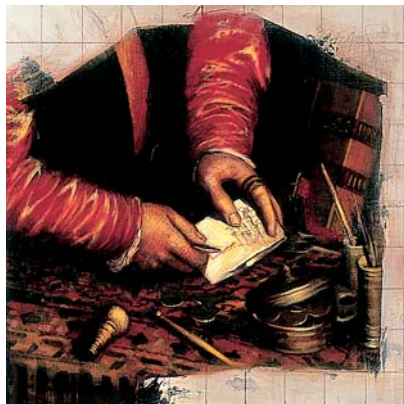
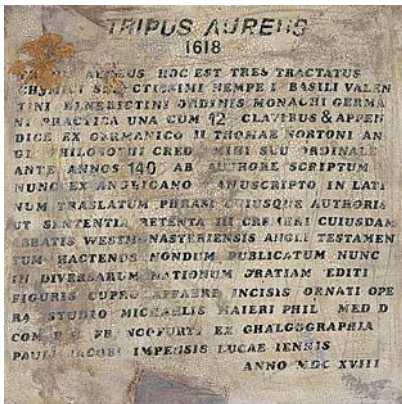


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ASSESSMENT OF LABOUR MARKET ELASTICITY IN LATVIA



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ABSTRACT

Latvia's accession to the EU and its resolute policy oriented toward a full-fledged participation in the EMU, have highlighted the need for a profound investigation into the country's labour market. A flexible labour market is a key policy instrument for a country in the single currency area to ensure an escape from the adverse effects of asymmetric shocks. Labour market flexibility will determine how efficiently the economy of Latvia will develop in the period following its accession to the EU. The paper deals with flexibility of Latvia's labour market using the dynamics of market indicators and assessing its institutional framework.

Key words: *labour market flexibility, flexibility of wages, institutional framework*

JEL classification codes: *C22, E24, J20, J50, R23*

The views expressed in this publication are those of the authors, who are employees of the Bank of Latvia Monetary Policy Department. The authors assume responsibility for any errors or omissions.

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ABBREVIATIONS

CSB – Central Statistical Bureau of Latvia	IMF – International Monetary Fund
CPI – Consumer Price Index	LFTUC – Latvian Free Trade Union
EMU – Economic and Monetary Union	Confederation
ESA – Employment State Agency	n/a – not available
ESF – European Social Fund	NACE – Statistical Classification of Economic
EU – European Union	Activities in the European Community
EU10 – countries which joined the EU on May 1, 2004	OCA Theory – Theory of Optimum Currency Area
EU15 – EU countries before May 1, 2004	OECD – Organisation for Economic Co- operation and Development
EU25 – EU after expansion on May 1, 2004	PPS – Purchasing Power Standard
Eurostat – Statistical Office of the European Communities	VAR – Vector Auto Regression
GDP – gross domestic product	

INTRODUCTION

Latvia's accession to the EU and its resolute policy, oriented toward a full-fledged participation in the EMU, have highlighted the need for a profound investigation into the country's labour market. A flexible labour market is a key policy instrument for a country in the single currency area to ensure an escape from the adverse effects of asymmetric shocks. Labour market flexibility will determine how efficiently the economy of Latvia will develop in the period following its accession to the EU.

The paper deals with flexibility of Latvia's labour market using the dynamics of market indicators and assessing its institutional framework.

Chapter 1 presents a theoretical background for the role the labour market plays in absorbing asymmetric shocks in a single currency area and surveys the methods used in the estimation of labour market flexibility. Chapters 2 and 3 characterise the evolution of Latvia's labour market during transition and provide the qualitative description of the country's labour force. Chapter 4 is devoted to the analysis of the institutional framework regulating the market and wage flexibility. In the concluding part, basic inferences regarding the degree of labour market flexibility in Latvia are presented.

1. LABOUR MARKET FLEXIBILITY: CONCEPT AND ASSESSMENT

In their analysis of the EMU, economists most often rely on the OCA theory developed by R. Mundell in 1961. Since then, the theory has undergone a notable evolution, yet its core idea has remained unchanged: the single currency area is optimal only under the condition that mechanisms functioning in it can provide for the adjustment of the economy to an asymmetric shock, i.e. a shock having an asymmetric effect on different countries or regions.

One of the mechanisms for the economy to adjust to asymmetric shocks is the exchange rate. Due to its very assignment, the single currency area lacks this mechanism, so other mechanisms to replace it are to be sought. The OCA theory deals with a number of alternative shock adjustment mechanisms.

At the beginning, R. Mundell pointed to wage flexibility and labour mobility as the main shock absorbing mechanisms.⁽³⁵⁾ Later, his theory was evolved by R. I. McKinnon introducing such criteria as capital mobility and openness of the economy (34), and by P. B. Kenen proposing the production diversification criterion.⁽²⁶⁾ R. I. McKinnon emphasises that the foreign exchange mechanism turns inefficient in a country with an open economy (devaluation inevitably causes inflation to go up due to rising import prices); for such a country pursuing of an independent exchange policy is a futile attempt, and the functioning of other shock absorbing mechanisms should be secured. P. B. Kenen believed that concentration of production in a particular sector increased the magnitude of eventual risk factors and the loss from shocks, if the latter affected the growth in this sector. Hence, the smaller the diversification, the less a country is suited for participation in a single currency area.

Thus, the major criteria of the OCA theory are as follows:

- wage flexibility for the labour market;
- capital mobility for the capital market;
- the degree of openness and product diversification for the economy.

