

Boysen-Hogrefe, Jens et al.

Article

German Economy Summer 2015 - German economy: Expansion rate remains high

Kiel Institute Economic Outlook, No. 8

Provided in Cooperation with:

Kiel Institute for the World Economy – Leibniz Center for Research on Global Economic Challenges

Suggested Citation: Boysen-Hogrefe, Jens et al. (2015) : German Economy Summer 2015 - German economy: Expansion rate remains high, Kiel Institute Economic Outlook, No. 8, Kiel Institute for the World Economy (IfW), Kiel

This Version is available at:

<https://hdl.handle.net/10419/209476>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



German Economy

Summer 2015

Kiel Institute Economic Outlook No. 8 (2015 | Q2)

German Economy: Expansion Rate Remains High

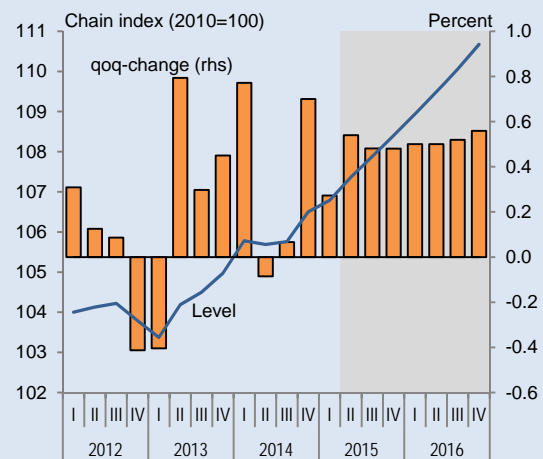
Jens Boysen-Hogrefe, Salomon Fiedler, Dominik Groll, Nils Jannsen, Stefan Kooths and Galina Potjagailo

The German economy remains on a robust growth track. For the current year we expect GDP to increase by 1.8 percent. Next year, the rate of expansion is likely to accelerate to 2.1 percent. The private consumption boom continues, albeit not quite at the same rapid pace as in the past quarters, as temporary stimulating factors are gradually subsiding. Investment spending is gaining strength and is to become the key economic driver next year, also against an ongoing favorable monetary backdrop. Exports are performing well in spite of an ongoing, difficult international environment and are additionally being stimulated by the euro depreciation. At the same time, imports are likely to accelerate substantially owing to the high economic momentum prevailing in Germany. Inflation is picking up again after a marked interim dampening by the oil price decline and will probably reach just under 2 percent next year. Employment trends continue to point upwards. At the same time, there are first signs of negative employment effects of the introduction of the legal minimum wage. Public-sector budgets continue to generate surpluses; this, however, is essentially a reflection of positive economic trends and not of any particular fiscal consolidation efforts. On the whole, there is a danger of economic policymakers misguidedly perceiving the positive cyclical development as an occasion for a respite. Considerable risks to the forecast remain (in particular from the external sector). However, the cyclical downside risks that would emerge from a further escalation of the crisis surrounding Greece are probably significantly lower than only a few years ago.

The upturn in Germany has gained strength.

While the increase in GDP slowed down slightly at 0.3 percent in the first quarter and the business climate has seen no further improvement most recently, an ongoing high rate of expansion is likely for the forecast period (Figure 1). Private consumption growth remains high, fueled particularly by ongoing favorable labor market conditions, even though the effects of some recent temporarily stimulating factors are gradually subsiding. Exports are likely to accelerate appreciably on account of higher global economic growth and the most recent depreciation of the euro. And finally, there are increasing signs of capital spending in the corporate sector gaining momentum thanks

Figure 1:
Gross domestic product, 2012–2016



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

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

to cyclical tailwinds and favorable financing conditions. For the second quarter, favorable production figures for April indicate a GDP increase of 0.5 percent. All in all, we have left our forecast for GDP almost unchanged and expect an increase of 1.8 percent for this year and of 2.1 percent for the coming year (Table 1). Accordingly, capacity utilization is likely to increase in the entire forecast period, and the output gap will already be clearly in positive territory as early as 2016 (Boysen-Hogrefe et al. 2015). Against this backdrop, price inflation will gradually accelerate. We anticipate an inflation rate of just under 2 percent for 2016.

Private consumption continues to expand at high rates. Private consumption has already been expanding at high rates since the third quarter of last year. The highly dynamic consumption climate is attributable to labor market developments, accompanied by robust income growth. In addition, most recently there have been temporary factors such as the discernible increase in monetary social benefits in tandem with real purchasing power increases thanks to the oil price decline. These temporary factors are gradually disappearing, especially since the oil price has meanwhile recouped part of its losses, which means that private consumer spending will no longer quite match

the high growth rates recorded in the past quarters. Nevertheless, private consumption will continue to see very dynamic expansion in a longer-term comparison. Next year, when real disposable income will probably not rise quite as sharply as this year owing to higher price momentum, private consumption is likely to be increasingly propped up by the declining savings ratio of private households. After private households had raised their savings ratio following the increased income growth in the interim, they are now gradually expected to return to their longer-term trend in the direction of a declining savings ratio. This is already reflected in the latest data available. Against this backdrop we expect private consumption to rise substantially both in the current and following year, by 2.3 and 2.2 percent respectively.

Investment gains momentum. There are signs of a broadening investment upturn in the corporate sector, with capital spending developing into the key economic driver next year. Whereas the financing conditions have been very favorable for some time now, in the past investor confidence has kept being impaired—most recently by geopolitical risks and the euro area crisis—causing the investment upswing to slow down again and again. While these strain factors

Table 1:
Key indicators, 2013–2016

	2013	2014	2015	2016
Gross domestic product (GDP), price-adjusted	0.1	1.6	1.8	2.1
Gross domestic product, deflator	2.1	1.7	1.7	1.8
Consumer prices	1.5	0.9	0.6	1.7
Labor productivity (per hour worked)	0.4	0.1	0.8	1.4
Employment (1,000 persons)	42,281	42,637	42,860	43,179
Unemployment rate (percent)	6.9	6.7	6.4	6.0
<i>In relation to nominal GDP</i>				
Public sector net lending	0.1	0.6	0.6	0.4
Gross public debt	77.1	74.7	71.2	67.9
Current account balance	6.5	7.6	8.1	7.8

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.

have not been fully eliminated yet—after all, the Grexit debate could still have an adverse impact—on the whole the risks have declined, especially since the economy recently picked up again in some crisis countries, and effects of contagion have become less likely. Moreover, the revenue and earnings outlook has improved, not least due to the euro depreciation and the fact that the level of capacity utilization, which continues to show an upward trend, has already exceeded its normal level. In this environment, corporate capital spending—which already experienced robust expansion at the beginning of the year—is likely to rise by 3.1 percent in the current year and by 5.7 percent next year following a substantial acceleration. Investments in residential construction also saw a recent surge and are also likely to expand dynamically in the forecast period thanks to lower mortgage rates and high income growth of private households. An argument in favor of ongoing high momentum is that real estate prices were clearly pointing upward most recently. Another point is that the strain factors caused by demographic developments are at least partly being absorbed by high net migration. Residential housing construction will probably increase by 2.4 percent this year and well over 4 percent in 2016.

Corporate lending conditions in Germany remain permissive. The credit hurdle for enterprises determined by the Ifo Institute continues to fall. Larger companies managed to benefit from this in particular most recently: only 8.8 percent reported restrictive lending by banks in May. After small to medium-sized enterprises had already undercut their pre-crisis level of 2007, the large caps are now approaching this level. For the first quarter of 2015, the Bank Lending Survey indicates a differentiation on the credit markets: while banks left their lending standards for companies practically unchanged on balance, and corporate credit demand did not expand any further, a slight tightening in the case of loans for house purchases and consumer spending on the lender side was observed, compared with expanding demand.

