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Unit Labour Cost Position in the Production of Goods Stable in 2012 despite Economic Slump

The modest increase in labour productivity due to the downturn led to a rise in unit labour costs of about 3 percent compared to the year before. However, the unit labour cost position of Austrian goods production improved slightly in 2012, both compared to the average of all trading partners and compared to Germany. The decline in the nominal-effective exchange rate contributed significantly to this development.

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The development of unit labour costs (labour costs per unit produced) places changes in labour costs in relation to developments in productivity. In an international comparison, the relative unit labour cost development is a synthetic measure of the impact of changes in labour costs, productivity and the exchange rate on cost-determined competitiveness. As econometric studies show, the development of relative unit labour costs contributes significantly to an explanation of shifts in market shares between trading partners (e.g., *Carlin – Glyn – Van Reenen, 2001*).

The present report examines the development of the price competitiveness of Austrian industry based on the course of unit labour costs in the area "manufacturing of goods" and the economy as a whole, comparing the development in Austria to that of its most important trading partners.

The analysis is mainly based on data for the period between 2002 and 2012, and therefore reflects the most recent developments. The values for 2012 should, however, be considered provisional, as gaps in the data had to be filled using own calculations. Medium term and long term changes, can be observed with greater certainty. A special focus lies on Austria's unit labour cost position with respect to Germany, Austria's most important trading partner.

The relative unit labour cost position of a country is depicted based on a nominal-effective exchange rate, which is deflated with unit labour costs. This indicator expresses the real external value of the national currency (also known as the real-effective exchange rate). The starting point for such an observation of price competitiveness is the nominal-effective exchange rate – that is, a comparison of the national currency with a basket of currencies, which is based on a weighting scheme (see the box "Calculation method and data basis for the comparison of unit labour costs") and represents the relevance of the individual trading partners to the trade integration of the domestic economy. In order to assess the competitive position of Austrian industry, a relevant first step must therefore be to assess the progression of the nominal-effective exchange rate.

Since the introduction of the euro, exchange rate fluctuations have lost some of their significance for the Austrian export economy, as Austria's most important trading partners are also situated within the euro zone. In the weighting scheme of the effective exchange rate more than 70 percent are apportionable to the euro zone countries.

Relative unit labour costs as a measure of price competitiveness

Decline in the nominal-effective exchange rate

Calculation method and data basis for the comparison of unit labour costs

Unit labour costs in national currency (*ULC*) in a branch, a sector or the economy as a whole are defined by the relation between the nominal wage sum (*WS*) and real gross value added (*GVA*):

$$ULC = \frac{WS}{GVA}.$$

If one divides both labour costs and value added by a measure of labour input, this yields both components of unit labour costs: labour costs per labour unit and labour productivity. A change in the share of self-employed in the number of persons engaged can be considered through a representation of unit labour costs as a quotient of labour costs per employee (*LF*) and gross value added, measured against the number of all persons engaged in employment (*EMP*):

$$ULC = \frac{\frac{WS}{LF}}{\frac{GVA}{EMP}}.$$

The unit labour costs published in the macroeconomic database of the European Commission (AMECO) are calculated based on this equation. WIFO also uses this formula to calculate the unit labour costs of Austrian manufacturing of goods, however, instead of using the person-based concept (employees and persons engaged), it bases its calculations on the number of jobs.

For international comparisons, unit labour costs have to be expressed in a common currency, as exchange rate fluctuations can alter the cost position of a country similarly to the development of unit labour costs. In calculating the relative development between two countries, the relative unit labour cost position of a country is the ratio of unit labour costs of both countries, as measured in a single currency. For a comparison with several countries, a weighted method has to be used, as the relevance of countries to an international comparison will usually differ. Independently of the methodological approach, such a weighted scheme is based on foreign trade data statistics and therefore reflects the foreign trade interdependence of an economy.

WIFO uses a harmonised method, which is also used by the central banks of the euro zone to measure international competitiveness. The weighting scheme consists of simple (bilateral) import weights and double (multilateral) export weights for industrial goods (SITC 5 to 8). This year a new calculation of the weights and a new method of interlinking the weighted country data were implemented (for a detailed illustration and explanation of this method, see Mooslechner, 1995, and Köhler-Töglhofer – Magerl, 2013). Due to the double export weighting, competition with trading partners on the respective domestic markets can be shown, in addition to competition on all other export markets. The weights are calculated and applied for specific time periods. The most recent calculations are based on the three-year averages for the periods 1995-1997, 1998-2000, 2001-2003, 2004-2006 and 2007-2009; and the most recent weights are applicable for the period after 2007. Using this variable weighting method makes it possible to take into account shifts in market shares. The new calculation should ensure as accurate a picture as possible of country-specific trade interdependencies.

This year (in contrast to recent years), the data on gross wages, productivity and unit labour costs in the manufacturing of goods and the economy as a whole were largely generated based on Eurostat figures, because these are generally more up-to-date than those of the AMECO database. The AMECO database was only used to fill gaps in the data, and in cases where the AMECO database had no current figures, data were taken from the European Central Bank and national statistics of the respective countries (USA, Canada, Japan, Ireland, Poland, France). For Japan, the figures for 2011 and 2012 had to be extrapolated due to incomplete data. This year, the components of unit labour costs (wages per employee and real gross value per person engaged) were also not drawn from AMECO surveys, but based on own calculations.

