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Unit Labour Cost Position of Austrian Manufacturing Shows Moderate Deterioration in 2014

In combination with a rise in labour costs in 2014, weak growth in Austria led to an increase in unit labour costs for manufacturing. Relative to the weighted average of all trading partners, this resulted in the second deterioration of Austrian unit labour cost position in a row. Seen in the long term, the relative unit labour costs of Austrian manufacturing have shown relatively little variation since 2003, remaining generally constant up to 2008 and since taking a slightly negative course.

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1. Relative unit labour costs as a measure of price competitiveness

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

The present analysis compares the evolution of price competitiveness based on the course of unit labour costs in the manufacturing sector as well as in the economy as a whole in Austria and its most important trading partners using data from 1995 up to and including 2014, the most recent year for which national accounts are available. The values for 2014 are provisional; experience has shown that they may be significantly revised. However, the interpretation of medium and long-term development will hardly be affected by this.

2. Nominal effective exchange rate also increased in 2014

The relative unit labour cost position reflects the real external value of the national currency and corresponds to a real effective exchange rate. The starting point for any observation of price competitiveness is the nominal effective exchange rate, i.e., a comparison of the national currency with a basket of currencies (see the box "Calculation method and data basis for the comparison of unit labour costs"), which expresses the relevance of the individual trading partners to the foreign trade interdependencies of the domestic economy based on a weighting scheme. The nominal effective exchange rate is then deflated with unit labour costs in order to determine the unit labour cost position of Austrian manufacturing. Since the introduction

of the euro, exchange rate fluctuations have lost some of their significance for the Austrian export economy, as the major trading partners also belong to the European Monetary Union. In the weighting scheme of the effective exchange rate, more than 70 percent is attributable to euro-area countries. Nevertheless, the course of the nominal effective exchange rate (Figure 1) is an important determinant of price competitiveness.

Immediately after its launch as book money (January 1999), the euro dropped against the dollar and other major currencies; from the Austrian perspective, the nominal effective exchange rate, i.e., the exchange rate index weighted with foreign trade shares, thereby declined[1]. Between 2000 and 2009 the dollar lost about one third of its value against the euro. During this period, however, the euro also noticeably appreciated against the currencies of the other relevant trading partners – by over 46 percent against the British pound, more than 30 percent against the yen and more than 25 percent against the Swedish krona. The considerable appreciation of the euro between 2000 and 2009 exerted slight pressure on the production costs of the Austrian export economy. In this period, the nominal effective exchange rate rose by nearly 11 percent.

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

Source: WIFO database.

Between 2010 and 2012 the development was more favourable from the perspective of Austrian exports: in those years the nominal effective exchange rate declined by a total of 4.5 percent. In 2013, however, the weighted exchange rate increased by 1.8 percent, in particular due to the strong depreciation of the yen against the euro (–26.3 percent). 2014 saw a further increase of 1.2 percent, partly due to a further depreciation of the Japanese currency (–8.3 percent). At the same time, Austria's exports to Canada (+7.2 percent), Norway (+7 percent) and Sweden (+5.2 percent) became more expensive. Against the British pound, however, the euro lost about 5 percent of its value, while the exchange rate against the dollar remained virtually unchanged.

[1] An increase in the exchange rate corresponds to an increase in value of the euro; a decrease corresponds to a devaluation.

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

Unit labour costs in national currency (ULC) in an industry, a sector or the total economy 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 the wage sum 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):

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

WIFO uses this formula and data obtained following the national accounts methodology to calculate the unit labour costs. For Austrian manufacturing, 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. 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 area 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). In 2013 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 taken into account, 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.

The data on gross wages, productivity and unit labour costs in manufacturing and the total economy were largely generated based on Eurostat figures, because these are generally more up-to-date than those of the AMECO database. Where the Eurostat database did not contain current values, figures from the European Central Bank database and national statistics of the respective countries were used (this applied to the USA, Canada, Japan, Poland, and Luxembourg). Because the data for Japan were incomplete for the year 2014, estimates were carried out based on data from the AMECO database.

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.

3. Rise in labour costs with slight productivity increase

The development of labour costs in manufacturing can be assessed on the basis of gross salaries per employee in national currency (Table 1). This figure from the national accounts records total per-capita wages and salaries, including employers' social security contributions.

Gross per-capita earnings in Austrian industry in 2014 increased by 2.3 percent. As a result, labour costs in Austria increased by 0.4 percent, less than in the weighted average of all trading partners and in Germany. In a longer-term perspective, however, labour costs in Austria tended to develop more dynamically than in the average of trading partners. In the past decade they increased by 2.9 percent p.a. in Austria, while in the average of the EU trade partners and all trading partners the increase was 2.6 percent and 2.5 percent respectively per year.