Bond yields remain at very low levels. Even though yields on five-year German government bonds increased to 0.5 percent in May, they remain extremely low in a historic comparison. The increasingly firm economic recovery in the euro area is likely to have been a contributory factor along with the increase in inflation expectations and, in this connection, downward corrections of expectations concerning the duration of the ECB's purchasing program. Changed expectations regarding possible regulatory changes for insurance companies and other financial market participants, allowing them to diversify out of government bonds into other debt securities, might have played a role as well. Such speculations were potentially reinforced by comments made by the ECB President on the June 3rd press conference, when he recommended macroprudential and not monetary policy changes in response to a potential scarcity of government bonds. Overall, the rather small absolute correction in German Bund prices should not be taken out of proportion. The 3-year corporate bond spread over German Bunds, which spiked in 2011, remains in a moderate downward trend, approaching normal levels, at 1.7 percent most recently. From a financing point of view, the corporate investment environment remains extremely favorable.

Euro depreciation provides additional stimulus to exports. Following a modest start into 2015, export growth is likely to gain considerable momentum during the second and third quarters of the year. This is driven by the real effective exchange rate depreciation. Monthly export data points to a significant increase in exports in the current quarter. High export momentum is likely to continue in the coming year. While the stimulatory effects of the depreciation will end, exports will increasingly be boosted by better economic momentum in the advanced economies (Fiedler et. al. 2015). Overall, we forecast exports to increase by 5.9 percent in 2015 and by 6.7 percent in the coming year. Imports will expand at a very high rate during the whole forecast period because of a strong domestic economy and rising

exports. However, the exchange rate depreciation will slow import growth in the short term. Overall, we forecast imports to expand by 6.7 percent in 2015 and by 8.5 percent next year. After the terms of trade have been improving since 2012, at times very significantly, the terms of trade are expected to deteriorate for the first time in the second and third quarters of 2015. Aside from the euro depreciation, this is driven by a modest recovery in oil prices.

Overall, German exporters are gaining global market share. Exports will probably grow at higher rates than global trade over the forecast period. Euro depreciation is just one stimulatory factor for exports. Another is the incipient economic recovery in the euro area—still Germany's biggest export market (37 percent of export in 2014)—which will probably stimulate exports to a disproportionately high degree.¹ Furthermore, German exporters are likely to benefit to a particular extent from a pick-up in capital spending in the advanced economies because of their focus on capital goods exports. In contrast, global trade once again lost some momentum lately and is likely to expand just modestly during the forecast period (Fiedler et al. 2015).

Inflation has started to accelerate again. In January the annualized six month inflation rate had fallen to a low of -1.5 percent because of the plunge in oil prices. This one-off effect has been waning though, which is why inflation has already accelerated back to 0.9 percent in May. Excluding energy prices, inflation has recently even reached 1.7 percent. Domestic price pressure was even somewhat higher, as the GDP deflator increased by 1.9 percent in the first quarter. Against this backdrop, inflation is likely to reach 0.6 percent in the current year, accelerating to 1.7 percent in the year to come.

The introduction of the minimum wage has apparently already caused some employ-

ment losses; nevertheless overall employment continues to grow. Employment growth decelerated significantly at the beginning of the year. This is essentially a result of a dramatic drop in the number of low salary jobs (so-called “minijobs”) by about 160,000. It is fair to assume that this is directly linked to the introduction of the legal minimum wage on 1 January. The fact that over the same period total employment growth has slowed considerably does not support the hypothesis that eliminated minijobs were mostly converted into jobs subject to social security contributions or other forms of employment (Groll 2015). Employment growth in other labor market segments not affected by the minimum wage remains robust, though, which is why total employment will continue to grow over the forecast period. For 2015 and 2016 we expect average employment growth of 220,000 and 320,000 respectively.

Effective earnings will increase faster than negotiated wages this year because of the minimum wage. In the first quarter of this year, growth of effective earnings (gross wages and salaries per employee) slowed down, despite the minimum wage introduction. This is in part a result of delayed pay rate increases without compensation in the public sector and in the chemicals industry as well as a pronounced base effect in the retail sector. Therefore, negotiated wages slowed down as well. The minimum wage introduction is likely to be largely responsible for effective earnings growing faster than negotiated wages for the first time in nearly three years, despite the fact that this wage drift was smaller than we had anticipated. For the year as a whole, we expect negotiated wages to increase by 2.7 percent and effective earnings by 3.3 percent. In the coming year, effective earnings growth is likely to slow down because the minimum wage effect will disappear.

Significant surplus in public households in 2015. Tax and contribution revenues increased markedly because of higher economic momentum; in addition, the public sector sourced one-

¹ See Boysen-Hogrefe et al. (2014: Box 1) for a detailed analysis of the link between global trade and German exports.

off revenues from wireless spectrum auctions.² At the same time social transfers in kind rises significantly, but employee compensation probably increases at a relatively moderate pace, while the interest rate burden once more falls substantially. As a result, spending is likely to rise less than revenues. Overall, the public sector surplus will probably increase to just under EUR 20bn (or 0.6 percent of GDP) compared to last year, despite several expansionary fiscal policy measures such as a reduction of pension insurance contributions and a child benefit increase.

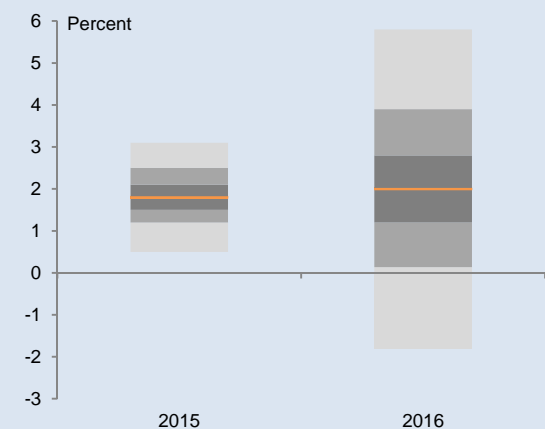
The public sector surplus will shrink in 2016.

In the coming year, the public sector surplus will remain elevated but will be lower than this year, particularly because fiscal policy will be more expansionary. We expect income tax rates to be adjusted and pension insurance contributions to be reduced. At the same time, pensions are likely to increase markedly in mid-2016, while public investment will probably expand sharply, supported by various programs. The budget surplus is expected to reach 11.5bn euros (or 0.4 percent of GDP), with social security accounts probably running a substantial deficit.

Risks to the German economy mainly result from the external environment. A renewed escalation of geopolitical tensions with respect to the Ukraine conflict, for example, could turn into a major headwind for the economy. Beyond that, a Greek debt default or exit from the euro area could cause significant financial market uncertainty and thus weigh on the economy. However, the risks for Germany and the remaining euro area countries resulting from these adverse scenarios for Greece have presumably fallen substantially over the past few years. Contagion risks within the euro area have declined, and some countries are beginning to see initial successes of their reform efforts. Beyond that, upside risks for the German economy have increasingly been

gaining weight. Against the backdrop of the extremely permissive ECB monetary policy it is possible that the economies of countries experiencing initial reform successes will expand significantly faster than we originally anticipated, which would additionally stimulate German exports. Numerous studies suggest that the stimulatory effects of a fall in oil prices will fully unfold only after a certain amount of time. These medium-term effects are particularly hard to grasp in economic forecasts and might result in higher economic momentum in important importing countries and in Germany directly. Finally, there are upside and downside risks for our forecasts resulting from uncertainty over elevated exchange rate volatility on the back of the ECB's quantitative easing policies. The forecasting interval for GDP growth in 2015 is between 1.2 and 2.4 percent at a confidence level of 66 percent (Figure 2).

Figure 2:
Forecast intervals for GDP growth, 2014–2015



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.

