross national income</b>	<b>3 093.3</b>	<b>3 216.6</b>	<b>3 352.2</b>	<b>1 565.1</b>	<b>1 651.5</b>	<b>1 632.0</b>	<b>1 720.2</b>
memorandum item:							
Net national income (factor costs)	2 265.0	2 364.7	2 474.1	1 142.0	1 222.7	1 196.1	1 278.0
Property and entrepreneurial income	721.1	769.0	812.4	377.4	391.6	402.2	410.2
Compensation of employees	1 543.9	1 595.7	1 661.7	764.6	831.1	793.9	867.8

b) Change over the same period of the preceding year in %

Primary income of private households <sup>2</sup>	3.3	3.1	4.0	3.0	3.1	3.7	4.2
Employers social contributions	3.4	2.8	3.9	3.0	2.6	3.7	4.1
Gross wages and salaries	4.1	3.5	4.2	3.9	3.2	3.9	4.5
... per employee	2.9	2.3	3.0	2.6	2.0	2.7	3.2
Other primary income <sup>4</sup>	1.6	2.3	3.5	1.5	3.2	3.5	3.5
Primary income of other sectors	7.2	9.8	6.8	10.8	8.9	8.6	5.3
<b>Net national income</b>	<b>4.0</b>	<b>4.2</b>	<b>4.5</b>	<b>4.3</b>	<b>4.2</b>	<b>4.6</b>	<b>4.4</b>
Consumption of fixed capital	2.6	2.9	3.0	2.9	2.9	2.9	3.0
<b>Gross national income</b>	<b>3.7</b>	<b>4.0</b>	<b>4.2</b>	<b>4.0</b>	<b>3.9</b>	<b>4.3</b>	<b>4.2</b>
memorandum item:							
Net national income (factor costs)	4.1	4.4	4.6	4.4	4.4	4.7	4.5
Property and entrepreneurial income	4.4	6.6	5.6	6.0	7.3	6.6	4.7
Compensation of employees	3.9	3.4	4.1	3.7	3.0	3.8	4.4

**6. Disposable income of private households <sup>2</sup>**

a) EUR bn.

Mass income	1 264.7	1 317.5	1 366.5	634.5	683.0	657.7	708.9
Net wages and salaries	838.4	869.8	900.9	411.4	458.5	424.2	476.7
Social benefits other than social transfers in kind	525.8	552.0	573.6	274.6	277.4	287.1	286.5
less: Levies on social benefits, taxes on consumption	99.5	104.3	108.1	51.5	52.8	53.7	54.4
Other primary income <sup>4</sup>	579.0	592.4	613.1	309.2	283.2	320.0	293.1
Other transfers received (net) <sup>5</sup>	- 84.1	- 87.4	- 92.3	- 42.1	- 45.3	- 44.5	- 47.8
<b>Disposable income</b>	<b>1 759.6</b>	<b>1 822.5</b>	<b>1 887.3</b>	<b>901.5</b>	<b>921.0</b>	<b>933.1</b>	<b>954.2</b>
Change in pension entitlements	50.6	51.6	52.7	25.5	26.2	26.0	26.7
Consumption expenditure	1 634.1	1 691.4	1 755.2	824.8	866.6	854.7	900.5
Saving	176.1	182.7	184.8	102.1	80.6	104.5	80.4
Saving ratio (%) <sup>6</sup>	9.7	9.7	9.5	11.0	8.5	10.9	8.2

b) Change over the same period of the preceding year in %

Mass income	3.9	4.2	3.7	4.5	3.9	3.7	3.8
Net wages and salaries	3.8	3.7	3.6	4.2	3.3	3.1	4.0
Social benefits other than social transfers in kind	4.0	5.0	3.9	4.8	5.1	4.6	3.3
less: Levies on social benefits, taxes on consumption	3.9	4.8	3.6	4.3	5.3	4.2	3.0
Other primary income <sup>4</sup>	1.6	2.3	3.5	1.5	3.2	3.5	3.5
<b>Disposable income</b>	<b>2.9</b>	<b>3.6</b>	<b>3.6</b>	<b>3.5</b>	<b>3.7</b>	<b>3.5</b>	<b>3.6</b>
Consumption expenditure	2.6	3.5	3.8	3.5	3.5	3.6	3.9
Saving	5.1	3.7	1.2	2.4	5.5	2.3	- 0.3

**National Accounts (cont.)**

Forecast period: 2014 to 2016

	2015	2016	2017	2016		2017	
				H1	H2	H1	H2

**7. Revenue and expenditure by general government <sup>7</sup>**

a) EUR bn.