The EMU is already in place and operation, while the new EU Member States that acceded to the EU on May 1, 2004 must introduce the euro and, therefore, openness in an economy and product diversification are not high-priority mechanisms for absorbing shocks in the EMU context, at least in the short run. Likewise, capital mobility is more important in a long-term perspective. At the same time, the shocks to be absorbed in a shorter term are most dangerous, and when they occur, a flexible labour market is the only suitable adjustment mechanism.⁽⁴⁾

The functioning of wage flexibility and labour mobility mechanisms in adjusting to shocks can be illustrated by an example of two countries – Country A and Country B.⁽³⁵⁾ If there is a shift in the demand, with the demand for goods produced by Country A decreasing and the demand for goods produced by Country B increasing, the output

and labour demand in Country A also shrink. In Country B, production and the demand for labour expand. This will raise unemployment with a subsequent downward pressure on wages in Country A, while in Country B, the decrease in unemployment rate will foster wage rises. If wages in both countries are flexible and adjust to the changes in the labour market, the price level falls in Country A and rises in Country B, thus pushing up the demand for goods produced by the former and weakening the growth in the demand for goods produced by the latter. In such a situation, wage flexibility enables the two countries to return to the previous equilibrium in trade.

Similar to wage flexibility, labour mobility helps adjust to the shocks and attain equilibrium development at a faster pace. Thus, labour mobility can compliment wage flexibility and act as an additional shock absorbing mechanism under insufficient wage flexibility. Proceeding with the analysis of the two-country model, we can assume that the pressure on wages depends on the ability of Country B to offset the labour force shortages. In order to do so, unemployed persons from Country A should move to Country B, and in such a way migration would minimise wage adjustment needs of the two countries to restore their previous equilibrium.

It is important for Latvia as an EU Member State on its way to a full-fledged EMU membership to ensure the functioning of asymmetric shock absorbing mechanisms. This need has been emphasised also by the World Bank on the back of the conclusion that flexible labour market conditions in Latvia are decisive not only for the efficiency of shock absorbing mechanisms but also for boosting long-term growth and the convergence process in the country.(32).

It should be noted that Latvia has managed to restructure its national economy (from centrally planned to free market economy) successfully and in short time; it has, likewise, overcome the negative shock caused by the external demand (the 1998 financial crisis in Russia) maintaining fixed foreign exchange rate regime.¹ It evidences that Latvia's labour market is sufficiently flexible and capable of adjusting to shifts in the economic situation. Upon joining a single currency area, it is, however, important to identify weaknesses in the labour market operation and potential risks that add weight to the problem of labour market flexibility. For Latvia, labour mobility and input price (wage) flexibility are the only short-term mechanisms to be used in avoiding the excessive negative impact of asymmetric shocks.

Since the labour market can adjust to shocks via different mechanisms, its flexibility has been defined differently (15, 28, 30, 41, etc). Let us turn to the major factors underpinning flexibility of the labour market that can serve also as the labour market flexibility indicators.

1. Institutional framework. Institutional conditions characterise flexibility of the labour market, determining efficiency of its operation and long-term equilibrium.

¹ Latvia has adhered to the fixed exchange rate regime since 1994.

2. Wage flexibility. It is a means for the labour market to return to equilibrium through affecting the relative price of the labour force (wages) in regions, countries or sectors. As shown above, wage flexibility helps adjust to a demand shock by regulating the relative price of the labour force (wages) and also the relative price of goods in two countries.

3. Labour mobility. It is a prerequisite in situations where wage flexibility is not perfect or sufficient. Labour mobility helps the economy restore previous equilibrium through regulating the demand for and supply of labour (labour migration) rather than the relative input price. High labour mobility can offset inadequate flexibility of wages.

4. Functional flexibility. It is an indicator of labour force ability to adjust to economic and technological changes. Labour flows from one economic sector to another are an indication of employees' professional reorientation ability and, at the same time, of the degree of labour market's functional flexibility.

The analysis of available research on the labour market of Latvia leads to an overwhelming conclusion that the mechanisms providing for market flexibility are in place in Latvia. In its 2001 country report on labour markets in the Baltics and Bulgaria, the IMF pointed to the decline in real wages as a potential alternative to deteriorating employment, an evidence of labour market flexibility.(31)

In their study on labour market flexibility in the Baltic States, T. Paas *et al.* come to a conclusion that wage flexibility in the Baltic States is quite strong (a bit higher in Estonia, less in Lithuania), with institutional framework being more benign in Latvia than in Lithuania.(30) Authors emphasise that in the event of the Baltic labour market regulatory framework being fully harmonised with the EU15¹ practices, wage flexibility will drop in all three of them, Estonia in particular. Authors note that compared to other EU15 countries, the funding for active employment policies in the Baltic States is insufficient.

When analysing EU10 economies² in 2004, P. Backe, Ch. Thimann and other authors noted that wages in these countries, at least in their growth, are flexible overall; in the Baltic States, in addition, wage flexibility was confirmed by wage falls in the period following the 1998 Russian financial crisis.(1) Another study in which reference to Latvia is made is the World Bank Report where central emphasis is placed on the current environment and policies rather than assessment of the labour market flexibility.(32) Nevertheless, a number of its conclusions point to certain problems that could undermine the Latvian labour market and its flexibility. It is acknowledged that the minimum wage is a discouraging factor for employers to hire low-skill labour.

¹ Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK.

² The Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.

Total taxation, particularly for low-income population, is evaluated as relatively high compared to other countries. It does not encourage people to take part-time jobs, and hence the labour market flexibility is reduced.