Solid economic growth must not turn into a respite for policymakers. During economic booms there is an elevated risk of economic policymakers easing their reform efforts or even implementing measures that impede potential growth. Such measures at times gain broad

²When this forecast was concluded, the auction had not yet ended. The latest amount taken into consideration was about EUR 3.5bn.

social acceptance and their negative impact is masked in the short term by favorable economic trends. However, it should not be forgotten that such measures have a negative impact on the medium-term growth outlook. In the recent past some measures of this kind have already been introduced (e.g., the minimum wage introduction or the possibility to retire at 63). So far, these measures have only had a moderately negative impact on potential growth. However, if policymakers were to continue such policies, reform

successes of previous years could quickly be gambled away (Kooths 2014). Risks for fiscal policy are also significant because of high tax revenues due to the cyclical upswing and very low refinancing costs. These developments could wrongly be interpreted as being permanent in nature, leading to structural spending increases. Fiscal policymakers should counteract such risks by not being content with simply meeting the legal debt brake requirements at the current stage of the economic cycle.

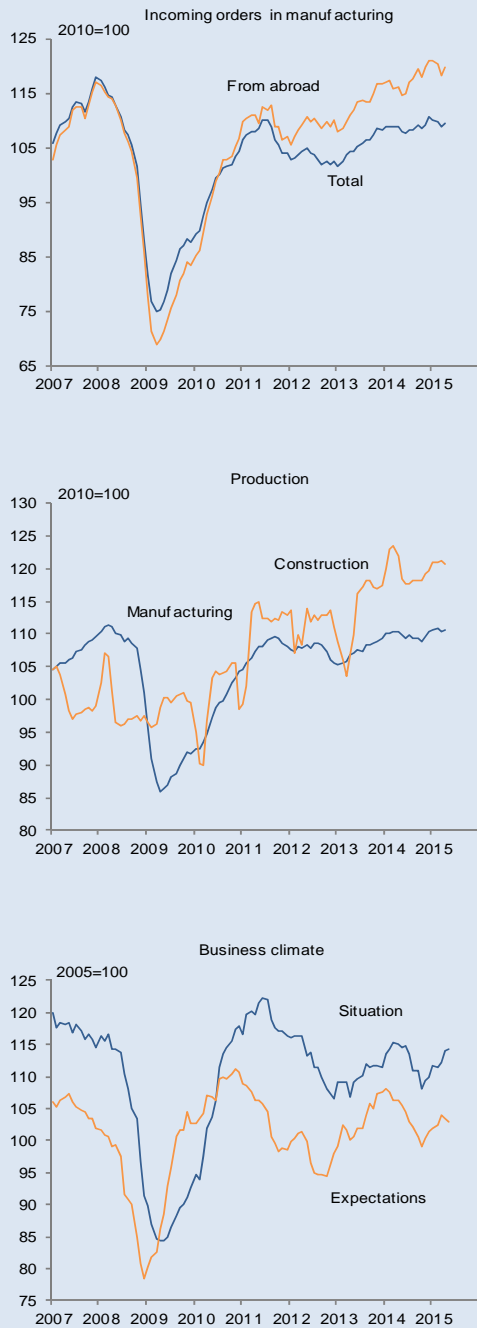
Data annex

Contents

1. Leading indicators	8
2. Monetary conditions and prices	9
3. External trade	11
4. Domestic expenditure	12
5. Industries	14
6. Wages	15
7. Employment	16
8. Public finances	17
9. GDP and its components	18
9. National accounts	19

1. Leading indicators

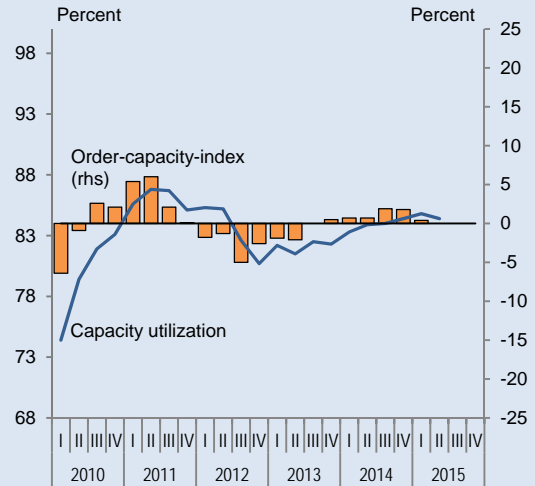
Figure 1.1:
Leading indicators, 2007–2015



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

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

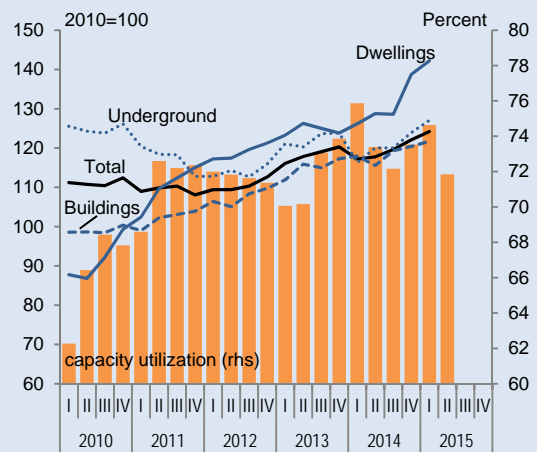
Figure 1.2:
Capacity utilization, 2010–2015



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

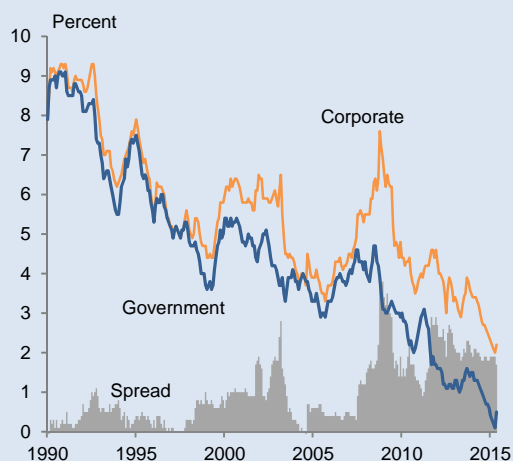


Quarterly data. Capacity utilization: seasonally adjusted (2014-Q4: october/november); order stocks: price, seasonally and working-day adjusted.

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

2. Monetary conditions and prices

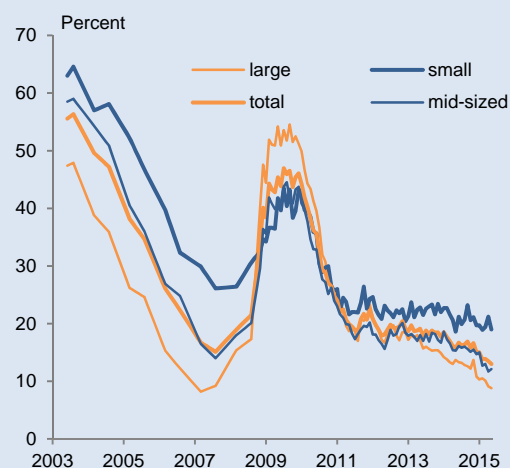
Figure 2.1
Bond yields, 1990–2015



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

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

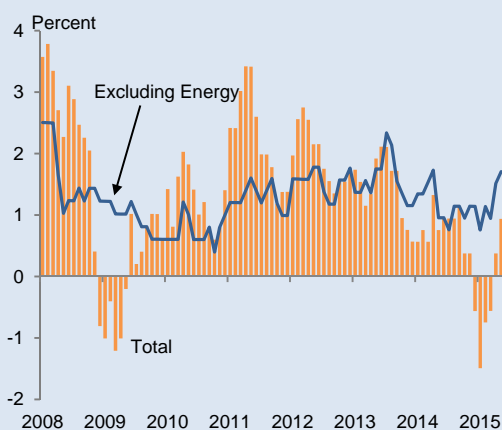
Figure 2.2:
Credit constraints by firm size, 2003–2015



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

Source: ifo, *Credit Constraint Indicator*.