Revenue							
Taxes	692.9	712.2	744.4	356.4	355.8	372.4	372.0
Social contributions	501.3	518.2	541.6	251.5	266.6	262.6	279.0
Property income	21.9	20.8	20.8	11.7	9.1	11.7	9.1
Other current transfers	19.4	19.4	19.4	8.9	10.5	8.9	10.5
Capital transfers	12.3	12.6	12.8	5.3	7.3	5.5	7.4
Sales	103.3	106.0	108.3	49.8	56.2	50.9	57.4
Other subsidies	0.2	0.2	0.2	0.1	0.1	0.1	0.1
<b>Total</b>	<b>1 351.4</b>	<b>1 389.3</b>	<b>1 447.6</b>	<b>683.8</b>	<b>705.5</b>	<b>712.1</b>	<b>735.4</b>
Expenditure							
Intermediate consumption <sup>8</sup>	397.5	421.4	440.7	202.1	219.3	211.9	228.8
Compensation of employees	231.6	239.1	245.9	114.6	124.5	117.9	128.0
Property income (interest)	46.7	43.7	42.5	22.8	20.8	22.2	20.2
Subsidies	26.5	27.2	27.9	13.5	13.7	13.9	14.0
Social benefits	471.3	497.5	519.2	247.4	250.1	259.9	259.2
Other current transfers	62.2	62.1	65.8	37.0	25.1	39.2	26.5
Capital transfers	29.3	30.4	30.8	11.5	19.0	11.6	19.2
Gross capital formation	64.3	67.0	70.4	28.8	38.2	30.3	40.2
Net acquisitions of non-produced non-financial assets	- 6.5	- 1.3	- 1.3	- 0.5	- 0.8	- 0.5	- 0.8
<b>Total</b>	<b>1 322.9</b>	<b>1 387.1</b>	<b>1 441.8</b>	<b>677.3</b>	<b>709.8</b>	<b>706.4</b>	<b>735.4</b>
<b>Net lending</b>	<b>28.4</b>	<b>2.2</b>	<b>5.7</b>	<b>6.5</b>	<b>- 4.2</b>	<b>5.7</b>	<b>0.0</b>

b) Change over the same period of the preceding year in %

Revenue							
Taxes	5.0	2.8	4.5	3.0	2.5	4.5	4.5
Social contributions	4.0	3.4	4.5	3.5	3.2	4.4	4.6
Property income	- 12.3	- 5.2	0.0	- 8.5	- 0.8	0.0	0.0
Other current transfers	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Capital transfers	1.5	1.9	2.0	2.5	1.5	2.6	1.5
Sales	1.8	2.6	2.3	2.4	2.7	2.3	2.2
Other subsidies	- 13.9	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>4.0</b>	<b>2.8</b>	<b>4.2</b>	<b>2.9</b>	<b>2.7</b>	<b>4.1</b>	<b>4.2</b>
Expenditure							
Intermediate consumption <sup>8</sup>	5.0	6.0	4.6	6.7	5.4	4.8	4.3
Compensation of employees	3.1	3.3	2.8	3.4	3.1	2.8	2.8
Property income (interest)	- 9.4	- 6.4	- 2.7	- 6.2	- 6.7	- 2.6	- 2.9
Subsidies	4.2	2.5	2.5	2.5	2.6	2.5	2.6
Social benefits	4.5	5.6	4.4	5.4	5.7	5.1	3.7
Other current transfers	1.0	- 0.2	5.9	- 0.3	- 0.1	6.0	5.7
Capital transfers	- 18.4	3.8	1.2	- 3.5	8.9	1.2	1.3
Gross capital formation	1.7	4.1	5.2	3.1	4.8	5.1	5.3
Net acquisitions of non-produced non-financial assets	386.7	- 79.6	0.0	- 90.8	0.0	0.0	0.0
<b>Total</b>	<b>2.5</b>	<b>4.9</b>	<b>3.9</b>	<b>5.2</b>	<b>4.5</b>	<b>4.3</b>	<b>3.6</b>

<sup>1</sup> Price-adjusted gross domestic product per hour worked.<sup>2</sup> Incl. non-profit institutions serving households.<sup>3</sup> Incl. acquisitions less disposals of valuables.<sup>4</sup> Operating surplus/mixed income, net property income<sup>5</sup> Received less paid other current transfers.<sup>6</sup> Savings in percent of disposable income (incl. change in pension entitlements).<sup>7</sup> Central, regional, local and social security funds.<sup>8</sup> Incl. social transfers in kind and other production taxes.

Source: Federal Statistical Office, Fachserie 18: National Accounts; own calculations.