Information on the selection of countries

The "EU trading partners" aggregate refers to the following countries: EU 27 without Austria, Malta, Cyprus, Romania and Bulgaria. The term "all trading partners" considers data from the following countries: EU 27 without Austria, Malta, Cyprus, Romania and Bulgaria, but including Norway, the USA, Canada and Japan. This selection of countries covers more than three quarters of all Austrian exports and about 85 percent of all imports.

Directly after its introduction as an electronic currency (January 1999), the euro lost ground to the dollar and other major currencies, resulting in a decline in the nominal-effective exchange rate – that is, an exchange rate index weighted with export shares – from an Austrian perspective. The noticeable appreciation of the euro between 2000 and 2009 exerted slight pressure on the production costs of the Austrian export economy. Within this period, the nominal-effective exchange rate grew by nearly 11 percent (Figure 1). The strength of the euro compared to the dollar was mainly responsible for this development: between 2000 and 2009 the dollar lost about one third of its value against the euro. The euro also rose in value against the

currencies of other relevant trading partners: over 46 percent against the British pound, 30 percent against the yen and 25 percent against the Swedish krona.

Since 2010, the trend has been more favourable from the perspective of Austria's export economy. The nominal effective exchange rate declined in the last three years by a total of 4.5 percent, reaching the approximate level of 2003. Compared to 2011, in 2012 the weighted exchange rate dropped by 1.7 percent, thereby supporting the price competitiveness of Austrian industry. In particular, exports to the USA and Japan were significantly cheaper in 2012, as the euro depreciated by nearly 8 percent against the dollar and the yen. Compared to 2009, the yen (+21.2 percent), the Swedish krona (+18 percent) and the Canadian dollar (+18 percent) appreciated most.

Figure 1: Development of the nominal-effective exchange rate index for industrial goods



Source: WIFO database.

The development of labour costs in the manufacturing of goods can be estimated on the basis of gross wages per employee in national currency (Table 1). This figure from national accounts measures the per capita sum of wages and salaries including the social security contributions of employers.

Nominally, per capita gross salaries in Austrian industry in 2012 increased by 3.2 percent compared to the previous year, which represents 0.7 percentage point more than the weighted average of all trading partners and over ½ percentage point more than that of the EU trading partners. In the last ten years, labour costs increased by 2.9 percent per year in Austria (+0.3 percentage points compared to all trading partners, +0.2 percentage point compared to the EU trading partners). Particularly during the 2006-2009 period, Austrian labour performance became significantly more expensive than that of its trading partners (Figure 2). In 2010, relative labour costs in Austria declined for the first time, and in 2011 and 2012 they were largely constant (in a common currency).

With the exception of Japan, which experienced a long period of deflation, over the last ten years none of the countries examined matched the moderate growth of wages in Germany (+1.9 percent per year on average between 2002 and 2012). Wages only began to rise more quickly in German industry than in Austria after the outbreak of the economic crisis (2009-2011), and in the other years they grew less quickly (Figure 2). In 2012, the increase in gross wages in Germany was also comparatively moderate at 2.4 percent. The Central and Eastern European countries are

Rise in labour costs at constant productivity

still undergoing a catching up process. Apart from the Czech Republic and Slovenia, all new EU countries recorded higher wage increases than Austria in 2012. Conversely, wages in the crisis countries on the periphery of the euro zone developed very weakly, and in Greece they even declined. Even high-wage countries such as France, Denmark and the Netherlands, which were more strongly affected by the crisis than Austria, displayed muted wage dynamics.

Table 1: Development of per-capita labour costs (employees) in the manufacturing of goods