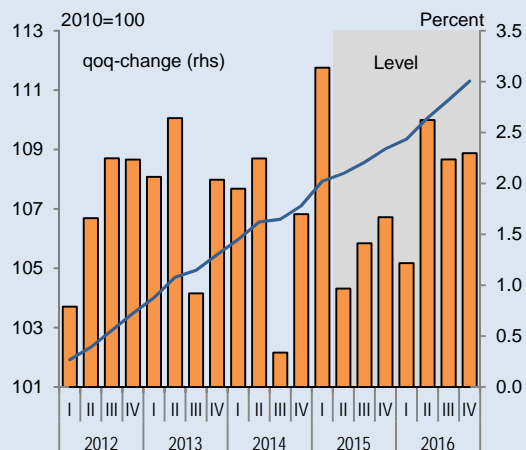
Figure 2.3:
Consumer prices, 2008–2015



Monthly data, seasonally adjusted; change across six months; annualized.

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

Figure 2.4:
GDP deflator, 2012–2016



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, 2013–2016

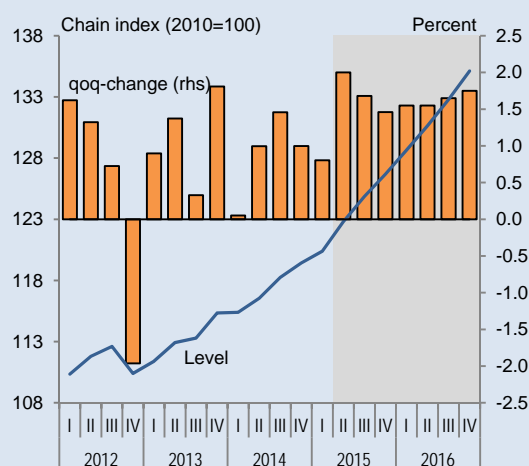
	2013				2014				2015				2016			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
ECB key interest rate	0.75	0.60	0.50	0.40	0.25	0.23	0.10	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Long-term interest rate	1.5	1.4	1.8	1.8	1.7	1.4	1.1	0.8	0.4	0.6	1.0	1.1	1.2	1.3	1.3	1.4
US-dollar/euro exchange rate	1.32	1.31	1.32	1.36	1.37	1.37	1.33	1.25	1.13	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Price competitiveness	85.8	86.1	86.2	86.9	87.4	87.6	86.4	86.0	83.8	82.5	82.3	82.2	82.2	82.2	82.3	82.5
Export markets	0.3	0.5	0.6	0.6	0.3	0.5	0.6	0.5	0.5	0.7	0.6	0.6	0.6	0.7	0.7	0.7
Oil price	112.9	103.0	110.1	109.4	107.9	109.8	102.1	76.0	54.1	62.1	68.0	71.0	73.0	74.0	75.0	75.0

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

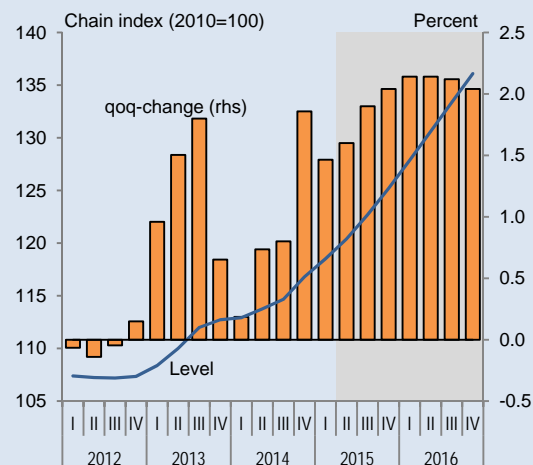
Figure 3.1:
Exports, 2012–2016



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

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

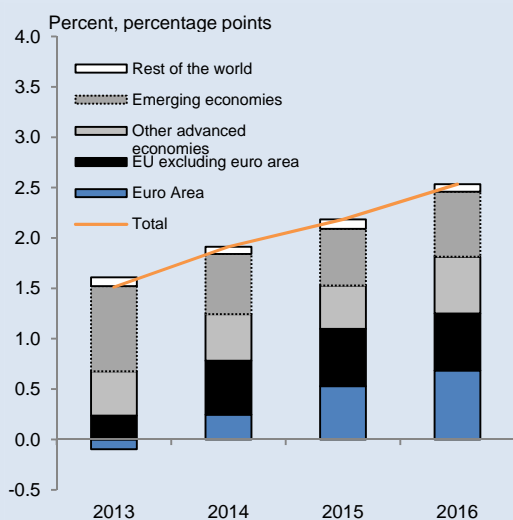
Figure 3.2:
Imports, 2012–2016



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

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

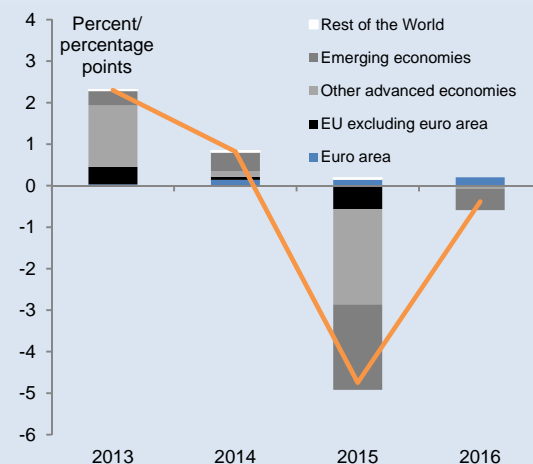
Figure 3.3:
German export markets, 2013–2016



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

Source: Statistisches Bundesamt; national sources; 2015–2016: IfW forecast.

Figure 3.4:
Germany's price competitiveness, 2013–2016

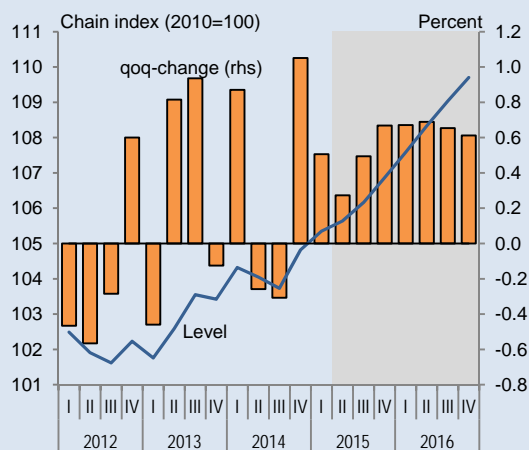


Annual data; Against 56 countries based on consumer prices; Weights according to German's price competitiveness indicator against 56 trading partners based on consumer price indices of the Deutsche Bundesbank.

Source: Deutsche Bundesbank; national sources; 2015–2016: IfW forecast.

4. Domestic expenditure

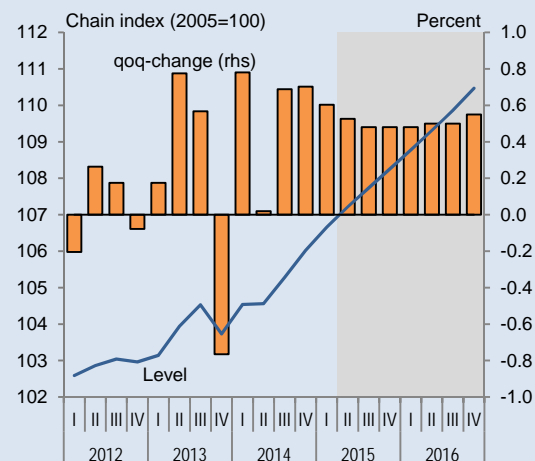
Figure 4.1:
Domestic expenditure, 2012–2016