As the observation in a single currency, i.e., net of exchange rate fluctuations, shows, labour performance in Austria became significantly more expensive during the 2006-2009 period (Figure 2). In 2010, relative labour costs in Austria decreased again for the first time, while between 2011 and 2014 they again increased (in €) more significantly than the average of the trading partners.

Table 1: Development of per-capita labour costs in the manufacturing sector

In national currency

	Ø 2004-2009	Ø 2009-2014	Ø 2004-2014	2012	2013	2014
	Year-to-year percentage changes			Percentage changes from previous year		
Austria	+ 2.9	+ 2.9	+ 2.9	+ 3.8	+ 2.4	+ 2.3
Belgium	+ 2.1	+ 3.4	+ 2.8	+ 3.5	+ 3.3	+ 2.8
Denmark	+ 3.7	+ 2.9	+ 3.3	+ 1.4	+ 2.5	+ 2.5
Germany	+ 0.9	+ 3.1	+ 2.0	+ 1.5	+ 3.4	+ 2.7
Greece	+ 3.0	– 1.0	+ 1.0	– 5.7	– 5.9	+ 2.5
Spain	+ 5.2	+ 1.6	+ 3.4	+ 1.0	+ 1.4	+ 1.4
France	+ 2.6	+ 3.0	+ 2.8	+ 2.0	+ 2.6	+ 2.0
Ireland	+ 4.2	+ 0.8	+ 2.5	+ 1.0	+ 0.1	+ 3.8
Italy	+ 1.6	+ 2.8	+ 2.2	+ 0.2	+ 2.6	+ 2.7
Luxembourg	+ 2.6	+ 1.7	+ 2.1	+ 1.5	+ 3.1	+ 2.4
Netherlands	+ 3.4	+ 1.7	+ 2.5	+ 2.7	+ 2.2	+ 3.3
Portugal	+ 3.2	+ 1.3	+ 2.3	– 0.1	+ 1.0	+ 0.6
Finland	+ 2.6	+ 2.1	+ 2.3	+ 1.8	+ 0.5	+ 1.7
Sweden	+ 3.4	+ 2.4	+ 2.9	+ 3.1	+ 2.1	+ 1.7
UK	+ 4.5	+ 3.7	+ 4.1	+ 3.6	+ 4.8	+ 2.9
Czech Republic	+ 4.0	+ 2.3	+ 3.2	+ 1.8	+ 0.9	+ 0.9
Estonia	+10.1	+ 8.9	+ 9.5	+16.2	+ 9.0	+15.7
Latvia	+15.8	+ 6.5	+11.1	+ 6.1	+14.3	+10.4
Lithuania	+ 7.3	+ 5.7	+ 6.5	+ 4.6	+ 0.9	+10.0
Hungary	+ 5.5	+ 5.2	+ 5.4	+ 6.4	+ 8.2	+ 2.7
Poland	+ 3.5	+ 6.3	+ 4.9	+ 4.8	+ 4.6	+ 5.6
Slovenia	+ 5.2	+ 3.9	+ 4.5	+ 2.4	+ 2.7	+ 3.2
Slovakia	+ 6.3	+ 4.7	+ 5.5	+ 5.9	+ 3.2	+ 4.5
Japan	– 1.3	+ 1.8	+ 0.3	+ 0.6	+ 0.6	+ 2.1
Canada	+ 2.7	+ 2.5	+ 2.6	+ 3.8	+ 2.1	+ 1.9
Norway	+ 4.2	+ 4.0	+ 4.1	+ 4.9	+ 4.3	+ 3.5
USA	+ 2.0	+ 1.8	+ 1.9	+ 1.4	+ 0.0	+ 2.8
EU trading partners[1]	+ 2.2	+ 3.1	+ 2.6	+ 1.9	+ 3.1	+ 2.7
All trading partners[2]	+ 2.1	+ 2.9	+ 2.5	+ 1.9	+ 2.8	+ 2.6
Austria						
All trading partners[2] = 100	+ 0.7	– 0.1	+ 0.3	+ 1.8	– 0.6	– 0.4
EU trading partners[1] = 100	+ 0.6	– 0.2	+ 0.2	+ 1.9	– 0.3	– 0.3
Germany = 100	+ 1.9	– 0.2	+ 0.9	+ 2.2	– 0.9	– 0.4

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.