In national currency

	Ø 2002-2007	Ø 2007-2012	Ø 2002-2012	2010	2011	2012
	Year-to-year percentage changes					
Austria	+ 3.0	+ 2.9	+ 2.9	+ 1.8	+ 3.4	+ 3.2
Belgium	+ 3.0	+ 2.4	+ 2.7	+ 4.8	+ 2.6	+ 3.6
Denmark	+ 4.3	+ 2.9	+ 3.6	+ 5.7	+ 2.4	+ 1.6
Germany	+ 1.8	+ 1.9	+ 1.9	+ 4.7	+ 3.9	+ 2.4
Greece	+ 7.4	- 2.6	+ 2.3	+ 3.9	- 5.2	- 4.8
Spain	+ 4.7	+ 2.3	+ 3.5	+ 2.0	- 0.5	+ 2.1
France	+ 3.3	+ 2.9	+ 3.1	+ 3.5	+ 4.9	+ 1.9
Ireland	+ 6.1	+ 0.0	+ 3.0	+ 0.9	- 2.5	+ 0.5
Italy	+ 3.0	+ 1.8	+ 2.4	+ 4.7	+ 3.4	+ 1.7
Luxembourg	+ 2.6	+ 1.6	+ 2.1	+ 1.7	+ 3.3	+ 0.1
Netherlands	+ 3.0	+ 2.3	+ 2.6	+ 2.4	+ 2.1	+ 2.2
Portugal	+ 3.5	+ 2.5	+ 3.0	+ 4.4	+ 2.4	+ 1.1
Finland	+ 3.6	+ 1.4	+ 2.5	+ 2.6	+ 3.1	+ 3.3
Sweden	+ 4.0	+ 2.0	+ 3.0	+ 2.3	+ 1.0	+ 3.8
UK	+ 5.4	+ 3.8	+ 4.6	+ 4.6	+ 4.4	+ 2.2
Czech Republic	+ 6.7	+ 2.9	+ 4.8	+ 5.0	+ 3.2	+ 2.8
Estonia	+13.5	+ 2.2	+ 7.7	+ 7.5	- 3.9	+11.3
Latvia	+19.3	+ 6.2	+12.6	- 2.1	+24.2	+ 7.5
Lithuania	+13.6	+ 4.0	+ 8.7	+ 6.5	+ 5.2	+12.5
Hungary	+ 9.0	+ 3.9	+ 6.4	+ 3.4	+ 5.7	+ 7.0
Poland	+ 2.4	+ 6.1	+ 4.2	+ 7.9	+ 4.4	+ 7.6
Slovenia	+ 7.2	+ 3.8	+ 5.5	+ 8.5	+ 2.6	+ 2.1
Slovakia	+ 8.1	+ 4.6	+ 6.3	+ 6.9	+ 2.6	+ 5.2
Japan	- 0.7	+ 0.7	+ 0.0	+ 3.7	+ 3.0	+ 0.9
Canada	+ 3.8	+ 1.4	+ 2.6	+ 0.9	+ 2.0	+ 2.4
Norway	+ 5.3	+ 3.0	+ 4.1	+ 2.6	+ 3.9	+ 3.7
USA	+ 3.2	+ 1.7	+ 2.5	+ 3.4	+ 1.9	+ 1.6
EU trading partners ¹	+ 3.2	+ 2.3	+ 2.8	+ 4.5	+ 3.5	+ 2.6
All trading partners ²	+ 3.1	+ 2.2	+ 2.7	+ 4.4	+ 3.3	+ 2.5
Austria						
All trading partners ² = 100	- 0.1	+ 0.6	+ 0.3	- 2.4	+ 0.0	+ 0.7
EU trading partners ¹ = 100	- 0.2	+ 0.5	+ 0.2	- 2.6	- 0.1	+ 0.5
Germany = 100	+ 1.1	+ 1.0	+ 1.1	- 2.8	- 0.6	+ 0.8

Source: Eurostat, AMECO, ECB, national statistics, WIFO calculations. – ¹ Without Austria, Malta, Cyprus, Romania, Bulgaria; weighted average of the trading partners based on the calculation of the WIFO exchange rate index. – ² Without Austria, Malta, Cyprus, Romania, Bulgaria, but including Norway, the USA, Canada and Japan; weighted average of the trading partners based on the calculation of the WIFO exchange rate index.

An assessment of price competitiveness not only requires an international comparison of exchange rate relations and labour costs, but also a comparison of productivity. This is measured as real gross per capita value added (number engaged in employment).

After the productivity of Austrian goods production rose by around 9.4 percent in 2010 and 6.6 percent in 2011, it remained almost constant (+0.1 percent) in 2012. This value was the result of a weak increase in goods production (+1.1 percent) which coincided with a robust expansion of employment (+1 percent)¹.

¹ Source: National accounts, Statistics Austria, WIFO calculations.

Despite the cyclical stagnation of productivity, Austria compares favourably in an international context (Table 2). In Germany, gross per capita value added dropped by 2.3 percent in 2012. However, productivity in goods production also declined in other EU countries such as France, Belgium, Italy, Sweden and the UK. In some crisis countries (Greece, Spain, Portugal and Ireland), the level of productivity increased significantly, however this development also reflects a significant reduction in jobs and thus an increase in unemployment. Outside of Europe, the USA recorded particularly robust growth in productivity (+3.7 percent).

Table 2: Development of per capita productivity (employees) in the manufacturing of goods