Studies available on geographical mobility of the Latvian labour force acknowledge that basically migration proceeds via commuting, i.e. people permanently reside in a city or region but go to another locality to work. Interregional wage and unemployment rate disparities are, nonetheless, important determinants of migration between regions, and Latvia's labour force mobility is reasonable by international standards.(18, 19)

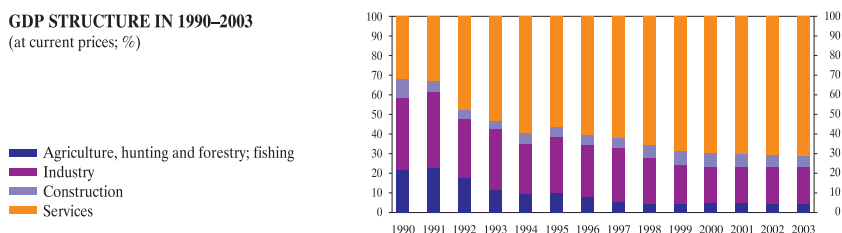
This study focuses on the institutional framework regulating Latvia's labour market and wage flexibility in it. The impact of a number of institutional factors, such as tax burden, the minimum wage, trade unions, active and passive employment policies, etc, has been assessed. Wage flexibility has been estimated on the basis of findings from reviewing wage dynamics in the breakdown by sector and conducting econometric analysis. Geographical mobility of the labour force has not been assessed, whereas conclusions regarding functional flexibility of labour rest on labour market development data for transition from planned to free market economy.

2. DEVELOPMENT OF LATVIA'S LABOUR MARKET DURING ECONOMIC TRANSITION

Since restoration of national independence in 1991, Latvia's Government has consistently implemented a program of sweeping economic reforms. As was the case with other East European countries, liberalisation of the economy and disruption of trade contacts caused a sharp decrease in output during the first phase of economic transition in Latvia. Between 1990 and 1993, GDP at constant prices contracted by more than 50%, primarily due to narrowing of manufacturing and the agricultural sector. And though the tendency ceased in 1994, the economic recovery of the country was set back by the domestic banking crisis of 1995 and the Russian financial crisis of 1998 that weakened its export capacity. A period of sustainable growth, the longest since the beginning of economic transition, set in only in 2000. Chart 2.1 shows changes in GDP structure in the period between 1990 and 2003.

Chart 2.1

GDP STRUCTURE IN 1990–2003 (at current prices; %)



Source: CSB.

The substantial restructuring of the economy triggered corresponding changes in utilisation of production inputs. The dynamics of the core indicators of the labour market for 1990–2003 is appended in Table A.1.

The decrease in employment in the early 1990s was partly caused by emigration of ethnic minorities, which intensified after Latvia regained independence. However, the weakening of people's economic activity and the percentage rise of the unemployment rate point to the destructive effect of the economic restructuring on the labour market. The number of workers dismissed (mainly from industry and agriculture) between 1992 and 1994 was so large that the emerging private sector was unable to absorb them. In 1994, unemployed persons accounted for 16.7% of the economically active population. Generally speaking, an increase in unemployment rate and a decrease in employment are typical for the economic restructuring phase, as the population moves from the formerly predominating state enterprises to the newly emerging companies of the private sector.(2)

In the breakdown by sector, the employment dynamics in the early 1990s was almost consistent with the changes in production. Between 1990 and 1993, more than 150

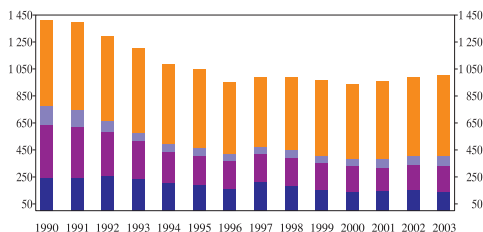
thousand people, including 100 thousand industrial workers (around one third of the total in industry in 1990), lost their jobs in Latvia. In trade and public administration, on the other hand, the number of employed persons had been growing almost since the beginning of restructuring. Consequently, the employment structure in the breakdown by sector had notably changed in the last 14 years, with employment strengthening in the services sector¹ but shrinking in agriculture and industry (see Chart 2.2).

Chart 2.2

NUMBER AND STRUCTURE OF EMPLOYED PERSONS IN ECONOMY IN 1990–2003¹
(in thousands)

(in thousands)

- Agriculture, hunting and forestry; fishing
- Industry
- Construction
- Services



¹ Data on employment in the economy up to 1995 are taken from enterprise reports, and starting with 1996, from labour surveys.
Source: CSB.

The changes in employment structure imply that since restructuring began, a significant redistribution of labour among sectors of the economy has taken place. Also, it should be taken into account that in the last 14 years the structure of both industry and the services sector has changed. In the services sector, shares of trade, financial intermediation, public administration and defense, and compulsory social security have expanded. Other developments that cannot be assessed by analysing the available statistical data have also occurred. For example, those employed in the commercial services sector (K according to NACE classification; real estate, renting and business activities) accounted for 4.2% of the total number of employed persons in 2003 (5.7% in 1990). In 2003, this sector was dominated by real estate, renting and computer service activities. In 1990, by contrast, the significant share of the employed in this sector relative to total employment most probably was registered on account of the large number of workers in research and development. Despite the numerical decline in both the total and economically active population since the early 1990s (with population emigrating, becoming economically inactive and retiring), the significant restructuring of the Latvian economy and recent robust downward unemployment trends imply that, overall, people managed to find employment in other sectors, thus successfully adjusting to shifts in the economic situation.

