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LABOUR COSTS AND PRODUCTIVITY IN LATVIA

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Abstract. One of the determinant factors for economic growth in any country is the supply of labour to the national economy. However, labour creates costs for enterprises. The sustainable operation and expansion of any enterprise is determined not only by the cost of labour but also by the quality and productivity of it.

The research aim is to examine and compare labour costs and productivities between Latvia and other competing European Union Member States. The research employed the following methods: monographic and descriptive, analysis and synthesis, graphic, data grouping and statistical analysis. The research results showed that the total cost and productivity of labour rose in Latvia in recent years. The correlation and determination coefficients, calculated in a regression analysis of the productivity and cost of labour in Latvia, indicate a medium strong linear relationship between the variables.

Key words: labour cost, labour productivity, enterprises, industries.

JEL code: J3, E2

Introduction

The labour market is an important component of a modern market economy. Researchers such as M.Hazans (2011, 2013) as well as others have focused on researching the labour market. Researcher R.Karnite (2012) as well as Bank of Latvia economist O.Krasnopjorovs (2011) have analysed labour productivity and labour costs and incomes.

For many years prof. M.Hazans has collected and processed data on the emigration of population from Latvia to abroad, its causes and its consequences to the economy, which significantly affected the labour market in Latvia. As the labour market situation changes, many earlier scientific research studies lose their urgency because of the labour market's supply and demand shift. For this reason, the labour market needs to be continuously researched to examine the situation in the labour market and its development trends in future.

Labour plays the key role in an economy's functioning and development. One of the determinant factors for economic growth in any country is the supply of labour to the national economy. However, labour involves costs for enterprises. A rise in labour costs for enterprises can endanger the external competitiveness of the country. As labour costs rise, enterprises have to continue raising the quality and productivity of their labour force. Rising labour costs prompt the government to implement structural reforms faster in the country – to enhance the business environment and reduce administrative barriers, to increase the quality and efficiency of government services and to decrease labour market imbalances –, which contribute to the country's competitiveness and faster economic growth.

According to the Research, Technological Development and Innovation Framework 2014-2020, the current competitive advantage of Latvia's economy is cheap labour – the cost of labour in Latvia is considerably lower than in the EU-15. Both the cheap labour and relatively high profitability margins do not stimulate the change of the business pattern and the creation of other competitive advantages. It is not possible to maintain low labour costs for a long period because of the free flow of labour; thus, stimuli have to be created to have new competitive advantages (Ministry of Education and Science, 2013).

In February 2014, the DNB bank and the research centre SKDS conducted a survey of the population in Latvia and found out that the majority or 79% of 1005 respondents believed that Latvia was a country of cheap labour (DNB bank, 2014).

The **research hypothesis** is as follows: the productivity of labour affects the costs of labour in Latvia.

The **research aim** is to examine and compare the costs and productivity of labour between Latvia and other competing EU Member States.

To achieve the aim, the following specific **research tasks** were set:

1) to examine the costs of labour and its components and the productivity of labour in Latvia;
2) to compare the costs and productivity of labour between Latvia and other competing EU Member States.

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Research methods used: the monographic and descriptive methods, analysis and synthesis, the graphic method. Time series analysis and data grouping were employed to analyse statistical data. Regression analysis was used to identify a causal relationship between the independent and dependent variables.

The present research was based on various scientific publications, publicly available documents, information available in databases and other sources.

Research results and discussion

Labour cost and its elements are defined in the Commission Regulation (EC) No 1737/2005 of 21 October 2005. Total labour cost consists of remuneration for employees (wages and salaries as well as employer social insurance contributions), professional education costs etc. (European Commission, 2005). Data on labour cost and its structure are used to acquire information on the total expenditure on labour and its percentage distribution by industry and sector and to obtain basic data for calculations of quarterly labour cost indexes in line with the regulations of the EU's Parliament, Council and Commission.

According to the Central Statistical Bureau, the cost of labour in Latvia rose from year to year. In 2014, the cost of labour in Latvia rose by 36.53% compared with 2010 (Table 1).