Germany plays an important role in this development pattern: in the 2000s wages in Germany increased less, especially before the outbreak of the economic crisis, than the EU average and in Austria; from 2004 to 2009 Austria showed a 1.9 percent p.a. higher increase in wage costs than Germany. Since the crisis (2009-2014), in Austria labour costs have on the contrary developed on average 0.2 percent weaker than in Germany. In 2014 the difference was –0.4 percent (with wage costs in Germany at +2.7 percent).

In the other countries of the euro area, particularly those which were and are more severely affected by the crisis, wage dynamics proceeded quite differently than in Germany. After a sharp rise in labour costs prior to the crisis, a significant correction took place in a number of countries – that is, costs rose only slightly or partly declined. This correction mainly affected Greece, but also to varying degrees Ireland, Portugal and Spain. Moreover, some traditional high-wage countries such as Sweden and Finland reported a subdued rise in labour costs in the past two to three years.

Table 2: Development of per-capita productivity in the manufacturing sector

In national currency

	Ø 2004-2009	Ø 2009-2014	Ø 2004-2014	2012	2013	2014
	Year-to-year percentage changes			Percentage changes from previous year		
Austria	+ 1.1	+ 3.3	+ 2.2	+ 1.0	– 0.0	+ 1.1
Belgium	+ 0.5	+ 3.6	+ 2.0	+ 3.8	+ 2.4	+ 3.2
Denmark	+ 0.8	+ 5.7	+ 3.2	+ 5.9	+ 4.3	+ 0.5
Germany	– 1.7	+ 5.1	+ 1.7	– 2.4	+ 0.0	+ 1.8
Greece	– 0.7	– 1.4	– 1.1	+ 2.9	+ 2.3	+ 1.8
Spain	+ 2.0	+ 2.8	+ 2.4	+ 1.7	+ 3.6	+ 1.6
France	+ 1.7	+ 3.0	+ 2.3	+ 1.1	+ 0.4	+ 1.7
Ireland	– 1.8	+ 2.9	+ 0.5	+ 0.4	– 3.8	+ 1.1
Italy	– 1.8	+ 2.9	+ 0.5	– 1.6	+ 1.3	– 0.3
Luxembourg	– 1.8	+ 2.9	+ 0.5	– 4.8	+ 1.0	+ 3.9
Netherlands	– 5.3	+ 1.0	– 2.2	+ 0.4	+ 0.8	+ 2.6
Portugal	+ 1.7	+ 2.7	+ 2.2	+ 0.4	+ 2.6	– 1.6
Finland	+ 0.5	+ 0.8	+ 0.6	– 11.2	+ 2.4	+ 2.5
Sweden	+ 0.1	+ 4.6	+ 2.3	– 5.5	+ 2.1	+ 0.2
UK	+ 1.9	+ 2.1	+ 2.0	– 1.7	+ 0.2	+ 2.7
Czech Republic	+ 7.4	+ 3.9	+ 5.7	– 2.2	– 2.3	+ 4.0
Estonia	+ 2.9	+ 8.2	+ 5.5	+ 7.5	+ 0.3	+ 5.4
Latvia	+ 2.4	+ 3.9	+ 3.2	– 0.1	– 0.0	+ 4.9
Lithuania	+ 4.6	+ 7.4	+ 6.0	+ 2.2	+ 5.1	+ 3.8
Hungary	+ 1.7	+ 3.7	+ 2.7	+ 3.2	+ 1.4	+ 4.3
Poland	+ 5.3	+ 5.7	+ 5.5	+ 2.8	– 0.9	+ 3.5
Slovenia	+ 3.0	+ 4.4	+ 3.7	– 1.4	+ 1.6	+ 4.7
Slovakia	+ 5.5	+ 6.5	+ 6.0	+ 1.0	+ 0.8	+ 1.9
Japan	+ 0.4	+ 4.1	+ 2.2	+ 0.6	+ 2.3	– 0.6
Canada	+ 0.2	+ 2.6	+ 1.4	+ 1.8	+ 0.5	+ 3.4
Norway	– 0.4	+ 2.8	+ 1.2	+ 1.3	+ 1.7	+ 2.8
USA	+ 3.2	+ 0.9	+ 2.1	– 1.7	+ 0.2	+ 1.7
EU trading partners[1]	– 0.0	+ 4.2	+ 2.1	– 1.2	+ 0.5	+ 1.9
All trading partners[2]	+ 0.3	+ 3.9	+ 2.1	– 1.2	+ 0.5	+ 1.8
Austria						
All trading partners[2] = 100	+ 0.8	– 0.6	+ 0.1	+ 2.2	– 0.5	– 0.7
EU trading partners[1] = 100	+ 1.1	– 0.9	+ 0.1	+ 2.3	– 0.5	– 0.8
Germany = 100	+ 2.9	– 1.7	+ 0.5	+ 3.5	– 0.0	– 0.7