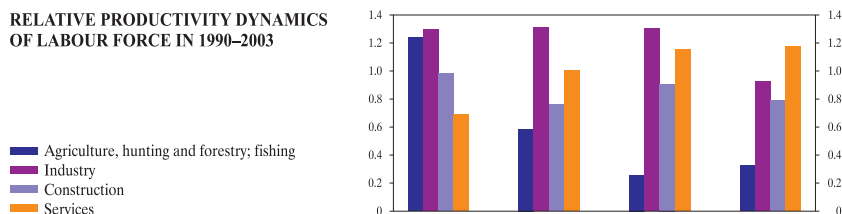
It should be noted, however, that the number of employed persons in agriculture, hunting and forestry as well as fishing decreased to a lesser extent than the ratio of

¹ The services sector hereinafter includes trade; hotels and restaurants; transport, storage and communications; financial intermediation; real estate, renting and business services; public administration and defense; education; health and social work; other community, social and personal service activities. The goods sector includes agriculture, hunting and forestry, fishing; mining and quarrying; manufacturing; electricity, gas and water supply; construction.

value added generated by these sectors to GDP. It points to a possible substantial deterioration of productivity in these sectors. In 1990, productivity in agriculture was above the average productivity level in the economy, whereas in 2003 it was lower relative to other sectors and accounted for one third of the average productivity of the economy. Chart 2.3 shows relative productivity dynamics of the labour force in core sectors of the economy, with relative productivity being measured by dividing the share of each particular sector in GDP by the number of employed persons in it.

Chart 2.3

RELATIVE PRODUCTIVITY DYNAMICS OF LABOUR FORCE IN 1990–2003



Sources: CSB and authors' calculations.

The Chart reflects developments in relative productivity of those employed in different sectors of the economy. For example, a lower relative productivity in agriculture, hunting and forestry, also fishing, in 1997 compared to 1990 implies that in 1997 productivity in the given areas was lower relative to other sectors. No inferences about absolute productivity trends in a sector can be made on the basis of changes in relative productivity.

In 1990, the sectors of agriculture, hunting and forestry as well as fishing employed 17.4% of employed persons and accounted for 21.9% of total value added, i.e. productivity in this sector was above the average productivity in the economy. Industry was the only more efficient sector, with 27.8% of employed persons and 36.5% of total value added. Relative to other sectors, the lowest productivity was recorded for the services sector. The assessment of the same indicators for 2003 shows that the services sector operated most efficiently, industry and construction followed, while agriculture, hunting and forestry as well as fishing were relatively less efficient.

The given dynamics of relative productivity stems from the mode of production, which prior to restructuring proceeded in collective and soviet farms, whereas at present, as a result of rural land reform, it is concentrated in small farms. With an adverse effect on the entire sector, it renders agricultural production less efficient, reduces producers' income and constrains investment opportunities.

Without redistribution among sectors and qualitative evolution of the labour force the scope of production restructuring experienced in Latvia in the early 1990s had not been possible. Functional flexibility of the labour market was among the major factors

supporting the economy of Latvia in its efforts to recover from the strong shock it was subject to in the early 1990s and offering fresh opportunities for restructuring from within.

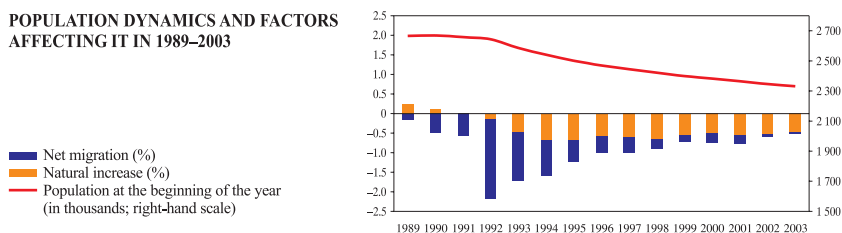
3. QUALITATIVE DESCRIPTION OF LATVIA'S LABOUR FORCE

3.1 Economically Active Population

The number of economically active population contracted over the entire period of restructuring, with a rebound experienced only in 2001. Two factors determined this dynamics: changes in the demographic situation and a decline in population's economic activity. A particularly strong decline in the number of economically active population was observed in the early 1990s, primarily fuelled by a large negative net migration, and, starting with 1992, also by a natural decrease due to the low birth rate (see Chart 3.1).

Chart 3.1

POPULATION DYNAMICS AND FACTORS AFFECTING IT IN 1989–2003



Source: CSB.

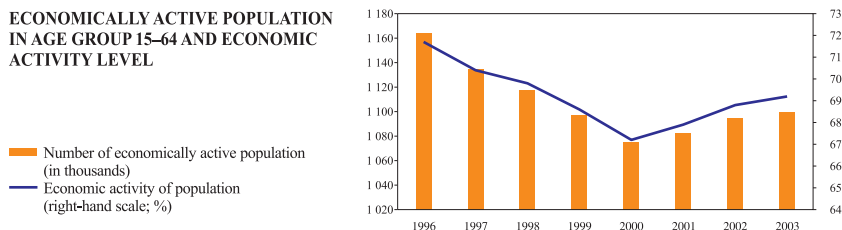
A sharp fall in the economic activity rate was another development that triggered a decline in the number of economically active people; if in 1990 almost 80% of all the able-bodied population was economically active, in the late 1990s the employment rate fell to around 68%. Other developing countries experienced a similar decline, which was particularly strong in the former republics of the USSR (see Table A.2 in Appendix). Deterioration of economic activity was affected by a number of factors. First, at the initial phase of economic restructuring, the employment rate declined as a result of a sharp decrease in output and, consequently, also the demand for labour, for people having lost hopes of finding a job stopped the search and joined the ranks of the economically inactive. Economists refer to this phenomenon as the discouraged worker effect.⁽¹²⁾ In the majority of countries, the drop in economic activity was particularly pronounced among males due to the significant role industry had played in these countries before restructuring: in industry, which experienced the largest shrinkage of production volumes in the early 1990s, the proportion of male workers in the total number of workers was traditionally larger. Another factor closely related to the discouraged worker effect and particularly strongly felt in transition economies relates to job-losers' skills for which there was no demand in the so-called new industries that started to evolve. Large potential outflows of human resources to shadow economy were the third factor.