Table 1

Labour cost and its key components in Latvia in 2010-2014, EUR

Indicator	2010	2011	2012	2013	2014	Change, % (+-) 2014/2010
Total labour cost	6100396	6609063	7177390	7768884	8328812	36.53
Total wage and salary	4871343	5298911	5762034	6237027	6739604	38.35
Total employer social insurance contributions	1226603	1307618	1412723	1529130	1586513	29.34
employer mandatory social insurance contributions	1153075	1243347	1335882	1441483	1497477	29.87
employer voluntary social insurance contributions	28882.55	29977.25	33735.52	36628.86	40012.87	38.54
entrepreneur risk state fee	2450.02	2534.40	2633.11	2727.03	2694.41	9.97

Source: authors' calculations based on data of the CSB of Latvia

According to the statistical data, the total wage and salary income rose by 38.35%, employer social insurance contributions increased by 29.34% as well as other labour cost components increased in Latvia in 2014 compared with 2010. In the private sector of Latvia, the cost of labour rose even faster – at a rate of 8.5% a year, while in the public sector it increased by 5.2% (Central Statistical Bureau, 2014).

A comparison of hourly labour costs by kind of activity for the period 2010-2014 reveals that the labour costs rose persistently and relatively steadily almost in all industries, except for professional, scientific and technical activities; the hourly labour cost for administrative and support service activities was volatile. In the period 2010-2014, the highest hourly labour costs were reported for the sector of financial and insurance activities, followed by information and communication as well as electricity, gas and water supply. The lowest hourly labour costs were observed for arts, entertainment and recreation, followed by real estate activities. Overall, the average hourly labour cost rose by EUR 1.13 or 18% over the five-year period (Central Statistical Bureau, 2014).

In Latvia, the greatest annual increase in labour cost per hour (in the period 2005-2013), EUR 0.7, was reported in 2006; later the economic situation deteriorated, and this indicator was negative in 2009 and 2010. However, as the situation started improving in 2011, the indicator equaled EUR 0.3 in 2013. Compared with the base year 2005, the highest relative increase in labour cost per hour was reported in 2013, reaching 110.5%. Compared with the previous year, increases in labour cost per hour were the highest in 2006 and 2011, at 22.7% and 9.9%, respectively (Table 2).

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Table 2

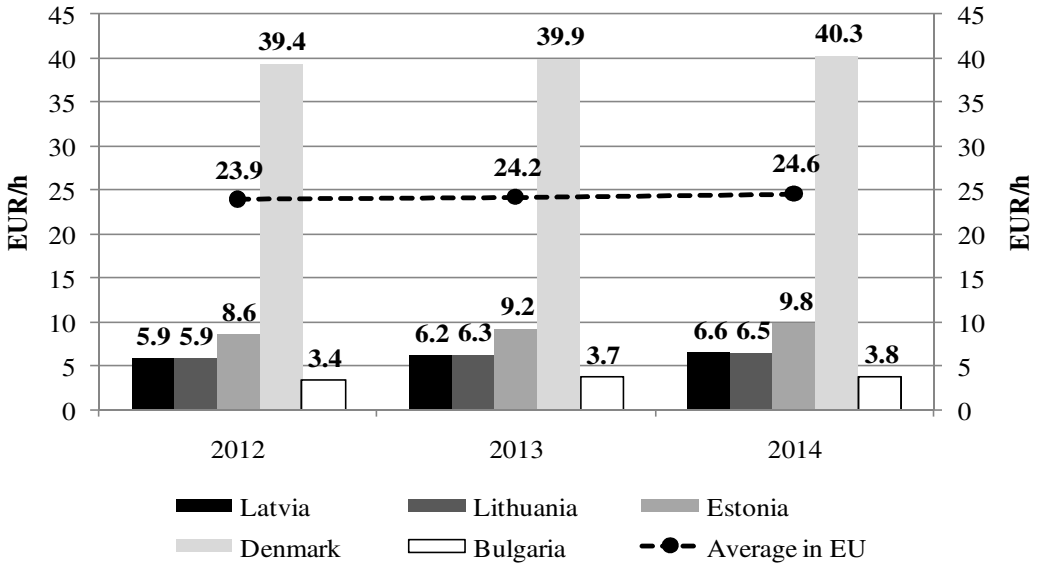
Changes in hourly labour cost in Latvia (EUR) in 2005-2013

Year	Hourly labour costs (EUR)	Absolute change		Index change (2005=100)		Change (%)		1% change in tm in absolute terms
		Annual Δm(a)	From base year Δm(b)	Annual Tm(a)	From base year Tm(b)	Annual tm(a)	From base year tm(b)	
2005	2.86	x	x	x	x	x	x	x
2006	3.51	0.7	0.7	122.7	122.7	22.7	22.7	0.0
2007	4.62	1.1	1.8	131.6	161.5	8.9	61.5	0.0
2008	5.68	1.1	2.8	122.9	198.6	-8.7	98.6	0.0
2009	5.56	-0.1	2.7	97.9	194.4	-25.1	94.4	0.1
2010	5.26	-0.3	2.4	94.6	183.8	-3.3	83.8	0.1
2011	5.49	0.2	2.6	104.4	192.0	9.9	92.0	0.1
2012	5.71	0.2	2.8	103.9	199.5	-0.5	99.5	0.1
2013	6.02	0.3	3.2	105.5	210.5	1.6	110.5	0.1