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 the Eastern Central European countries a catching-up process has taken place since the 1990s with respect to the Western European high-wage countries in terms of labour costs. Since the outbreak of the crisis, however, labour costs have devel-

oped in a differentiated way: while the catching-up process continued in some countries, such as Poland and the Baltic countries, other countries, in particular the Czech Republic, recorded only moderate wage growth rates in the more recent past.

An assessment of price competitiveness not only requires an international comparison of exchange rate relations and labour costs, but also productivity developments. Productivity is measured as real gross per-capita value added (employed persons).

Between 2003 and 2008, the annual growth rate of productivity in Austrian manufacturing averaged 4.3 percent. In 2008 and above all 2009, the sharp decline in external demand resulted in a slump in orders, which was reflected in a decline in gross per-capita value added (employed persons). On average, over the 2004-2009 period, productivity increased by an annual rate of only 1.1 percent (Table 2). In 2010 and 2011, economic growth and production in the manufacturing sector bounced back, so that the crisis-related slump value was compensated. Since 2012, however, productivity only rose very weakly. In 2014 the increase also dropped below the values of most countries under consideration, at +1.1 percent. This value resulted from a relatively weak increase in nominal goods production (+1.3 percent) at nearly constant employment (+0.2 percent)[2].

Because of the cyclical stagnation of productivity in 2014, Austria underperformed in an international comparison (Table 2). In Germany, for example, gross per-capita (employed persons) value added increased by 1.8 percent in 2014, as it also did in the EU trading partners (+1.9 percent). Overall, in 2014 Austria showed lower improvement in productivity by 0.7 percent than the weighted average of the trading partners. In 2013, Austrian productivity growth lagged 0.5 percent behind that of the trading partners. A slight improvement in productivity was observed in 2014 in the crisis countries Portugal and Italy, as well as in Denmark, Sweden and Japan. Whereas before the crisis productivity in Austrian manufacturing rose more vigorously than in the trading partners, during the 2009-2014 period it increased by 0.6 percent per year less than the average of trading partners and by 1.7 percent less than in Germany. The difference to Germany is, however, mainly due to the surge in productivity in Germany after the crisis (2010, +20.9 percent).

4. Deterioration of relative unit labour cost position in manufacturing

The impact of changes in labour costs (gross earnings) and productivity (gross per-capita value added) yields the development of unit labour costs (labour costs per unit of output). After an increase in the early 2000s, unit labour costs, supported by robust productivity growth, declined from 2004 to the outbreak of the financial and economic crisis. In 2008 (+5.4 percent) and especially in 2009 (+10.7 percent) the crisis resulted in an unusually large increase in unit labour costs, which was partly offset in 2010 (+6.9 percent) and 2011 (+3.0 percent). After an increase of 2.7 percent in 2012, the weak productivity growth and increase in costs in 2013 resulted in a further increase in unit labour costs in Austrian goods manufacturing (+2.5 percent), which only slightly slowed in 2014 (+1.2 percent). In the long-term average (2004-2014), the rise in unit labour costs was lower (+0.6 percent p.a.).

In the other countries the economic crisis also partly resulted in an abrupt rise in unit labour costs. In Germany during the pre-crisis period, the price competitiveness of industry improved more than it did in Austria, but collapsed more significantly in the crisis years of 2008 and 2009, to the extent that unit labour costs cumulatively increased by almost 30 percent in those two years (+17 percent in Austria). Similarly to Austria, this effect was partly offset in the following two years. In 2012 labour costs per unit of output in German industry again increased by 4.5 percent and in 2013 by 2.8 percent. Overall, during the 2009-2014 period, Germany's unit labour cost posi-

[2] Source: National accounts, Statistics Austria, WIFO calculations.

tion improved by 1.5 percent per year compared to Austria. As Figure 2 shows, this average value is, however, significantly shaped by the development that took place immediately after the crisis (2010 and 2011), while German unit labour costs declined significantly. For 2012 and 2013, the comparison between Austria and Germany is more balanced: Austria's relative unit labour costs improved by 1.2 percent and 0.9 percent respectively compared to Germany, and in 2014 they deteriorated by 0.4 percent.