In national currency

	Ø 2002-2007	Ø 2007-2012	Ø 2002-2012	2010	2011	2012
	Year-to-year percentage changes					
Austria	+ 4.7	+ 1.2	+ 2.9	+ 9.4	+ 6.6	+ 0.1
Belgium	+ 3.1	- 0.1	+ 1.5	+ 9.1	+ 3.4	- 1.5
Denmark	+ 3.0	+ 2.6	+ 2.8	+ 12.5	+ 3.7	+ 4.6
Germany	+ 5.4	- 0.7	+ 2.3	+ 21.5	+ 6.3	- 2.3
Greece	+ 3.1	+ 2.0	+ 2.6	+ 7.6	- 5.0	+ 14.3
Spain	+ 2.0	+ 2.7	+ 2.4	+ 9.6	+ 3.8	+ 1.9
France	+ 4.1	+ 0.9	+ 2.5	+ 8.3	+ 3.5	- 1.3
Ireland	+ 3.3	+ 3.5	+ 3.4	+ 11.3	+ 4.2	+ 2.5
Italy	+ 1.3	- 1.1	+ 0.1	+ 11.7	+ 1.5	- 2.2
Luxembourg	+ 2.6	- 7.8	- 2.7	+ 9.8	+ 1.3	- 6.8
Netherlands	+ 4.5	+ 0.9	+ 2.7	+ 9.8	+ 4.5	+ 0.0
Portugal	+ 2.8	+ 3.0	+ 2.9	+ 11.1	+ 3.2	+ 3.3
Finland	+ 7.8	- 3.0	+ 2.2	+ 13.5	+ 0.9	+ 0.2
Sweden	+ 7.8	+ 1.9	+ 4.8	+ 29.5	+ 5.0	- 2.1
UK	+ 5.1	+ 1.0	+ 3.0	+ 6.5	+ 4.0	- 2.5
Czech Republic	+ 10.6	+ 4.4	+ 7.5	+ 16.3	+ 5.3	+ 0.0
Estonia	+ 6.9	+ 1.7	+ 4.2	+ 30.9	+ 6.9	+ 0.3
Latvia	+ 5.5	+ 8.0	+ 6.8	+ 18.2	+ 24.3	+ 5.0
Lithuania	+ 9.0	+ 7.0	+ 8.0	+ 18.2	+ 8.4	+ 12.2
Hungary	+ 8.8	- 0.1	+ 4.2	+ 15.8	+ 0.0	- 0.1
Poland	+ 7.3	+ 7.3	+ 7.3	+ 11.0	+ 7.2	+ 6.0
Slovenia	+ 7.1	+ 1.9	+ 4.5	+ 14.4	+ 3.7	+ 0.7
Slovakia	+ 13.5	+ 7.6	+ 10.5	+ 25.6	+ 2.1	+ 13.8
Japan	+ 5.2	+ 2.3	+ 3.7	+ 20.5	+ 0.8	+ 1.9
Canada	+ 1.4	+ 0.3	+ 0.8	+ 4.5	+ 1.4	+ 0.9
Norway	+ 3.4	+ 1.8	+ 2.6	+ 6.6	+ 2.4	+ 1.6
USA	+ 5.8	+ 2.0	+ 3.9	+ 7.8	+ 0.7	+ 3.7
EU trading partners ¹	+ 5.1	+ 0.4	+ 2.7	+ 16.6	+ 4.7	- 1.0
All trading partners ²	+ 5.2	+ 0.6	+ 2.8	+ 15.8	+ 4.2	- 0.5
Austria						
All trading partners ² = 100	- 0.5	+ 0.6	+ 0.1	- 5.5	+ 2.3	+ 0.7
EU trading partners ¹ = 100	- 0.5	+ 0.8	+ 0.2	- 6.1	+ 1.8	+ 1.2
Germany = 100	- 0.7	+ 2.0	+ 0.6	- 10.0	+ 0.3	+ 2.5

Source: Eurostat, AMECO, ECB, national statistics, WIFO calculations. – ¹ Without Austria, Malta, Cyprus, Romania, Bulgaria; weighted average of the trading partners based on the calculation of the WIFO exchange rate index. – ² Without Austria, Malta, Cyprus, Romania, Bulgaria, but including Norway, the USA, Canada and Japan; weighted average of the trading partners based on the calculation of the WIFO exchange rate index.

In total, the productivity of persons employed in Austrian goods manufacturing rose by about a third between 2002 and 2012, which corresponds to an average annual increase of 2.9 percent. In the long term, the productivity of Austrian industry developed slightly more favourably than the average of all trading partners (+0.1 percentage point per year). Compared to the EU trading partners (+0.2 percentage point per year) and above all Germany (+0.6 percentage point), the advantage was greater. Productivity in Austria showed an above-average increase in particular since 2007 (+0.6 percentage points per year between 2007 and 2012 compared to the average of all trading partners). The advantage over Germany (+2 percentage

points per year) carries great weight here, as compared to the average of all trading partners without Germany productivity increases in Austria were slightly stagnant. The greatest rates of increase during this period could be seen in the Eastern Central European countries (above all, Slovakia, Latvia, Lithuania and Poland), followed by the crisis countries Ireland, Portugal and Spain.

The development of unit labour costs (labour costs per unit of production) is calculated based on per capita changes in labour costs (gross wages) and productivity (gross value added). In the period between 2002 and 2012, unit labour costs in Austrian goods production fluctuated considerably without reflecting a clear trend. In 2002 and 2003 they increased significantly due to weak productivity growth, and they decreased from 2004 until the outbreak of the financial crisis. Due to the slump in productivity and concurrent rise in labour costs, the year 2008 (+5.4 percent) and especially 2009 (+10.7 percent) showed an unusually large rise in unit labour costs, which was in partly offset afterwards. The decline by 6.9 percent in 2010 was followed by a decrease of approximately 3 percent in 2011. In 2012, however, unit labour costs again increased by about 3 percent due to a rise in costs in combination with stagnant productivity. In the long term average, this course shows nearly constant unit labour cost development, with the unit labour cost index of 2012 (most recently) reaching nearly the same level of 2002.

In the other countries, the economic crisis also led to highly erratic changes in unit labour costs. In Germany, the price competitiveness of industry improved more significantly during the 2002-2007 period than in Austria, but collapsed to such an extent during the crisis of 2008 and 2009 that labour costs cumulatively increased by almost 30 percent during these two years (+17 percent in Austria). Similarly to Austria, this effect was partly offset in subsequent years. In 2012, labour costs per unit of production in German industry increased once again by 4.8 percent. In total, the rise in unit labour costs in Germany between 2007 and 2012 by 2.6 percent per year was about 1 percentage point higher per year than in Austria, while in the period between 2002 and 2012 it was slightly lower at -0.4 percent per year.