This trend of the number of economically active people reversed in 2001 (see Chart

3.2). It was primarily determined by the recovery of economic activity because the number of people in the age group 15–64 continued to decline. The highest increase in the activity rate was recorded for the age group 55–64 mainly due to policy decisions to increase the retirement age and to restrict early retirement possibilities. Nevertheless, activity grew also in other age groups and the growth was facilitated by the creation of new jobs.

Chart 3.2

ECONOMICALLY ACTIVE POPULATION IN AGE GROUP 15–64 AND ECONOMIC ACTIVITY LEVEL

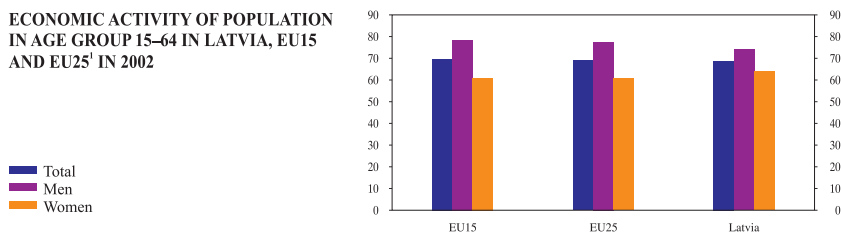


Sources: CSB and authors' calculations.

Of Latvia's population in the age group 15–64, in 2003, active were 69.2% (68.8% in 2002). Compared to the EU15 average, the economic activity rate is generally lower in Latvia (see Chart 3.3) and mainly determined by lower economic activity of males in the age group 25–54, as well as youth of both sexes in the age group 15–24. At the same time, economic activity of females in the age group 15–64 is above the respective EU15 indicator. The fact that Latvian women are generally better educated than those in the EU15 might figure as a factor supporting relatively higher economic activity among them. In 2002, only 21.8% of women at the working age in Latvia were without secondary education, with the indicator for the EU15 being 39.2%; 59.6% and 42.2%, respectively, had secondary education; 18.6% had higher education in both Latvia and the EU15.¹⁴ Another factor explaining larger economic activity among women is their proportion in Latvia's total urban population, which, particularly in Riga, exceeds their proportion in the country on average. As regional disparities in Latvia are more pronounced than in the EU15, it could be looked upon as one of the reasons for the economic activity rate being high among women and low among men.

Chart 3.3

ECONOMIC ACTIVITY OF POPULATION IN AGE GROUP 15–64 IN LATVIA, EU15 AND EU25¹ IN 2002



¹ Indicators for Malta are not included.

Source: Eurostat.

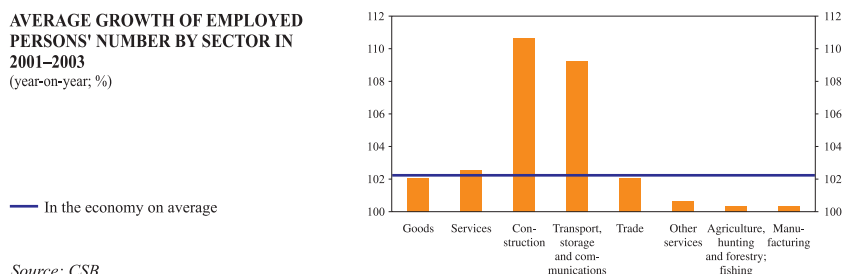
The World Bank experts note that the low economic activity rate among people in the age group 15–24 can be explained by relative inactivity among people under 20.⁽²⁹⁾ First, people in this age group are general and high school students for whom it is difficult to combine studies and work. Part-time jobs could be combined with studies, yet compared to EU15 Latvia has weaker part-time job opportunities.¹ The factor loses some of its impact on the age group above 20, as students start looking for jobs while still in the last year at the university. Second, the proportion of job-seekers is the largest in the age group 15–19, because part-time jobs are relatively difficult to find and employers prefer to hire people with a certain job history, which minimises young job-seekers' opportunities and does not promote their economic activity.

3.2 Employment

In 1991–1996, employment was continuously on a downside in Latvia, and in 1996 compared to 1990, the number of employed persons dropped by almost 400 thousand or around 30%. With the economic situation stabilising, the number of employed people rose slightly in 1997 and 1998, while in 1999 this upward trend was contained by the repercussions of the 1998 Russian financial crisis.

In 2001, the employment rate became balanced, around 66 thousand new jobs were created, and the number of employed persons amounted to 1 007 thousand in 2003. The largest increase in the number of employed persons was registered in transport, storage and communications as well as in construction (24 thousand and 20 thousand, respectively; see Chart 3.4)².

Chart 3.4
AVERAGE GROWTH OF EMPLOYED PERSONS' NUMBER BY SECTOR IN 2001–2003
 (year-on-year; %)



Source: CSB.

Employment rate³ is an important factor characterising the labour market, for it shows the use efficiency of the labour force, the available production input. With employ-

¹ Of the total number of employed persons, 10.4% did part time jobs in Latvia (in the fourth quarter 2003) and 18.2% in the EU15 (in 2002).

² Recently, the employment rate dynamics in construction has been very volatile, which most likely is the result of a relatively large share of shadow economy in this sector. However, taking into account an almost 34% construction growth at constant prices in 2000–2003, a sharp increase in the number of employed persons in this sector is possible.

³ Employment rate is the percentage of employed persons in one age group to total population in the given age group.

ment rate rising, overall production output and population income grow, tax revenues increase and expenditure for social benefits decreases. Consequently, at a higher employment rate the state theoretically can afford lowering of employees' tax burden.