Source: authors' calculations based on data of the CSB of Latvia

In 2014, the cost of labour in Latvia stood at 6.6 EUR/hour (Figure 1), which was the fourth lowest rate in the European Union. Compared with 2013, the cost of labour in Latvia rose by 6%, which was the second fastest increase in the Euro Area behind Estonia where a 6.6% increase was reported (Central Statistical Bureau, 2014).

A comparison of labour costs between Latvia and Lithuania and Estonia (Figure 1) shows that the highest labour cost per hour was reported in Estonia, while those in Latvia and Lithuania were very similar. All the three Baltic States significantly lagged behind the average of the EU Member States. One of the highest labour costs was reported in Denmark, whereas the lowest was in Bulgaria.



Source: authors' construction based on the Eurostat, CSB of Latvia, Statistics Lithuania data, Statistics Estonia data

Fig. 1. **Labour costs in the national economy, except for agriculture and public administration, in Latvia and other Member States in 2012-2014, EUR/hour**

In recent years, the value added by labour per hour worked has increased in Latvia, reaching EUR 8.6 in 2014, while in Lithuania it was EUR 10.7 and in Estonia EUR 11.6. Nevertheless, the Baltic States lagged behind the EU average in terms of labour productivity (Figure 2).

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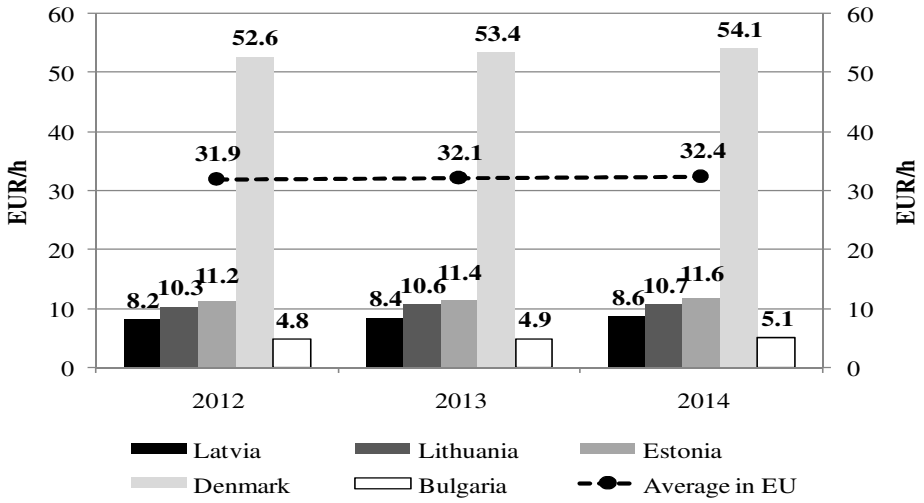

Source: authors' construction based on the Eurostat data

Fig. 2. **Labour productivity in Latvia and other EU Member States in 2012-2014, EUR/hour**

The greatest annual increase in labour productivity per hour worked (in the period 2005-2013) in absolute terms at EUR 0.4 was observed in 2006 and 2010. Over the period from the base year 2005, the highest percentage increase in labour productivity per hour worked at 193.7% was registered in 2013. The greatest annual increase in labour productivity per hour worked at 18.6% was reported in 2007 compared with the previous year (Table 3).

Table 3

Changes in labour productivity per hour worked in Latvia in 2005-2013 (EUR)

Year	Labour productivity per hour worked (EUR)	Absolute change		Index change (2005=100)		Change (%)		1% change in tm in absolute terms
		Annual Δm(a)	From base year Δm(b)	Annual Tm(a)	From base year Tm(b)	Annual tm(a)	From base year tm(b)	
2005	5.90	x	x	x	x	x	x	x
2006	6.30	0.4	3.4	106.8	220.3	6.8	120.3	0.1
2007	7.90	1.6	5.0	125.4	276.2	18.6	176.2	0.1
2008	7.30	-0.6	4.4	92.4	255.2	-33.0	155.2	0.1
2009	7.20	-0.1	4.3	98.6	251.7	6.2	151.7	0.1
2010	7.60	0.4	4.7	105.6	265.7	6.9	165.7	0.1
2011	7.90	0.3	5.0	103.9	276.2	-1.6	176.2	0.1
2012	8.20	0.3	5.3	103.8	286.7	-0.1	186.7	0.1
2013	8.40	0.2	5.5	102.4	293.7	-1.4	193.7	0.1

Source: authors' calculations based on the Eurostat data

In order that enterprises in Latvia can increase their labour productivity, a higher value has to be added to products, particularly in manufacturing, and more innovations have to be introduced, particularly in the sector of information technologies.