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

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

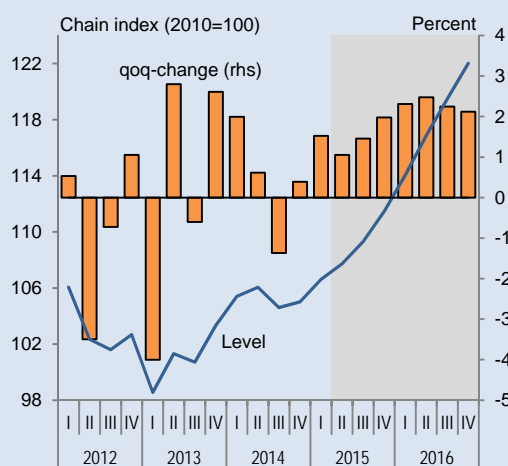
Figure 4.2:
Private consumption, 2012–2016



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

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

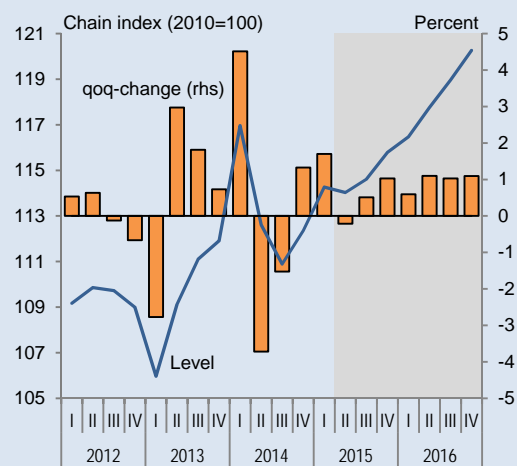
Figure 4.3:
M & E Investments, 2012–2016



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

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

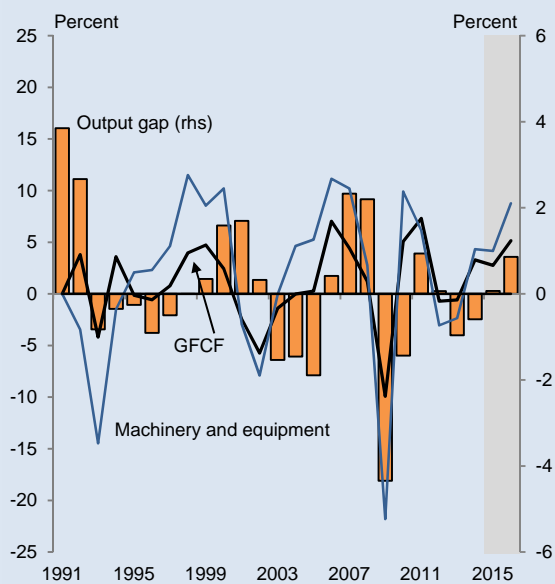
Figure 4.4:
Constructions, 2012–2016



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

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

Figure 4.5:
Investment cycles, 1991–2016



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, 2013–2016

	2013	2014	2015	2016
Total	-0.6	3.3	2.8	5.1
Corporate investment	-1.3	3.0	3.1	5.7
Machinery and equipment	-2.4	4.3	4.2	8.8
Construction (non-dwellings)	-2.1	2.2	2.3	2.3
Other	1.3	1.2	1.9	3.1
Dwellings	0.6	3.8	2.4	4.1
Public (nondwellings)	1.6	3.9	0.6	4.0
<i>Memorandum item:</i>				
Construction	-0.1	3.4	2.2	3.6

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 2014–2016

	2014	2015				2016
	IV	I	II	III	IV	I
	Seasonally and calendar adjusted, quarter-on-quarter change in percent					
Gross domestic product	0.7	0.3	0.5	0.5	0.5	0.5
Gross value added	0.4	0.6	0.5	0.5	0.5	0.5
Industry excluding construction	1.1	0.2	0.6	0.6	0.7	0.7
Manufacturing	1.0	-0.1	0.6	0.6	0.7	0.7
Construction	0.0	1.8	-0.1	0.4	0.6	0.6
Trade, transport, accommodation, and food services	0.5	2.2	0.4	0.4	0.4	0.4
Information and communication	-0.9	0.2	1.1	0.9	1.1	1.1
Financial and insurance services	-0.6	0.4	0.3	0.1	0.2	0.2
Real estate activities	0.2	0.4	0.4	0.1	0.1	0.1
Business services	0.0	0.4	0.8	0.9	0.8	0.8
Public services, education, health	0.5	0.4	0.4	0.4	0.2	0.2
Other services	-0.7	-0.2	0.2	0.1	0.2	0.2

Quarterly data, volumes.

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

6. Wages

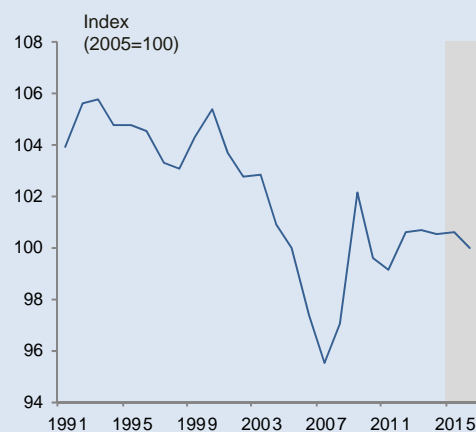
Table 6.1:
Wages and productivity, 2013–2016

	2013	2014	2015	2016
<i>Per hour</i>				
Negotiated wages	2.4	3.0	2.7	2.7
Gross wages and salaries	2.8	1.9	2.8	2.4
Wage drift	0.4	-1.1	0.1	-0.2
Compensation of employees	2.6	1.8	2.6	2.4
Labor productivity	0.4	0.1	0.8	1.4
Unit labor costs	2.2	1.6	1.8	0.9
Unit labor costs (real)	0.1	-0.1	0.0	-0.8
<i>Per capita</i>				
Negotiated wages	2.4	2.9	2.7	2.7
Gross wages and salaries	2.1	2.7	3.3	2.4
Wage drift	-0.3	-0.2	0.6	-0.3
Compensation of employees	1.9	2.6	3.2	2.2
Labor productivity	-0.5	0.8	1.3	1.4
Unit labor costs	2.4	1.8	1.9	0.9
Unit labor costs (real)	0.3	0.1	0.1	-0.9

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.

Figure 6.1:
Real unit labor costs, 1991–2016



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: forecast.

7. Employment

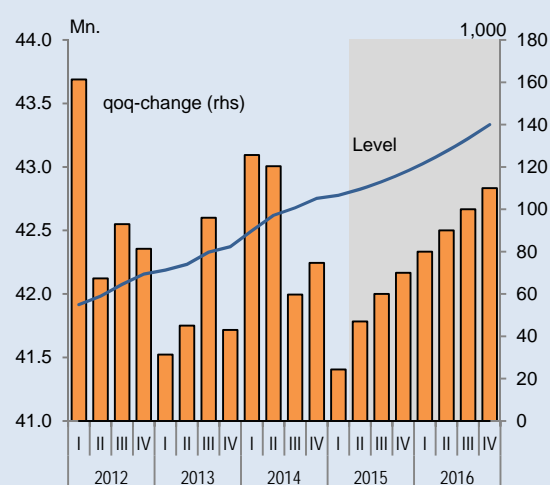
Table 7.1:
Employment, 2012–2016 (1,000 persons)

	2012	2013	2014	2015	2016
Hours worked (domestic concept, mn. hours)	57,763	57,608	58,461	59,042	59,458
Persons in employment (domestic concept)	42,033	42,281	42,637	42,860	43,179
Self-employed	4,544	4,457	4,400	4,321	4,279
Employees (domestic concept)	37,489	37,824	38,238	38,538	38,900
Employees subject to social security contributions	29,362	29,729	30,220	30,744	31,181
Minijobs	4,980	5,018	5,027	4,804	4,740
Net commuting	54	56	54	55	54
Persons in employment (national concept)	41,979	42,225	42,583	42,805	43,125
Employees (national concept)	37,435	37,768	38,183	38,484	38,846
Unemployed persons (registered)	2,896	2,950	2,897	2,783	2,631
Unemployment rate (registered; percent)	6.8	6.9	6.7	6.4	6.0
Unemployment rate (ILO; percent)	5.1	4.9	4.7	4.4	4.0

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.