In relation to the average of the trading partners, competitiveness in Austria deteriorated by 0.3 percent per year between 2004 and 2014. After a period of nearly unchanged unit labour costs from 2004 to 2009 (–0.1 percent annually compared to all trading partners, improvement compared to the EU trading partners and Germany), the labour cost position deteriorated by 0.4 percent per year in the 2009-2014 period compared to all trading partners and by 0.6 percent per year with respect to the EU trading partners. The noticeable deterioration in 2013 (+1.6 percent) was followed by a further increase in Austria's relative unit labour cost position of 0.9 percent in relation to the position of the trading partners.

In the southern European crisis countries, with the exception of Greece, the unit labour cost position improved after 2009. In Spain and Portugal, this was mainly due to above-average productivity development in the manufacturing sector (in conjunction with a decline in employment). In Greece during the 2009-2014 period, a decline in per-capita labour costs (and the number of persons employed) was observed, which slowed down in 2014, with employment even recovering here for the first time. Overall, mechanisms for a reduction in disparities in price competitiveness in the euro area are gradually taking effect.

When interpreting unit labour costs dynamics, however, it is also important to take into account that average rates of change over a period are affected by the selection of the initial and final years. Based on the graphical representation of the development of the Austrian labour cost position, trend reversals and changes over time become more visible (Figure 2). As we can see, the price competitiveness of Austrian goods production improved significantly compared to the average of all trading partners in the second half of the 1990s. After a contrary development in the early 2000s, little changed in 2003-2008. Since the economic crisis, a slight deterioration has been observed, which has become more pronounced in the last two years. Accordingly, unit labour costs of Austrian goods production compared to the trading partners have increased by almost 4 percent cumulatively since 2008.

The most recent statistics published by the European Commission (Directorate General for Economic and Financial Affairs) show a very similar picture, despite some differences in the data base (*European Commission,* 2015). According to the European Commission's data, the relative unit labour cost position of Austrian goods production deteriorated in 2013 (+1.9 percent) and above all in 2014 (+2.2 percent) to a greater extent than it did based on WIFO calculations, while the development between 2009 and 2013 was more favourable to Austria. In the medium and long term, the calculations presented here largely correspond with those of the European Commission.

5. Economy as a whole: above-average rise in unit labour costs

In addition to being determined by the labour costs of goods production, the competitiveness of an export economy is also determined by those of the economy as a whole. As long as services and non-tradable goods are important as inputs, their cost development has an impact on the competitiveness of the sectors involved in foreign trade (*Deutsche Bundesbank,* 1998).

In Austria, labour costs per unit of output increased by 2.2 percent across all sectors in 2014 – 0.6 percent more than in the weighted average of the trading partners. In the past three years the increase in unit labour costs was shaped by a stronger rise in the number of jobs than that of the gross domestic product.

Table 3: Development of per-capita unit labour costs in the manufacturing sector and in the total economy