In the sum of all trading partners, labour costs per unit of production also decreased during the 2002-2012 period by an average of 0.4 percent per year. In relation to the average of all trading partners they deteriorated by 1.2 percentage points in Austria and improved by 0.3 percentage point per year between 2002 and 2007. In 2012 unit labour costs in Austria declined by 1.1 percent compared to all trading partners, and by 0.8 percent in relation to the EU trading partners. The development in Germany, which strongly influences the average, was in part the opposite of the non-European and other EU trading partners. This is particularly true for the period between 2007 and 2012, during which German unit labour costs increased more significantly than in Austria, while the development was weaker in the average of the other countries, and in particular the EU countries without Germany.

When interpreting these results it is important to consider that the calculation of average rates of change over a period is very much influenced by the choice of the start and end years. The real effective exchange rate deflated by unit labour costs (2005 = 100) shows shifts and long term developments very clearly (Figure 2). Accordingly, the price competitiveness of Austrian manufacturing of goods significantly improved compared to the average of all trading partners during the second half of the 1990s. Following a reverse development in the early 2000s, Austria's relative unit labour cost position showed only comparatively small fluctuations after 2003.

The competitiveness of an export economy is not only determined by the development of unit labour costs in the production of goods, but also by that of the economy as a whole. To the extent that services and non-tradable goods are important as intermediate inputs, its cost development has an impact on the competitiveness of those sectors involved in foreign trade (*Deutsche Bundesbank*, 1998).

Slight improvement of relative unit labour cost position in the manufacturing of goods

Unit labour cost position of the economy as a whole somewhat worsened

Table 3: Development of per capita unit labour costs (employees) in the manufacturing of goods in the economy as a whole