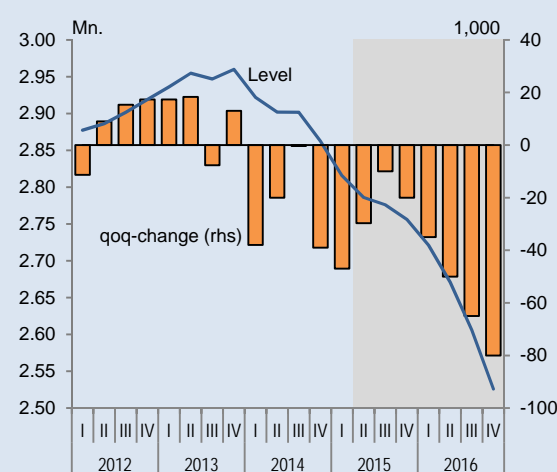
Figure 7.1:
Employment, 2012–2016



Quarterly data, seasonally adjusted.

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

Figure 7.2:
Unemployment, 2012–2016



Quarterly data, seasonally adjusted.

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

8. Public finances

Table 8.1:
Revenues and expenditures of the general government, 2012–2016 (bn. euro)

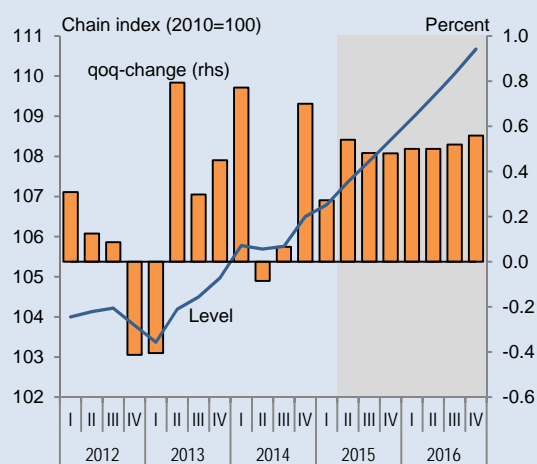
	2012	2013	2014	2015	2016
Revenues	1,217.8	1,249.4	1,295.0	1,332.0	1,372.9
➤ <i>relative to GDP</i>	44.3	44.5	44.6	44.4	44.2
Taxes	619.8	637.9	659.2	679.1	702.9
➤ <i>relative to GDP</i>	22.5	22.7	22.7	22.6	22.6
Social contributions	454.3	465.4	482.2	500.1	516.0
➤ <i>relative to GDP</i>	16.5	16.6	16.6	16.7	16.6
Other revenues	143.8	146.2	153.6	152.8	154.0
➤ <i>relative to GDP</i>	5.2	5.2	5.3	5.1	5.0
Expenditures	1,215.2	1,245.3	1,276.4	1,313.2	1,361.4
➤ <i>relative to GDP</i>	44.2	44.3	44.0	43.8	43.8
Compensation of employees	212.7	217.6	224.1	229.8	236.1
Intermediate consumption	126.5	131.5	135.0	140.1	145.2
Social transfers in kind	215.8	226.9	239.8	254.3	268.7
Gross capital formation	62.1	62.8	62.2	64.3	67.6
Capital transfers	63.2	56.3	50.9	45.1	43.9
Social benefits	429.7	439.9	451.4	467.0	482.9
Subsidies	24.4	24.7	26.4	26.7	27.0
Other current transfers	54.5	62.0	63.4	65.5	66.8
Other capital transfers and investment grants	27.7	24.8	24.6	24.4	24.7
Other expenditures	-1.3	-1.3	-1.3	-4.0	-1.5
Net lending/net borrowing	2.6	4.2	18.6	18.7	11.5
➤ <i>relative to GDP</i>	0.1	0.1	0.6	0.6	0.4
Revenues of central, state, and local governments	793.9	811.3	840.1	859.9	885.4
Net of transfers from social security funds	789.3	810.2	839.1	858.8	884.4
Transfers from social security funds	4.6	1.0	1.1	1.1	1.1
Expenditures of central, state, and local governments	809.6	813.2	825.5	841.6	869.9
Net of transfers to social security funds	699.0	712.4	723.7	736.8	761.8
Transfers to social security funds	110.6	100.8	101.8	104.8	108.1
Net lending/net borrowing central, state, and local government	-15.7	-1.9	14.6	18.2	15.6
Revenues of social security funds	539.2	540.1	557.7	578.0	596.7
Net of transfers from central, state, and local governments	428.6	439.2	456.0	473.2	488.6
Expenditures of social security funds	520.9	534.0	553.8	577.5	600.8
Net of transfers to central, state, and local governments	516.3	532.9	552.7	576.4	599.7
Net lending/net borrowing social security funds	18.3	6.1	4.0	0.5	-4.1

Sums may deviate due to rounding.

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

9. GDP and its components

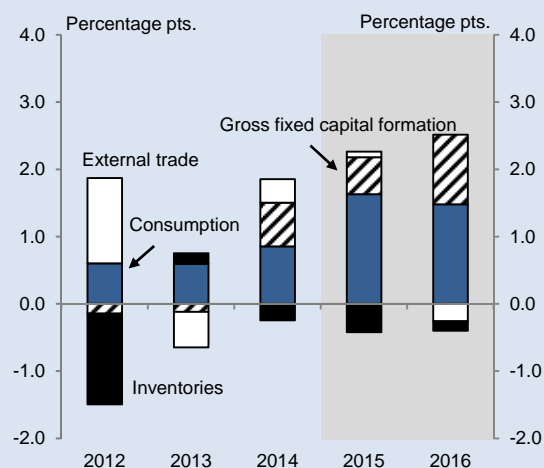
Figure 8.1:
Gross domestic product, 2012–2016



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

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

Figure 8.2:
Expenditure-side contributions to GDP growth, 2012–2016



Annual data; price-adjusted, Lundberg components.

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

Table 8.1:
Quarterly data, 2014–2016

	2014				2015				2016			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Gross domestic product	0.8	-0.1	0.1	0.7	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.6
Private consumption	0.8	0.0	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Government consumption	0.0	0.7	0.6	0.3	0.7	0.3	0.3	0.1	0.6	0.3	0.3	0.2
Machinery and equipment	2.0	0.6	-1.4	0.4	1.5	1.1	1.5	2.0	2.3	2.5	2.2	2.1
Constructions	4.5	-3.7	-1.5	1.3	1.7	-0.2	0.5	1.0	0.6	1.1	1.0	1.1
Other investment	0.8	0.1	0.2	0.2	0.7	0.5	0.6	0.7	0.8	0.8	0.8	0.7
Change in inventories	-0.2	-0.1	-0.6	0.4	-0.3	-0.2	0.0	0.1	0.0	0.0	0.0	0.0
Domestic expenditure	0.9	-0.3	-0.3	1.1	0.5	0.3	0.5	0.7	0.7	0.7	0.7	0.6
Exports	0.1	1.0	1.5	1.0	0.8	2.0	1.7	1.5	1.5	1.5	1.7	1.8
Imports	0.2	0.7	0.8	1.9	1.5	1.6	1.9	2.0	2.1	2.1	2.1	2.0
Net exports	0.0	0.2	0.4	-0.3	-0.2	0.3	0.0	-0.1	-0.1	-0.1	-0.1	0.0
Employment (domestic)	42,498	42,618	42,678	42,753	42,777	42,824	42,884	42,954	43,034	43,124	43,224	43,334
Unemployment (registered)	2,922	2,902	2,902	2,863	2,816	2,786	2,776	2,756	2,721	2,671	2,606	2,526

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.