In €

	Ø 2004-2009	Ø 2009-2014	Ø 2004-2014	2012	2013	2014
	Year-to-year percentage changes			Percentage changes from previous year		
Manufacturing						
Austria	+ 1.7	– 0.4	+ 0.6	+ 2.7	+ 2.5	+ 1.2
Belgium	+ 1.6	– 0.2	+ 0.7	– 0.3	+ 0.9	– 0.4
Denmark	+ 2.8	– 2.7	+ 0.0	– 4.1	– 2.0	+ 2.0
Germany	+ 2.7	– 1.9	+ 0.3	+ 4.0	+ 3.4	+ 0.8
Greece	+ 3.8	+ 0.5	+ 2.1	– 8.4	– 8.1	+ 0.7
Spain	+ 3.1	– 1.1	+ 1.0	– 0.7	– 2.1	– 0.2
France	+ 0.9	– 0.0	+ 0.4	+ 0.9	+ 2.1	+ 0.4
Ireland	+ 1.7	– 2.2	– 0.3	+ 0.6	+ 4.0	+ 2.6
Italy	+ 3.5	– 0.1	+ 1.7	+ 1.8	+ 1.4	+ 3.0
Luxembourg	+ 8.3	+ 0.7	+ 4.4	+ 7.0	+ 1.7	– 1.5
Netherlands	+ 1.9	– 1.5	+ 0.2	+ 2.3	+ 1.5	+ 0.7
Portugal	+ 1.5	– 1.4	+ 0.1	– 0.5	– 1.5	+ 2.2
Finland	+ 2.1	+ 1.3	+ 1.7	+ 14.6	– 1.8	– 0.7
Sweden	+ 0.2	+ 1.0	+ 0.6	+ 13.2	+ 0.6	– 3.5
UK	– 2.9	+ 3.6	+ 0.3	+ 12.9	– 0.1	+ 5.5
Czech Republic	+ 0.5	– 2.3	– 0.9	+ 1.8	+ 0.0	– 8.5
Estonia	+ 7.0	+ 0.6	+ 3.8	+ 8.1	+ 8.7	+ 9.8
Latvia	+ 11.7	+ 2.6	+ 7.0	+ 7.6	+ 13.7	+ 5.0
Lithuania	+ 2.6	– 1.6	+ 0.5	+ 2.3	– 4.0	+ 6.0
Hungary	+ 1.6	– 0.5	+ 0.5	– 0.4	+ 4.0	– 5.3
Poland	– 0.8	+ 1.2	+ 0.2	+ 0.4	+ 5.2	+ 2.4
Slovenia	+ 2.0	– 0.5	+ 0.8	+ 3.8	+ 1.1	– 1.4
Slovakia	+ 6.7	– 1.7	+ 2.4	+ 4.8	+ 2.4	+ 2.6
Japan	– 1.0	– 3.6	– 2.3	+ 8.2	– 22.2	– 5.1
Canada	+ 3.0	+ 1.5	+ 2.2	+ 9.1	– 4.7	– 8.0
Norway	+ 3.8	+ 2.0	+ 2.9	+ 8.0	– 1.8	– 5.8
USA	– 3.3	+ 1.8	– 0.8	+ 11.7	– 3.3	+ 1.0
EU trading partners[1]	+ 2.1	– 1.0	+ 0.5	+ 3.3	+ 2.2	+ 0.5
All trading partners[2]	+ 1.6	– 0.8	+ 0.4	+ 4.2	+ 0.9	+ 0.3
Austria						
All trading partners[2] = 100	+ 0.1	+ 0.4	+ 0.3	– 1.4	+ 1.6	+ 0.9
EU trading partners[1] = 100	– 0.4	+ 0.6	+ 0.1	– 0.6	+ 0.2	+ 0.7
Germany = 100	– 0.9	+ 1.5	+ 0.3	– 1.2	– 0.9	+ 0.4
Total economy						
Austria	+ 2.4	+ 1.6	+ 2.0	+ 3.0	+ 2.2	+ 2.2
EU trading partners[1]	+ 2.0	+ 1.3	+ 1.6	+ 3.1	+ 1.6	+ 1.6
All trading partners[2]	+ 1.8	+ 1.3	+ 1.5	+ 3.1	+ 1.6	+ 1.6
Austria						
All tradings partners[2] = 100	+ 0.6	+ 0.3	+ 0.5	– 0.1	+ 0.7	+ 0.6
EU tradings partners[1] = 100	+ 0.4	+ 0.3	+ 0.4	– 0.1	+ 0.7	+ 0.6
Germany = 100	+ 1.3	+ 0.2	+ 0.8	– 0.3	– 0.1	+ 0.4

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.

In 2013, unit labour costs in Austria and its trading partners had also increased by 2.2 percent and 1.6 percent respectively, whereas in 2012 the increase in Austria (+3 percent) was about the same as in the average of the trading partners (+3.1 percent). In the long term (2004-2014), unit labour costs increased by ½ percent faster annually across all sectors in Austria than in the average of trading partners, and in the medium term (2009-2014) by 0.3 percent faster. In the pre-crisis period, this pattern was above all determined by Germany – in no other country did the overall unit labour costs rise so slowly. The difference between Germany and the other EU countries was particularly marked from the early 2000s to 2008. Since the outbreak of the economic crisis, wage dynamics increased in Germany, so that the development in Germany in recent years did not diverge as much from the average

of the other trading partners. After two years of slower growth, overall unit labour costs in Austria rose more than in Germany for the first time in 2014. This trend can be partly explained by the different course of inflation in the two countries since the economic crisis (*Scheiblecker,* 2015).

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

In €, 2010 = 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 long term, unit labour costs in the economy as a whole grew more significantly than in manufacturing, both in Austria and in the trading partners. This corresponds with expectations, because manufacturing has a greater potential for increases in labour productivity through mechanisation and automation.