The Lisbon Strategy, which the EU leaders adopted in 2000 and which, upon accession, became binding also on Latvia, sets the employment rate target till 2010. According to it, the employment rate should amount to at least 70% for the age group 15–64, including to at least 60% for women, and to 50% for the age group 55–64, by 2010. The interim employment rate goal is to increase the total employment level to at least 67%, including 57% for women, by 2005.(16)

Overall, employment rates in the EU10 are lower than in the EU15, yet the targets for raising employment rates of the Lisbon Strategy are ambitious even for the latter countries. The assessment of Latvia's progress in meeting the targets of the Lisbon Strategy shows that Latvia has already complied with one of the interim targets of 2005, with the employment rate for women amounting to 57% as early as in 2002. In 2003, employment rates continued to increase for both men and women in all age groups; nevertheless, meeting the employment targets most likely will be a serious challenge for Latvia.

Data in Table 3.1 lead to a conclusion that of late Latvia has come considerably closer to meeting the employment rate targets under the Lisbon Strategy. In particular, employment has increased in the age group 55–64, which, similar to the increase in the economic activity of the same age group, can be associated mainly with an increase in the retirement age and restrictions on early retirement. As to the data for men's employment rate, Latvia fulfilled the 2010 target for this age group in 2002, attaining 51.4% employment rate for men in 2003. Regarding women, the rate was lower (38.7%), yet the recent trends and projections to increase the retirement age for women further and to abandon the early retirement scheme provide the grounds for a relatively sound forecast of Latvia's ability to reach employment rate targets for the age group 55–64 under the Lisbon Strategy.

Though the Lisbon Strategy rests upon labour market reforms as a major prerequisite for meeting its goals, progress of a country should not be assessed solely from the point of quantitative employment indicators: the targets of the Lisbon Strategy are of a wider scope. To make employment growth work for the promotion of a competitive economy, the dynamics of labour market indicators is to be assessed both qualitatively and quantitatively.

A lower innovation basis in Latvia than in the EU15 should be reckoned with. Regarding progress of the EU countries in reaching the Lisbon targets, the Lisbon Review 2004 notes that in 2003 Latvia ranked third among other EU10 countries.(4) Eight criteria were used in the assessment of the EU10, among them innovations, economic liberalisation, financial services, etc. In an overall rating, Estonia takes the lead among

Table 3.1

EU PROGRESS IN ATTAINING LISBON STRATEGY TARGETS IN 2002¹

(in percentage points if not otherwise stated)

	Latvia	EU15	EU10	EU25
Total employment rate				
2002 (%)	61.8	64.3	55.9	62.9
2002 – 2010	-8.2	-5.7	-14.1	-7.1
2002 – 2005	-5.2	-2.7	-11.1	-4.1
2002 – 2000	+4.3	+0.8	-1.6	+0.4
Employment rate for women				
2002 (%)	57.8	55.6	50.2	54.7
2002 – 2010	-2.2	-4.4	-9.8	-2.3
2002 – 2005	0.8	-1.4	-6.8	-5.3
2002 – 2000	+4.0	+1.6	-1.2	+1.1
Employment rate for age group 55–64				
2002 (%)	44.1	40.1	30.5	38.7
2002 – 2010	-5.6	-9.9	-19.5	-11.3
2002 – 2000	+8.1	+2.4	+1.0	+2.2

¹ Data for Latvia refer to 2003, for EU15, EU10 and EU25 to 2002.

Sources: Eurostat, CSB and authors' calculations.

EU10 countries, with Slovenia following. It should be noted that compared to the previous review prepared in 2002 and 2003, in which Latvia was not among the first three leaders by any criterion, experts of the latest review acknowledge Latvia's substantial progress. Nevertheless, Latvia lags far behind the EU15 average in respect of innovations; consequently, along with the on-going progress in meeting the employment target, it is of utmost importance to put economic growth and employment on a knowledge intensive basis.

3.3 Unemployment

In Latvia, statistical data on registered unemployment first became available in 1992; prior to this date, information about jobless persons registered by public institutions could be obtained. In 1991, the State Employment Service (the ESA since October 2003) was formed and the Law "On Employment" passed, thus official accounting of registered unemployment in the country commenced.¹

At the end of 1992, 31.3 thousand unemployed persons or 2.3% of economically active

¹ Pursuant to the Law "On Employment", which was in force till December 31, 2001, a jobless person is a person at the working age that does not have a job, which actively seeks a job and is ready to start working immediately. An unemployed person is a person who is a permanent resident of Latvia, who is at the working age, who does not have other earnings that would represent at least the amount of the state determined minimum wage due to circumstances out of his/her control, who is seeking a job and is registered with the State Employment Service office at his/her declared place of residence.

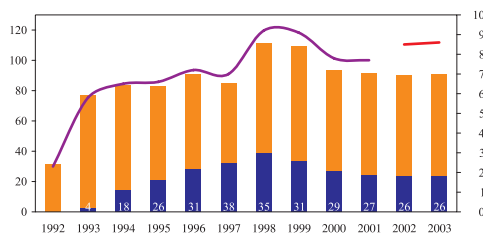
population were registered in Latvia. The number of persons without job was 43.8 thousand or 3.2% of economically active population. The number of registered jobless persons amounted to only 7.6 thousand in 1990 and 8.6 thousand in 1991. Officially registered unemployment statistics of the initial stage of economic restructuring did not take into account the so-called hidden unemployment due to standby circumstances, forced unpaid leaves, and part time employment. As a result, people did not work, or were forced to work less and be paid less without being registered as unemployed persons. For example, at the beginning of 1994, when the registered unemployment rate was 5.8%, actually 8.0% of economically active population were jobless, if the hidden unemployment was taken into account.