In €

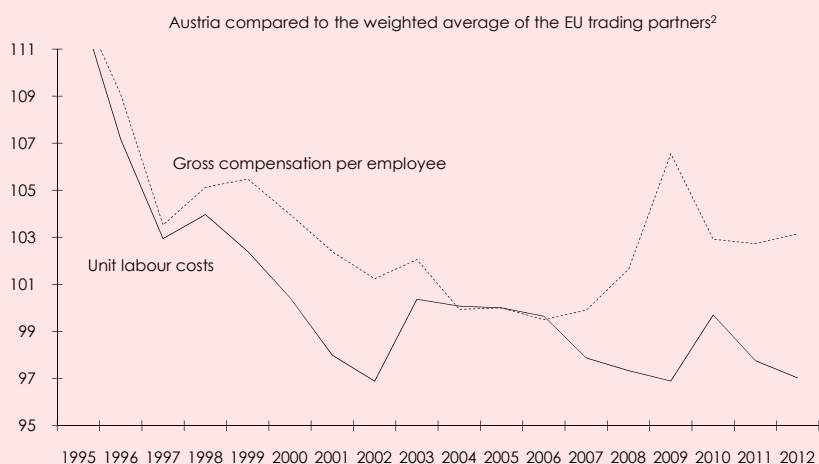
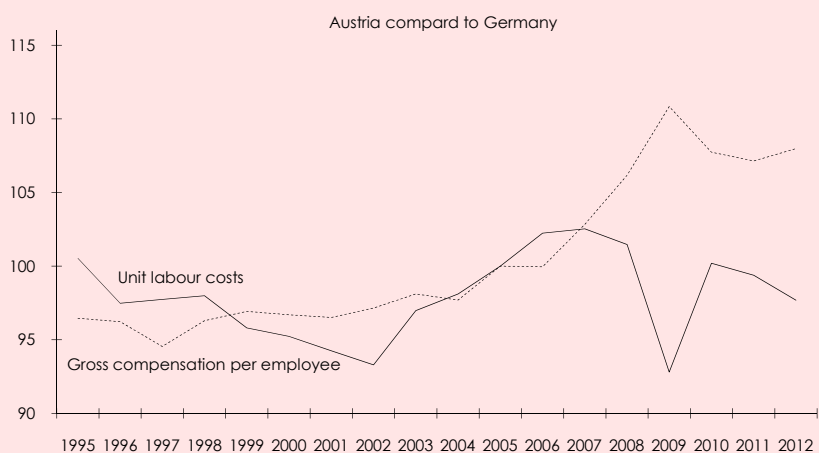
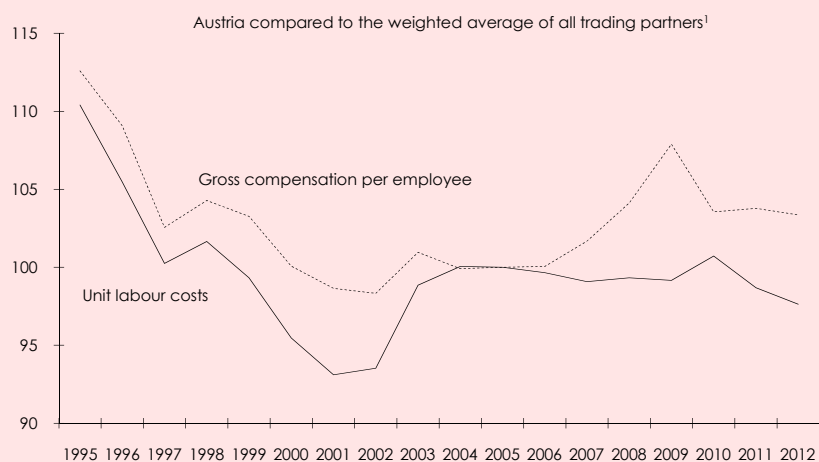
	Ø 2002-2007	Ø 2007-2012	Ø 2002-2012	2010	2011	2012
	Year-to-year percentage change					
<i>Manufacturing of goods</i>						
Austria	- 1.6	+ 1.6	+ 0.0	- 6.9	- 3.0	+ 3.0
Belgium	- 0.1	+ 2.5	+ 1.2	- 4.0	- 0.7	+ 5.2
Denmark	+ 1.3	+ 0.4	+ 0.8	- 6.0	- 1.3	- 2.8
Germany	- 3.4	+ 2.6	- 0.4	- 13.8	- 2.2	+ 4.8
Greece	+ 4.2	- 4.5	- 0.2	- 3.4	- 0.2	- 16.7
Spain	+ 2.7	- 0.5	+ 1.1	- 7.0	- 4.1	+ 0.2
France	- 0.8	+ 2.0	+ 0.6	- 4.4	+ 1.3	+ 3.3
Ireland	+ 2.7	- 3.3	- 0.3	- 9.3	- 6.4	- 1.9
Italy	+ 1.7	+ 3.0	+ 2.3	- 6.3	+ 1.8	+ 4.0
Luxembourg	+ 0.0	+ 10.1	+ 4.9	- 7.4	+ 2.0	+ 7.4
Netherlands	- 1.5	+ 1.4	- 0.1	- 6.7	- 2.3	+ 2.2
Portugal	+ 0.7	- 0.6	+ 0.1	- 6.0	- 0.7	- 2.1
Finland	- 3.8	+ 4.6	+ 0.3	- 9.6	+ 2.2	+ 3.1
Sweden	- 3.7	+ 1.3	- 1.2	- 12.1	+ 1.6	+ 10.0
UK	- 1.3	- 0.7	- 1.0	+ 2.0	- 0.8	+ 12.1
Czech Republic	- 1.6	+ 0.5	- 0.5	- 5.7	+ 0.8	+ 0.6
Estonia	+ 6.2	+ 0.5	+ 3.3	- 17.9	- 10.1	+ 11.0
Latvia	+ 8.9	- 1.6	+ 3.5	- 17.5	+ 0.3	+ 3.7
Lithuania	+ 4.3	- 2.8	+ 0.7	- 9.9	- 3.0	+ 0.2
Hungary	- 0.5	+ 1.1	+ 0.3	- 9.2	+ 4.2	+ 3.4
Poland	- 4.2	- 3.1	- 3.7	+ 5.3	- 5.5	- 0.1
Slovenia	- 1.0	+ 1.8	+ 0.4	- 5.2	- 1.1	+ 1.4
Slovakia	- 0.2	- 0.6	- 0.4	- 14.9	+ 0.4	- 7.5
Japan	- 11.3	+ 7.8	- 2.2	- 3.7	+ 7.2	+ 7.1
Canada	+ 2.7	+ 3.9	+ 3.3	+ 12.0	- 0.1	+ 8.6
Norway	+ 0.6	+ 2.6	+ 1.6	+ 5.0	+ 4.2	+ 6.4
USA	- 9.5	+ 1.0	- 4.4	+ 0.7	- 3.5	+ 6.1
EU trading partners ¹	- 1.8	+ 1.8	+ 0.0	- 9.6	- 1.1	+ 3.8
All trading partners ²	- 2.7	+ 1.9	- 0.4	- 8.4	- 1.0	+ 4.1
<i>Austria</i>						
All trading partners ² = 100	+ 1.2	- 0.3	+ 0.4	+ 1.6	- 2.0	- 1.1
EU trading partners ¹ = 100	+ 0.2	- 0.2	+ 0.0	+ 2.9	- 1.9	- 0.8
Germany = 100	+ 1.9	- 1.0	+ 0.5	+ 8.0	- 0.8	- 1.7
<i>Economy as a whole</i>						
Austria	+ 0.8	+ 2.4	+ 1.6	+ 0.0	+ 0.8	+ 3.0
EU trading partners ¹	+ 0.8	+ 2.0	+ 1.4	+ 0.1	+ 1.1	+ 2.5
All trading partners ²	+ 0.0	+ 2.2	+ 1.1	+ 0.9	+ 0.8	+ 3.4
<i>Austria</i>						
All trading partners ² = 100	+ 0.8	+ 0.2	+ 0.5	- 0.9	+ 0.0	- 0.4
EU trading partners ¹ = 100	+ 0.0	+ 0.4	+ 0.2	- 0.1	- 0.3	+ 0.5
Germany = 100	+ 1.5	+ 0.2	+ 0.8	+ 1.2	- 0.6	+ 0.1

Source: Eurostat, AMECO, ECB, national statistics, WIFO calculations. Unit labour costs: Quotient of per capita gross wages (employees) and real per capita gross value added or GDP (persons employed). – ¹ Without Austria, Malta, Cyprus, Romania, Bulgaria; weighted average of the trading partners based on the calculation of the WIFO exchange rate index. – ² Without Austria, Malta, Cyprus, Romania, Bulgaria, but including Norway, the USA, Canada and Japan; weighted average of the trading partners based on the calculation of the WIFO exchange rate index.