9. National accounts

Forecast period: 2014 to 2016

	2014	2015	2016	2015		2016	
				H1	H2	H1	H2

1. Production

Change over the same period of the preceding year in %

Persons in employment	0.8	0.5	0.7	0.6	0.5	0.7	0.8
Hours worked	1.5	1.0	0.7	0.6	1.4	1.4	0.0
Hours worked by person in employment	0.6	0.5	0.0	0.0	0.9	0.8	- 0.8
Labor productivity ¹	0.1	0.8	1.4	0.8	0.9	1.1	1.7
Gross domestic product, price-adjusted	1.6	1.8	2.1	1.3	2.3	2.5	1.7

2. Use of gross domestic product at current prices

a) EUR bn.

Consumption expenditure	2 166.6	2 238.1	2 322.9	1 088.7	1 149.4	1 131.6	1 191.4
Private households ²	1 604.3	1 652.3	1 713.3	804.8	847.5	836.0	877.3
Government	562.3	585.8	609.6	283.9	301.9	295.5	314.1
Gross fixed capital formation	581.3	605.8	649.6	286.4	319.5	307.7	341.9
Machinery and equipment	185.6	193.6	212.1	90.2	103.4	98.8	113.3
Construction	293.6	306.0	325.5	144.7	161.2	154.8	170.8
Other products	102.1	106.3	112.0	51.5	54.8	54.1	57.8
Changes in inventories ³	- 30.6	- 43.3	- 48.4	- 10.5	- 32.8	- 14.0	- 34.3
Domestic expenditure	2 717.3	2 800.7	2 924.2	1 364.5	1 436.1	1 425.3	1 498.9
Net exports	186.5	208.3	202.8	106.6	101.7	105.7	97.1
Exports	1 325.0	1 421.7	1 536.7	687.3	734.3	749.2	787.5
Imports	1 138.5	1 213.4	1 333.9	580.7	632.7	643.5	690.4
Gross domestic product	2 903.8	3 009.0	3 127.0	1 471.2	1 537.8	1 531.0	1 596.0

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

Consumption expenditure	2.6	3.3	3.8	3.1	3.5	3.9	3.6
Private households ²	2.1	3.0	3.7	2.8	3.2	3.9	3.5
Government	3.9	4.2	4.1	4.0	4.3	4.1	4.0
Gross fixed capital formation	4.6	4.2	7.2	2.1	6.3	7.5	7.0
Machinery and equipment	4.3	4.3	9.6	1.6	6.8	9.6	9.5
Construction	5.2	4.2	6.4	1.7	6.5	6.9	5.9
Other products	3.3	4.1	5.3	3.7	4.5	5.2	5.5
Domestic expenditure	2.7	3.1	4.4	2.2	3.9	4.5	4.4
Exports	3.5	7.3	8.1	5.9	8.6	9.0	7.2
Imports	1.9	6.6	9.9	4.4	8.7	10.8	9.1
Gross domestic product	3.4	3.6	3.9	3.1	4.2	4.1	3.8

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

a) EUR bn.

Consumption expenditure	2 030.5	2 074.9	2 116.2	1 016.8	1 058.1	1 039.1	1 077.1
Private households ²	1 517.7	1 552.7	1 586.8	758.4	794.3	777.1	809.7
Government	512.9	522.3	529.6	258.4	263.9	262.0	267.6
Gross fixed capital formation	544.8	559.8	588.6	265.0	294.8	279.7	308.9
Machinery and equipment	182.9	190.5	207.2	88.4	102.1	96.2	110.9
Construction	267.1	272.9	282.7	129.6	143.3	135.3	147.4
Other products	94.7	96.5	99.4	46.9	49.6	48.3	51.2
Domestic expenditure	2 543.1	2 590.9	2 657.1	1 273.9	1 317.0	1 308.0	1 349.1
Exports	1 275.5	1 350.9	1 442.0	656.0	694.9	705.3	736.7
Imports	1 092.8	1 165.7	1 265.3	561.8	603.9	611.1	654.2
Gross domestic product	2 724.7	2 774.8	2 833.6	1 367.4	1 407.4	1 401.7	1 431.9

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

Consumption expenditure	1.1	2.2	2.0	2.3	2.1	2.2	1.8
Private households ²	1.1	2.3	2.2	2.3	2.3	2.5	1.9
Government	1.2	1.8	1.4	2.1	1.5	1.4	1.4
Gross fixed capital formation	3.3	2.8	5.1	0.7	4.7	5.5	4.8
Machinery and equipment	4.3	4.2	8.8	1.6	6.5	8.9	8.7
Construction	3.4	2.2	3.6	- 0.2	4.4	4.4	2.9
Other products	1.2	1.9	3.1	1.4	2.3	2.9	3.2
Domestic expenditure	1.3	1.9	2.6	1.3	2.4	2.7	2.4
Exports	3.8	5.9	6.7	4.9	6.9	7.5	6.0
Imports	3.5	6.7	8.5	5.5	7.8	8.8	8.3
Gross domestic product	1.6	1.8	2.1	1.3	2.3	2.5	1.7

National accounts (cont.)

Forecast period: 2014 to 2016

	2014	2015	2016	2015		2016	
				H1	H2	H1	H2
4. Deflators (2010=100)							
Change on the same period of the preceding year in %							
Private consumption ²	0.9	0.7	1.5	0.5	0.8	1.4	1.5
Government consumption	2.7	2.3	2.6	1.9	2.7	2.7	2.6
Gross fixed capital formation	1.2	1.4	2.0	1.4	1.5	1.8	2.1
Machinery and equipment	0.0	0.2	0.7	0.1	0.2	0.7	0.8
Construction	1.8	2.0	2.7	1.9	2.1	2.5	3.0
Exports	-0.3	1.3	1.3	1.0	1.6	1.4	1.1
Imports	-1.5	-0.1	1.3	-1.0	0.8	1.9	0.7
Gross domestic product	1.7	1.7	1.8	1.7	1.8	1.5	2.0

5. National income

a) EUR bn.

Primary income of private households ²	2 065.8	2 137.1	2 204.7	1 045.3	1 091.9	1 081.2	1 123.6
Employers social contributions	271.2	280.1	287.3	135.4	144.7	139.0	148.3
Gross wages and salaries	1 210.8	1 261.1	1 302.9	598.8	662.3	622.0	680.9
Other primary income ⁴	583.8	596.0	614.5	311.1	284.8	320.1	294.4
Primary income of other sectors	403.1	427.5	462.8	199.4	228.1	214.3	248.5
Net national income	2 468.9	2 564.6	2 667.5	1 244.7	1 320.0	1 295.5	1 372.1
Consumption of fixed capital	513.0	526.6	544.0	261.7	264.8	270.2	273.8
Gross national income	2 981.8	3 091.2	3 211.5	1 506.4	1 584.8	1 565.7	1 645.8
memorandum item:							
Net national income (factor costs)	2 181.4	2 270.3	2 363.5	1 098.8	1 171.4	1 144.6	1 218.9
Property and entrepreneurial income	699.5	729.1	773.3	364.7	364.4	383.6	389.7
Compensation of employees	1 482.0	1 541.2	1 590.2	734.1	807.1	761.1	829.2

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

Primary income of private households ²	2.7	3.5	3.2	3.1	3.8	3.4	2.9
Employers social contributions	3.2	3.3	2.6	3.1	3.5	2.7	2.5
Gross wages and salaries	3.9	4.2	3.3	3.7	4.6	3.9	2.8
... per employee	2.7	3.3	2.4	2.8	3.7	3.1	1.7
Other primary income ⁴	0.1	2.1	3.1	1.8	2.4	2.9	3.4
Primary income of other sectors	9.5	6.1	8.3	4.6	7.4	7.5	9.0
Net national income	3.7	3.9	4.0	3.3	4.4	4.1	3.9
Consumption of fixed capital	2.2	2.6	3.3	2.5	2.8	3.2	3.4
Gross national income	3.5	3.7	3.9	3.2	4.2	3.9	3.9
memorandum item:							
Net national income (factor costs)	3.9	4.1	4.1	3.4	4.7	4.2	4.1
Property and entrepreneurial income	4.1	4.2	6.1	3.0	5.5	5.2	7.0
Compensation of employees	3.8	4.0	3.2	3.6	4.4	3.7	2.7

6. Disposable income of private households²

a) EUR bn.