Between 1992 and 1998, the level of the registered unemployment had been constantly rising (see Chart 3.5), with the year 1997 as the only exception when the robust economic growth contributed to a fall in the unemployment rate and the number of unemployed persons. In the years following the Russian financial crisis of 1998, the unemployment rate rapidly reached its all-time high (9.2%) due to a great number of enterprises being compelled to scale down their output or close production, and fire workers accordingly. Since 2000, the registered unemployment rate has remained broadly unchanged (at about 90 thousand). In compliance with methodology used by the CSB since 2002, the registered unemployment rate in 2002 and 2003 also changed insignificantly and stood at 8.5% and 8.6% of economically active population, respectively.

Chart 3.5

REGISTERED UNEMPLOYMENT RATE AND NUMBER OF REGISTERED UNEMPLOYED PERSONS IN 1992–2003
(end of period)¹

- Number of registered unemployed persons (in thousands)
- Long-term unemployed (of total number of unemployed persons; %)
- Registered unemployment rate calculated according to the new methodology (right-hand scale; %)
- Registered unemployment rate (right-hand scale; %)



¹ A break in data series due to the shift to the new methodology of calculating registered unemployment rate by CSB as of 2002. Prior to 2002, the respective indicator was calculated as a ratio of the number of unemployed persons to economically active population aged 15 and over. As of 2002, the calculation is based on the number of economically active population starting from 15 up to the retirement age.
Source: CSB.

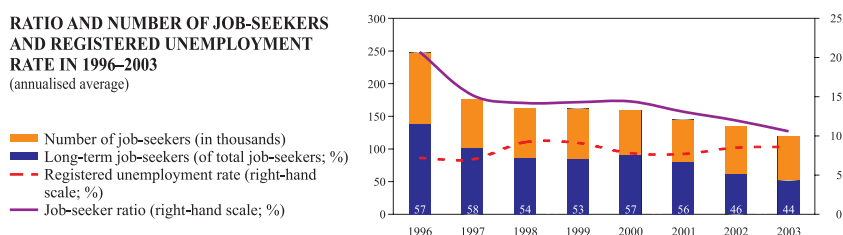
However, the registered unemployment rate does not present a complete picture of the labour market because it does not account for that part of the population who do not register with the ESA but are in search of jobs on their own. Data on the total number of job-seekers and their ratio to total economically active population are derived from sample surveys, attributing the results obtained to total population. The first labour survey in Latvia was carried out in November 1995; as of 1996, annual

indicators based on labour surveys in compliance with internationally accepted methodology are available.

In Latvia, the ratio of job-seekers has consistently been higher than the registered unemployment rate, with the dynamics of the two differing to a great extent (job-seeker ratio was less affected by the Russian financial crisis of 1998). In contrast to registered unemployment, the share of job-seekers dropped substantially in 2000–2003, hence causing a decrease in the differential (see Chart 3.6).

Chart 3.6

RATIO AND NUMBER OF JOB-SEEKERS AND REGISTERED UNEMPLOYMENT RATE IN 1996–2003
(annualised average)

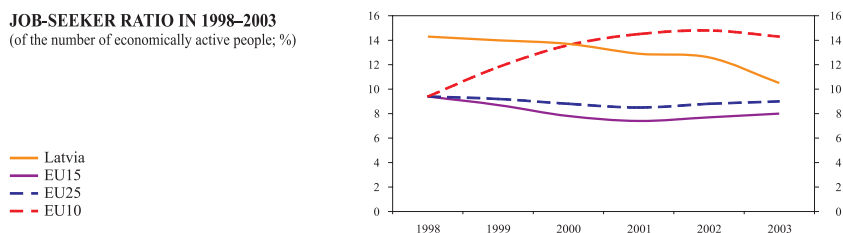


Source: CSB.

Of late, the number of job-seekers has dropped substantially; nevertheless, it still soars above EU15 and EU25 average indicators but is below that of the EU10 (see Chart 3.7). The recent increase in the number of job-seekers in EU10 countries has primarily been determined by Poland's labour market. In 2003, Latvia ranked behind Poland, Slovakia and Lithuania in terms of the job-seeker number.

Chart 3.7

JOB-SEEKER RATIO IN 1998–2003
(of the number of economically active people; %)



Source: Eurostat.

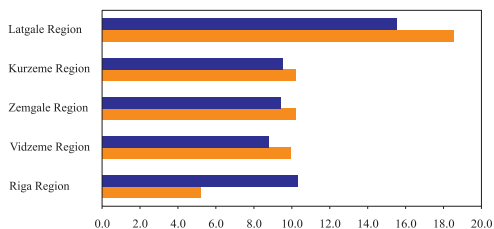
The relatively high unemployment rate, coupled with dynamic economic growth, is an indicator of a certain structural disequilibrium in the Latvian labour market. By regions, registered unemployment rate differences are more pronounced than job-seeker ratio differences (see Chart 3.8). It primarily depends on the definition used in labour force surveys, according to which rural residents earning their means of subsistence on the household plot are also included in the category of employed persons. That is why the number of job-seekers in Latvia's countryside is considerably smaller than that in towns and cities (7.8% and 11.7% of the total number of economically active people in 2003, respectively).

Chart 3.8

REGISTERED UNEMPLOYMENT RATE AND JOB-SEEKER RATIO IN LATVIAN REGIONS¹

(of economically active population; %)

Registered unemployment rate
Job-seeker ratio



¹ Registered unemployment rate for the first half of 2004 on average; job-seeker ratio for 2003 on average.

Source: Eurostat.

According to the economic theory, labour force migration from one region to another and a subsequent equalisation of the unemployment rate could be anticipated, if regional disparities in this respect are strongly pronounced, i.e. in the circumstances of an adequately mobile labour force, substantial unemployment rate differences are not sustainable over a longer horizon.