6. Summary

In Austria, the economic slowdown, in conjunction with an increase in labour costs, resulted in an increase in unit labour costs in manufacturing in 2014. After a stagnation in 2013 (±0.0 percent), productivity increased only weakly (+1.1 percent) in 2014. At the same time, labour costs increased by 2.3 percent in 2014 – approximately to the same extent that they did in 2013 (+2.4 percent). The nominal-effective exchange rate rose in 2013 (+1.8 percent) and again in 2014 (+1.2 percent), so that Austrian exports became slightly more expensive abroad.

Taken together, these developments led to an increase in unit labour costs of 1.2 percent. Because economic growth in Austria was weaker than in Germany and the average of the euro area, this increase resulted in a deterioration of the international unit labour cost position of the Austrian export economy in 2014. Relative to the weighted average of all trading partners, Austria's unit labour cost position deteriorated slightly less than in the previous year (2013, +1.6 percent) at +0.9 percent. For 2014 the available data also show a worsening of price competitiveness in manufacturing compared to Germany (relative unit labour costs of +0.4 percent, subsequent to –0.9 percent in 2013). In 2014, economy-wide unit labour costs also increased more in Austria (+0.6 percent) than in the average of all trading partners, a development which was very similar to the previous year (2013 +0.7 percent).

In the medium term (since 2008), an unfavourable trend can be observed in the development of the unit labour cost position of Austrian goods production. This stands in contrast to the development prior to the outbreak of the financial and economic crisis, when Austria's relative unit labour cost position improved. However, annual unit labour cost data during the crisis and in the years immediately afterward should be interpreted with caution due to the strong cyclical fluctuations during the crisis years.

In a longer-term perspective, different stages in the development of price competitiveness of Austrian industry can be observed. A strong improvement 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 manufacturing showed less variation, displaying a constant tendency until 2008 and after that a slightly negative course.

The unfavourable development of Austrian unit labour cost growth in recent years can partly be explained by cyclical factors: the Austrian export industry is closely intertwined with the development of German exports. The German economy has been growing more strongly for several years than the Austrian economy; this difference in growth is above all due to the fact that domestic demand has increased sharply in Germany, while stagnating or only moderately increasing in Austria. The Austrian economy has benefited less from such domestic consumption-driven growth in Germany than it would have from a vigorous increase in German exports (*Scheiblecker,* 2015). Along with the stronger inflation dynamics in Austria after the crisis and other factors, such as the adjustment processes in the EU crisis countries, this cyclical component can also have an effect on unit labour cost dynamics in Austrian goods production.

At the same time however, the development of Austrian foreign trade in the last decade lagged behind that of world trade (*Tichy,* 2015) – a possible sign that the weak productivity development in Austria could be related to a stagnation in international competitiveness. Whether the below-average productivity development in Austria is above all caused by the specific business cycle situation and therefore temporarily limited or characterised by longer-term structural factors, such as the specialisation pattern of the Austrian export industry, cannot yet been determined.

7. Appendix: hourly labour costs in goods production

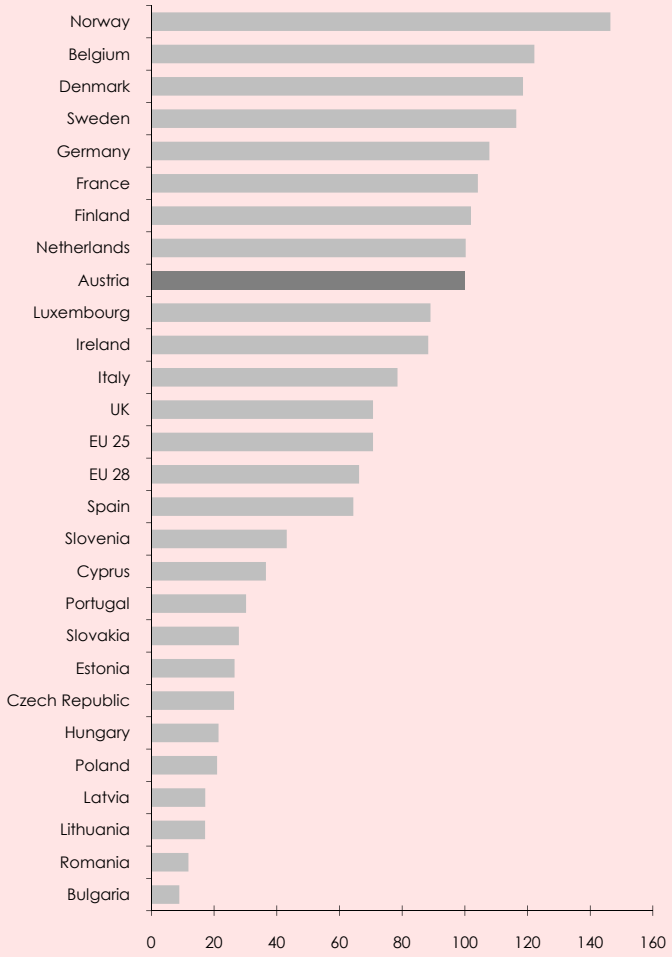
While only data on labour costs per worker are available for the calculation of current, internationally comparable unit labour costs in manufacturing, labour costs per hour worked are available at least for the European Union's member countries.