Analytical papers by specialists of the Bank of Latvia focused on the correspondence of changes in labour costs to those in wages and salaries, which was compared with labour productivity. In his research, Bank of Latvia economist O.Krasnopjorovs reveals that the industries that reached a balance between labour earnings and labour productivity faster also started recovering from the crisis earlier (Krasnopjorovs, 2011).

In her expert analysis "Factors Influencing Labour Productivity and Opportunities for Raising the Productivity", R.Karnite stresses the relationship between labour productivity and labour costs. She writes that labour costs affect labour productivity. Low labour costs promote increases in labour productivity,

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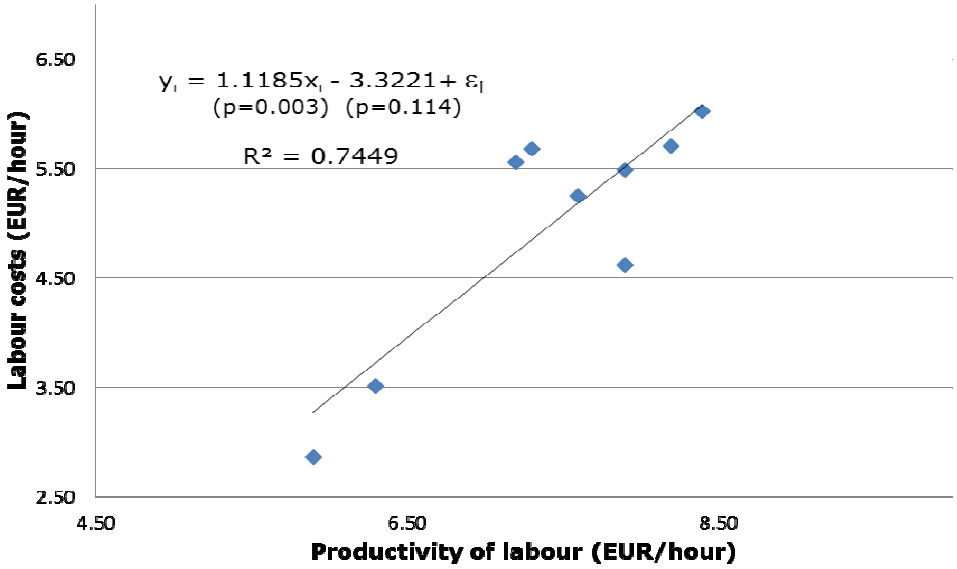
and decreasing labour costs through reducing wages and salaries was the key factor that helped Latvia get out of the economic crisis (Karnite, 2012).

In their research, for this reason, the authors wished to identify the nature of the relationship between labour productivity and labour costs in Latvia.



Source: authors' construction based on the Eurostat data and Arhipova, 2003

Fig. 3. **Relationship between the productivity of labour (EUR/hour) and the cost of labour (EUR/hour) in Latvia in 2005-2013**

The correlation coefficient r=0.86 and the determination coefficient R2=0.745 (Figure 3), calculated in a regression analysis of the productivity and costs of labour in Latvia, indicate a medium strong linear relationship between the variables and are significant at a probability of 99% (p = 0.003). The regression analysis coefficients show that an increase in labour productivity by 1 EUR/h leads to an increase in labour costs by 1.12 EUR/h.

Higher labour productivity results in higher value-added per unit of time and higher wages and salaries for employees, which, in their turn, increase labour costs. However, as labour costs rise, enterprises have to continue raising the quality and productivity of their labour force.

The higher labour costs are, the lower proportion of value-added is contributed to investment that can raise the productivity of labour. In Latvia, enterprises have to, first of all, create their value-added and only then they may pay wages and salaries. In the public sector where wages and salaries are decided administratively, the wages and salaries are raised without taking into account the productivity of labour. In Latvia, enterprises have to follow data on their labour productivity and increase wages and salaries based on increases in this indicator.

A comparison of the Baltic States in terms of average gross wage and salary income for the period 2010-2014 shows (Figure 4) that the lowest wages and salaries were paid in Lithuania, followed by Latvia and Estonia.