During the 2002-2012 period, the unit labour costs of the economy as a whole rose more significantly than in the production of goods, both in Austria and among the trading partners. This is consistent with expectations, as the greatest potential to increase labour productivity through mechanisation and automation can be found in the production of goods. Austrian labour costs per unit of production increased by 3 percent on average across all sectors in 2012 and by 1.6 percent per year over the 2002-2012 period. In the average of all trading partners, unit labour costs of the economy as a whole increased slightly more in 2012 (+3.4 percent), however in the longer term they increased more weakly than in Austria at +1.1 percent per year.

Figure 2: Development of relative labour and unit labour costs in the manufacturing of goods

In €, 2005 = 100



Source: Eurostat, AMECO, ECB, national statistics, WIFO calculations. – ¹ Without Austria, Malta, Cyprus, Romania, Bulgaria, but including Norway, the USA, Canada and Japan. – ² Without Austria, Malta, Cyprus, Romania, Bulgaria.

In the years leading up to the economic crisis, Germany took on a special role, as unit labour costs in the economy as a whole rose less quickly in Germany than in any other country. The difference between Germany and the other EU countries was

particularly marked from the early 2000s to 2008. Since the financial crisis, unit labour costs in the economy as a whole have developed similarly in Germany and the countries of comparison. Furthermore, during the financial crisis other sectors appear to have had a dampening effect on the cost structure of goods production, which somewhat compensated the sharp rise in unit labour costs in this area (Leoni, 2012). In relation to Germany, unit labour costs in Austria increased by about 1.5 percentage points per year during the 2002-2007 period. In the following five years, the difference was only +0.2 percentage point per year, and +0.1 percentage point in 2012.

The economic slump in 2012 resulted in an increase in unit labour costs in the manufacturing of goods. After a significant improvement in 2010 (+9.4 percent) and 2011 (+6.6 percent), productivity in Austrian goods production increased only slightly in 2012 (+0.1 percent). Meanwhile, labour costs increased by 3.2 percent in 2012, approximately to the same extent as in 2011 (+3.4 percent).

Together, these developments resulted in an increase in unit labour costs of about 3 percent. Because the trading partners and Germany also stood under the influence of the financial crisis, this increase did not worsen the international unit labour cost position of Austrian manufacturing. On the contrary, the currently available data show a slight improvement in Austria's unit labour cost position in 2012, both compared to the average of all trading partners (1.1 percent) and compared to Germany (1.7 percent). This development was fostered by the decline in the nominal-effective exchange rate (-1.7 percent in 2012). In 2011, Austria's unit labour costs decreased by 2 percent compared to the trading partners and by 0.8 percent compared to Germany.

As a result, since the outbreak of the financial crisis, Austria's unit labour cost position in the production of goods has continued to develop more favourably than the weighted average of the countries of comparison. However, this result is based on data which may still be subject to extensive revisions. Due to strong cyclical fluctuations in recent years and certain special effects (such as the impact of short-time work and other labour market policy measures), international unit labour cost data following the financial crisis should be interpreted with particular caution.

In addition, the favourable development in Austria in recent years compared to that of the trading partners is largely due to the development in Germany, whose foreign economy carries a weight of one third in the calculation of the real effective exchange rate. However, the decline in the price competitiveness of German exports may be slightly exaggerated as a result of the unit labour cost data for the production of goods, because unit labour costs in other sectors of the German economy increased at a much weaker rate (relative to Austria). This has a dampening effect on the cost structure of goods production, which is not visible in the unit labour cost position in this area.

In the longer term, different stages can be observed in the development of the price competitiveness of Austrian industry. The strong improvement of Austria's unit labour cost position compared to the average of all trading partners in the second half of the 1990s was followed by an opposite trend in the early 2000s. Since 2003, the relative unit labour cost position of Austrian goods manufacturing has fluctuated only slightly, showing a slight increase until 2010 and a decline in 2011 and 2012.

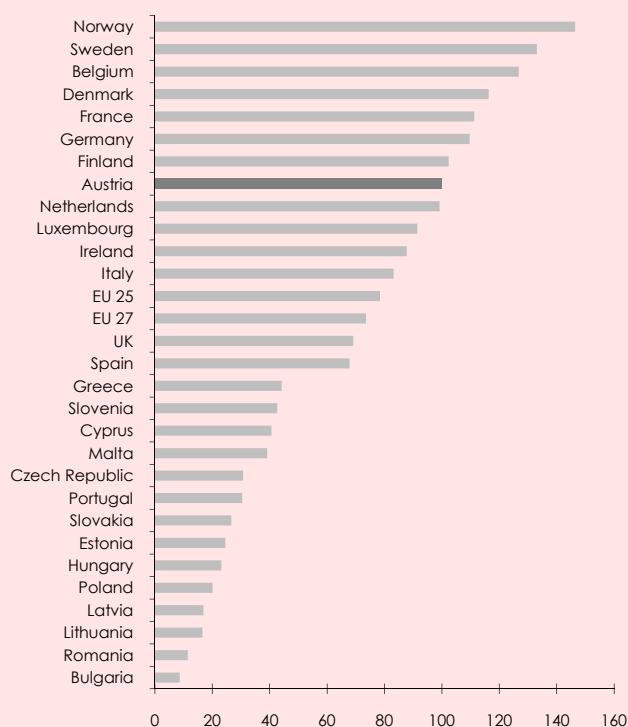
While only data on labour costs per worker are available for the calculation of current, internationally comparable unit labour costs in the production of goods, the present report can present data on labour costs per hour worked, at least for European countries. These are based on the labour cost survey, which is carried out in the EU countries every four years. The annual development between two surveys is extrapolated based on a labour cost index. As in the report from the previous year (Leoni, 2012), the results reported here are based on the 2008 survey published at the end of 2010 and the annually updated index values.