These are based on the Labour Cost Survey (LCS), which is conducted every four years in the EU countries. The annual rate of change between two surveys is updated using a labour cost index. The results published here are based on the 2012 survey published at the end of 2014, while the report from the previous year (*Hölzl – Leoni,* 2014) was based on the 2008 survey.

Unlike the Labour Cost Survey, the Labour Cost Index (LCI) is not calculated using the same statistical approach in all countries. This somewhat limits international comparability. For Austria, the index is based on data from the Short Term Business Statistics. Because of these methodological limitations, the values of the labour cost index should be interpreted with caution.

Figure 3: Labour costs in the manufacturing sector in international comparison

In €, 2014, Austria = 100



Source: Eurostat (employee survey 2012; labour cost index), WIFO calculations. No data are available for Malta, Greece and Croatia.

Table 4 shows the estimated hourly labour costs for the 2010-2014 period based on the Labour Cost Index. In 2014, an hour of labour in Austria goods production cost € 35.4 – almost as much as in the Netherlands. As a result, Austria ranked 9th by European standards. In 2009-2014, hourly labour costs in Austria increased by an average of +2.1 percent, somewhat weaker than in the average of the EU countries (+2.2 percent p.a.) and also weaker than in Germany (+ 2.4 percent p.a.).

Table 4: Hourly labour costs in the manufacturing sector

	2010	2011	2012	2013	2014	Ø 2009-2014
			In €			Percentage change
Bulgaria	2.6	2.7	2.8	3.0	3.1	+ 5.5
Romania	3.4	3.6	3.7	3.9	4.2	+ 5.8
Lithuania	5.1	5.3	5.5	5.8	6.1	+ 3.0
Latvia	4.9	5.2	5.5	5.8	6.1	+ 3.6
Poland	6.6	6.7	6.8	7.1	7.4	+ 4.8
Hungary	7.0	7.3	7.5	7.6	7.6	+ 2.1
Czech Republic	8.9	9.6	9.7	9.6	9.3	+ 2.2
Estonia	7.3	7.6	8.2	8.9	9.4	+ 5.1
Slovakia	8.1	8.5	8.9	9.4	9.9	+ 4.0
Portugal	11.5	11.5	10.9	10.8	10.7	– 1.2
Cyprus	13.4	13.6	13.5	13.1	12.9	– 0.3
Slovenia	14.0	14.2	14.6	14.7	15.3	+ 2.5
Spain	21.6	21.9	22.4	22.7	22.8	+ 1.2
EU 28	21.3	21.9	22.5	23.0	23.4	+ 2.2
EU 25	22.7	23.4	24.0	24.5	25.0	+ 2.2
UK	22.1	22.1	24.0	23.3	25.0	+ 3.9
Italy	25.6	26.3	27.1	27.6	27.8	+ 1.8
Ireland	30.2	29.6	30.8	30.6	31.3	+ 0.4
Luxembourg	29.1	29.6	30.2	30.9	31.5	+ 1.5
Austria	31.5	32.3	33.4	34.4	35.4	+ 2.1
Netherlands	31.7	32.6	33.3	34.5	35.5	+ 1.4
Finland	33.5	33.5	35.0	35.4	36.1	+ 1.8
France	33.9	35.2	36.1	36.4	36.9	+ 2.5
Germany	34.0	35.3	36.1	37.3	38.2	+ 2.4
Sweden	35.0	38.0	41.3	42.2	41.2	+ 6.0
Denmark	39.0	40.1	40.6	41.3	41.9	+ 2.0
Belgium	39.6	40.7	42.0	42.7	43.2	+ 2.5
Norway	2.6	2.7	2.8	3.0	3.1	+ 5.5
Bulgaria	3.4	3.6	3.7	3.9	4.2	+ 5.8
Romania	47.0	49.9	53.8	53.6	51.8	+ 4.6

Source: Eurostat (employee survey 2012; Labour Cost Index), WIFO calculations. No data are available for Malta, Greece and Croatia.

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