Wages and salaries are the key component of labour costs. In the period 2010-2014, the average gross wage and salary income rose by EUR 132 or 20.9% in Latvia, EUR 101 or 17.5% in Lithuania and EUR 213 or 27.0% in Estonia.

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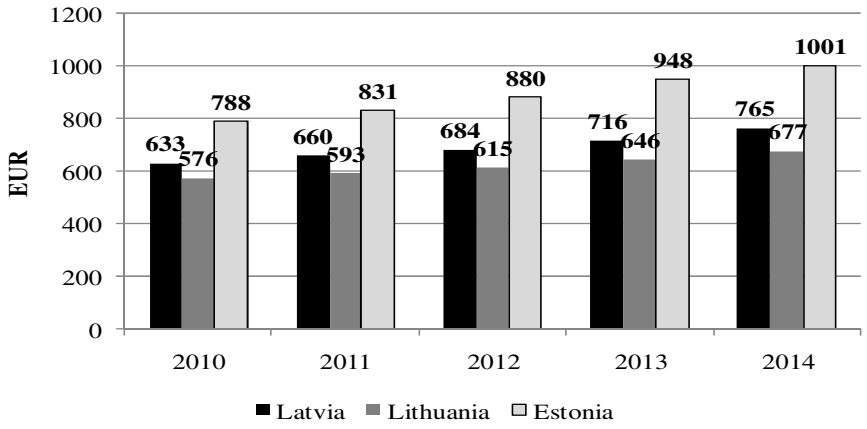

Source: authors' construction based on the Statistics Lithuania data

Fig. 4. **Average gross wage and salary income in the Baltic States in 2010-2014, EUR**

The average gross wage and salary income by industry considerably differs in Latvia and Estonia. Mostly in all industries, the average gross wage and salary income in Estonia was higher than in Latvia but there were some exceptions, for example, in the sector of financial and insurance activities, the average gross wage and salary income in Latvia was slightly higher than in Estonia in 2010. Overall, the smallest difference in average gross wage and salary income between both countries was reported for financial and insurance activities and real estate activities. In 2010, no great differences were observed, whereas over the last years differences in average gross wage and salary income significantly rose between both countries in agriculture, forestry and fisheries as well as in the sector of professional, scientific and technical activities. A large average gross wage and salary income gap between both countries was reported in mining and quarrying, which increased from EUR 260 in 2010 up to EUR 446 in 2014. A similar trend was observed for electricity, gas, steam and air conditioning supply where the average gross wage and salary income in Estonia was EUR 191 higher than in Latvia in 2010, while in 2014 the wage and salary income gap reached even EUR 418.

A comparison of average net wages and salaries between Latvia and Estonia reveals that even though the wage and salary income gap was significant, it tended to decline in recent years in the following industries: administrative and support service activities, financial and insurance activities, accommodation and food service activities, construction, manufacturing etc. (Statistics Lithuania, 2014; Statistics Estonia, 2014; Central Statistical Bureau, 2014).

Conclusions, proposals, recommendations

1) In 2014, the cost of labour rose by 38.35%, employer social insurance contributions increased by 29.34% and other labour cost components increased as well in Latvia compared with 2010.

2) In the period 2010-2014 in Latvia, the highest rise in labour cost per hour, i.e. by 34.2%, was reported in state administration, followed by 29.0% for real estate operations and 26.0% for financial and insurance activities.

3) The Baltic States considerably lagged behind the EU average level of labour costs. One of the highest labour cost levels was reported in Denmark, whereas the lowest was in Bulgaria.

4) Wages and salaries are the key component of labour costs. In the period 2010-2014, the highest average gross wage and salary increase among the Baltic States was reported in Estonia, followed by Latvia and Lithuania.

5) In recent years, labour productivity per hour worked has increased in Latvia, reaching EUR 8.6 in 2014, while in Lithuania it was EUR 10.7 and in Estonia EUR 11.6; yet, the Baltic States lagged behind the EU average labour productivity.

6) The correlation coefficient r=0.86 and the determination coefficient R^2=0.745, calculated in a regression analysis of the productivity and costs of labour in Latvia, indicate a medium strong linear relationship between the variables and are significant at a probability of 99% (p = 0.003). The regression analysis coefficients show that an increase in labour productivity by 1 EUR/h leads to an increase in labour costs by 1.12 EUR/h.

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7) In order that enterprises in Latvia can increase their labour productivity, a higher value has to be added to products, particularly in manufacturing, and more innovations have to be introduced, particularly in the sector of information technologies.

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