Mass income	1 213.5	1 261.7	1 303.2	605.8	655.8	627.6	675.6
Net wages and salaries	805.3	838.9	865.5	393.6	445.3	409.4	456.1
Social benefits other than social transfers in kind	503.9	520.7	537.8	260.9	259.8	267.9	269.9
less: Levies on social benefits, taxes on consumption	95.7	97.9	100.1	48.7	49.3	49.6	50.5
Other primary income ⁴	583.8	596.0	614.5	311.1	284.8	320.1	294.4
Other transfers received (net) ⁵	- 75.1	- 77.2	- 80.2	- 37.7	- 39.5	- 39.1	- 41.1
Disposable income	1 722.2	1 780.5	1 837.5	879.3	901.2	908.7	928.9
Change in pension entitlements	48.3	49.2	50.2	24.3	24.9	24.8	25.4
Consumption expenditure	1 604.3	1 652.3	1 713.3	804.8	847.5	836.0	877.3
Saving	166.2	177.4	174.4	98.8	78.6	97.4	76.9
Saving ratio (%) ⁶	9.4	9.7	9.2	10.9	8.5	10.4	8.1

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

Mass income	3.2	4.0	3.3	3.7	4.2	3.6	3.0
Net wages and salaries	3.6	4.2	3.2	3.5	4.8	4.0	2.4
Social benefits other than social transfers in kind	2.4	3.3	3.3	3.9	2.8	2.7	3.9
less: Levies on social benefits, taxes on consumption	2.2	2.3	2.2	2.9	1.7	2.0	2.4
Other primary income ⁴	0.1	2.1	3.1	1.8	2.4	2.9	3.4
Disposable income	2.4	3.4	3.2	3.1	3.7	3.3	3.1
Consumption expenditure	2.1	3.0	3.7	2.8	3.2	3.9	3.5
Saving	5.9	6.7	- 1.7	4.7	9.4	- 1.4	- 2.1

National accounts (cont.)
Forecast period: 2014 to 2016

	2014	2015	2016	2015		2016	
				H1	H2	H1	H2
7. Revenue and expenditure by general government⁷							
a) EUR bn.							
Revenue							
Taxes	659.2	679.1	702.9	338.4	340.7	350.5	352.4
Social contributions	482.2	500.1	516.0	242.7	257.4	250.5	265.5
Property income	23.5	18.9	16.1	11.0	7.9	9.6	6.5
Other current transfers	18.8	18.1	18.1	8.6	9.5	8.6	9.5
Capital transfers	11.5	12.0	11.8	5.4	6.6	5.3	6.5
Sales	99.4	103.5	107.6	48.7	54.8	50.6	57.0
Other subsidies	0.3	0.3	0.3	0.1	0.2	0.1	0.2
Total	1 295.0	1 332.0	1 372.9	654.9	677.1	675.3	697.6
Expenditure							
Intermediate consumption ⁸	374.8	394.5	414.0	189.7	204.9	199.1	214.9
Compensation of employees	224.1	229.8	236.1	110.3	119.5	113.4	122.7
Property income (interest)	50.9	45.1	43.9	22.8	22.4	22.1	21.9
Subsidies	26.4	26.7	27.0	13.0	13.7	13.1	13.9
Social benefits	451.4	467.0	482.9	234.0	233.0	240.4	242.4
Other current transfers	63.4	65.5	66.8	37.2	28.3	37.9	28.9
Capital transfers	24.6	24.4	24.7	10.0	14.5	10.0	14.7
Gross capital formation	62.2	64.3	67.6	27.9	36.4	29.3	38.3
Net acquisitions of nonproduced nonfinancial assets	- 1.4	- 4.0	- 1.5	- 0.8	- 3.3	- 0.8	- 0.8
Total	1 276.4	1 313.2	1 361.4	643.9	669.3	664.5	696.9
Net lending	18.6	18.7	11.5	11.0	7.8	10.8	0.7

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

Revenue							
Taxes	3.3	3.0	3.5	3.2	2.8	3.6	3.4
Social contributions	3.6	3.7	3.2	3.8	3.6	3.2	3.1
Property income	10.6	- 19.7	- 14.8	- 26.1	- 8.7	- 12.9	- 17.4
Other current transfers	2.1	- 3.7	0.0	- 3.1	- 4.2	0.0	0.0
Capital transfers	10.4	4.3	- 1.0	5.9	3.1	- 1.3	- 0.8
Sales	3.8	4.1	4.0	4.2	3.9	4.0	4.0
Other subsidies	- 12.7	- 3.9	0.0	- 8.8	0.0	0.0	0.0
Total	3.6	2.9	3.1	2.7	3.0	3.1	3.0
Expenditure							
Intermediate consumption ⁸	4.6	5.3	4.9	5.2	5.3	4.9	4.9
Compensation of employees	3.0	2.5	2.7	2.3	2.7	2.8	2
Property income (interest)	- 9.6	- 11.4	- 2.7	- 13.2	- 9.4	- 3.1	- 2.2
Subsidies	6.8	1.0	1.5	0.5	1.5	1.5	1.5
Social benefits	2.6	3.4	3.4	4.1	2.8	2.8	4.1
Other current transfers	2.2	3.3	2.0	3.2	3.5	2.0	2.0
Capital transfers	- 0.8	- 0.8	1.2	7.8	- 5.9	0.5	1.8
Gross capital formation	- 0.9	3.3	5.2	1.0	5.2	5.1	5.2
Net acquisitions of nonproduced nonfinancial assets	0.1	188.7	- 61.9	22.6	324.3	0.0	- 76.4
Total	2.5	2.9	3.7	3.2	2.6	3.2	4.1

¹ Price-adjusted gross domestic product per hour worked.

² Incl. nonprofit institutions serving households.

³ Incl. acquisitions less disposals of valuables.

⁴ Operating surplus/mixed income, net property income.

⁵ Received less paid other current transfers.

⁶ Savings in percent of disposable income (incl. change in pension entitlements).

⁷ Central, regional, local and social security funds.

⁸ Incl. social transfers in kind and other production taxes.

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

References

- Boysen-Hogrefe, J., D. Groll, N. Jannsen, S. Kooths and J. Scheide (2014). Deutschland: Aufschwung abermals unterbrochen. Institut für Weltwirtschaft (Hrsg.), Deutsche Konjunktur im Herbst 2014. Kieler Diskussionsbeiträge 545/546. IfW, Kiel.
- Boysen-Hogrefe, J., K.-J. Gern, D. Groll, N. Jannsen, S. Kooths and M. Plödt (2015). Mittelfristprojektion für Deutschland. Kieler Konjunkturberichte Nr. 6 (2015|Q1). Institut für Weltwirtschaft, Kiel. Via Internet (June 16, 2015) <https://www.ifw-kiel.de/wirtschaftspolitik/konjunkturprognosen/konjunkt/2015/konjunkturprognosen_mfp_fruehjahr-2015.pdf>.
- Fiedler, S., K.-J. Gern, P. Hauber, N. Jannsen, S. Kooths, S. Reitz, T. Schwarzmüller and M. Wolters (2015). Erholung der Weltkonjunktur vorübergehend gebremst. Kieler Konjunkturberichte Nr. 7 (2015|Q2). Institut für Weltwirtschaft, Kiel. Via Internet (June 16, 2015) <https://www.ifw-kiel.de/wirtschaftspolitik/konjunkturprognosen/konjunkt/2015/konjunkturprognosen_welt-7_sommer-2015.pdf>.
- Groll, D. (2015). Mindestlohn: erste Anzeichen für Jobverluste. *Wirtschaftsdienst* 95 (6): 439–440.
- Kooths, S. (2014). Nahe am Eichstrich: Kein Bedarf für Konjunkturprogramme, Wachstum braucht ordnungspolitische Reformen. *Wirtschaftsdienst* 94 (12): 847–850.