Summary

Appendix: hourly labour costs in the manufacturing of goods

Figure 3: Labour costs in the manufacturing of goods in international comparison

In €, 2012, Austria = 100



Source: Eurostat (employee survey 2008; labour cost index), WIFO calculations.

Table 4: Hourly labour costs in the manufacturing of goods

	2008	2009	2010	2011	2012
			In €		
Bulgaria	2.2	2.4	2.6	2.7	2.9
Romania	3.3	3.2	3.5	3.7	3.8
Lithuania	5.5	5.2	5.1	5.2	5.5
Latvia	5.2	5.2	5.0	5.3	5.6
Poland	6.8	5.8	6.4	6.5	6.6
Hungary	7.5	6.9	7.0	7.4	7.7
Estonia	7.2	7.2	7.2	7.6	8.1
Slovakia	7.3	7.9	7.9	8.4	8.8
Portugal	9.9	10.4	10.6	10.5	10.0
Czech Republic	8.7	8.8	9.3	10.1	10.2
Malta	11.3	11.5	12.0	12.4	12.9
Cyprus	12.4	12.7	13.0	13.3	13.4
Slovenia	12.3	13.0	13.4	13.7	14.1
Greece	15.8	16.3	16.6	15.7	14.6
Spain	20.3	21.4	21.6	21.9	22.4
UK	21.5	19.6	21.0	21.0	22.8
EU 27	22.0	22.7	23.0	23.7	24.3
EU 25	23.5	24.2	24.5	25.3	25.9
Italy	24.0	25.7	26.0	26.6	27.5
Ireland	28.1	29.0	28.6	28.3	29.0
Luxembourg	28.3	29.3	29.1	29.7	30.2
Netherlands	30.3	31.0	31.5	32.2	32.8
Austria	30.0	31.5	31.2	31.9	33.0
Finland	30.1	32.0	31.6	32.4	33.8
Germany	33.4	33.9	34.1	35.4	36.2
France	33.2	33.3	34.6	35.9	36.8
Denmark	35.1	36.0	37.0	38.0	38.4
Belgium	36.7	38.2	39.5	40.6	41.9
Sweden	34.5	32.8	37.2	40.5	44.0
Norway	36.9	36.5	41.4	44.0	48.4

Source: Eurostat (employee survey 2008; labour cost index), WIFO calculations.

Unlike the labour cost survey, the labour cost index is not determined according to the same statistical scheme in all countries. Thus, cross-national comparisons are somewhat limited. For Austria, the index is based on data from the Economic Survey. Table 4 depicts the values obtained on the basis of the labour cost index for the 2008-2012 period.

Due to the financial crisis, an international comparison of hourly labour costs is particularly difficult for this period. On the one hand, the impact of short-time work is not fully reflected in the development of labour costs, as the public contribution to additional costs is not reflected in the Austrian economic survey. On the other hand, there is no information about the extent to which short-time work or other labour market policy measures implemented in the wake of the economic crisis affect the labour cost data of the other countries.

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Unit Labour Cost Position in the Production of Goods Stable in 2012 despite Economic Slump – Summary

After a significant improvement in 2010 (+9.4 percent) and 2011 (+6.6 percent), productivity in Austrian manufacturing rose only marginally in 2012 (+0.1 percent). Labour costs, however, increased by 3.2 percent, approximately to the same extent as in 2011 (+3.4 percent).

Together, these developments resulted in an increase in unit labour costs of about 3 percent. Because the trading partners and Germany were also influenced by the economic crisis, this increase did not result in a worsening of the international unit labour cost position of Austrian manufacturing. On the contrary, the currently available data indicate a slight improvement in Austria's unit labour cost position in 2012, both relative to the average of all trading partners (+1.1 percent) and to Germany (+1.7 percent). This development was encouraged by the decline in the nominal-effective exchange rate. In 2011, Austria's unit labour costs had dropped by 2 percent with respect to the trading partners and by 0.8 percent with respect to Germany.

Seen in the long term, distinct phases can be discerned in the development of the price competitiveness of Austrian manufacturing. A significant improvement of Austria's unit labour cost position with respect to the average of all trading partners in the second half of the 1990s was followed by a reverse development in the early 2000s. Since 2003, Austria's relative unit labour cost position has fluctuated only slightly, displaying a slight increase until 2010 and a decline in 2011 and 2012.

The favourable development in Austria in recent years compared to that of the trading partners can largely be attributed to the poorer performance of Germany, that has a weight of one third in our calculations. Disregarding Germany, the trading partners in the EU Area exhibit a more favourable unit labour cost development than Austria.