However, in Latvia, unemployment rate differences have persisted for a number of years, triggering repeated reproofs for low labour mobility.(31, 32, etc) The findings of available studies point to the fact that the people in Latvia mainly commute, i.e. they stay to live in one district or city but go to work to another locality. At the same time, regional wage and unemployment differences are determinants of migration flows among the regions, and in this respect Latvia's labour force is relatively mobile according to international standards.(18, 19)

Due to the small-size territory of Latvia, the daily commuting between places of work and residence is a powerful mechanism for eventual mitigation of regional labour market imbalances; however, the regional unemployment rate disparities that persist in Latvia indicate that commuting and migrating so far have not been supportive of regional labour market equilibrium.

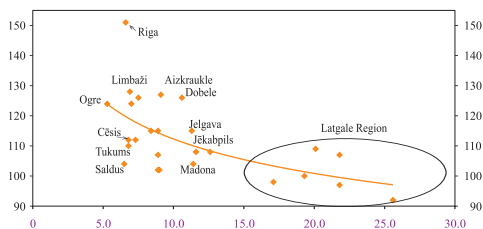
The analysis of population flow patterns shows that Latvia's inadequately developed transport infrastructure is a serious obstacle. The real estate market displaying significant regional price disparities is another significant factor affecting migration. For instance, funds from an apartment sale in Rēzekne are insufficient for the purchase of the same-quality flat in the capital city, and it discourages people from looking for employment outside their native region.

Over a longer horizon, insufficient labour mobility can be offset by capital mobility; according to the theory, capital flows to regions with higher unemployment rate and lower wages, thus generating new jobs and reducing unemployment. In Latvia, the relationship between wages and unemployment appears to be negative (see Chart 3.9), while investment primarily concentrates in Riga where wages substantially exceed the national average.

Chart 3.9

REGISTERED UNEMPLOYMENT RATE AND MONTHLY AVERAGE GROSS WAGES AND SALARIES IN LATVIA'S DISTRICTS IN 2000

(monthly average gross wages and salaries, in lats; registered unemployment rate, %)



Source: CSB.

In 2002, 57.6% of total non-financial investment (including construction works) was made in Riga and the District of Riga, with only 5.0% going to Ventspils and the District of Ventspils, 4.2% to Daugavpils and the District of Daugavpils, and 1.4% to Rēzekne and the District of Rēzekne. The amount of per capita non-financial investment in the Riga Region was 2.5 times above that in the Latgale Region. According to preliminary estimates, regional distribution of investment in 2003 remained broadly unchanged.

The shortage of skilled labour underpins the absence of capital flows to less-developed regions. Long periods without job have an adverse effect upon individual skills and human ability to re-enter the labour market. In macroeconomic terms, it is the so-called unemployment hysteresis, i.e. a short term increase in unemployment may convert into a long-term tendency. The Latgale Region with the highest unemployment rate for years also has the largest proportion of long-term unemployed persons and the weakest economic activity of the population. In 2003, only 54.6% of all Latgale inhabitants at the working age were economically active (62.0% in Latvia overall), and the number of registered long-term unemployed persons in all districts of Latgale, excluding the District of Daugavpils, accounted for more than 50% of totally registered unemployed persons (26.1% in Latvia overall).

4. DISCUSSION OF LATVIA'S LABOUR MARKET FLEXIBILITY

4.1 Institutional Framework

Institutional framework forms the foundation for labour market functioning and evolution. It is regulated by the *Satversme* of the Republic of Latvia, binding international laws and regulations, the Labour Law of the Republic of Latvia (hereinafter, Labour Law), the Civil Law and other legislation, as well as collective agreements and procedural regulations. The Labour Law (in effect as of June 1, 2002) incorporates a large number of EU directives in respect of labour legislation. The principles of the European Social Charter and conventions of the International Labour Organisation also are incorporated in the Law.(23)

The institutional framework underlays long-term equilibrium of the labour market and has the potential for strengthening its short-term capacity for adjustment to asymmetric shocks. The following factors of institutional framework can be distinguished for assessing its impact on labour market flexibility:

- tax burden,
- the minimum wage,
- working time,
- employment protection,
- trade unions,
- the active employment policy,
- the passive employment policy.

In the context of labour market, tax burden implies the personal income tax and social insurance contributions. A large tax burden pushes up employers' wage-related costs, reduces incentives to hire more workers, and undermines labour market flexibility. With tax burden increasing, wages after taxes go down and may reduce workers' motivation to work.

The regulation of the minimum wage rate¹ aims at securing employees' income of the lowest level, thus mitigating the risk of poverty. From employers' point of view, the minimum wage imposes restrictions on the wage formation process, thus having an overall adverse effect on the labour market flexibility. It does not motivate unskilled and inexperienced workers to improve their qualification. A high minimum wage can reduce labour market flexibility and foster unofficial employment. Nevertheless, it also motivates the employee for work and boosts economic activity.

Inflexible working time restricts the efficiency of labour market operation, reducing opportunities for people to actively participate in it. More flexible working hours enable workers to take on additional jobs, to work part-time and to combine work with studies (for young people).

¹ The minimum wage is the lowest wage rate, which the employer must pay to employees for work in regular working time.

In the context of labour market, employment protection implies flexibility of the employer to hire and fire workers. The stricter the respective rules, the lower labour market flexibility.

Trade unions stand in the positions of employees by trying to achieve increases in their monthly and minimum wages, reductions in working hours, improvements in labour protection and other positive changes in workers' life quality. Activities of trade unions in the respective areas can sizeably confine employers' manoeuvring ability, and hence their active operation usually is classified as limiting labour market flexibility.

The active employment policy aims at enhancing economic activity of the population and boosting efficiency of the job-seeking process. It is achieved through strengthening employment relationships between employers and job-seekers, as well as by training, retraining and qualification improving activities. Consequently, a successful active employment policy boosts labour market flexibility by improved labour market functionality and labour quality.

The key component of the passive employment policy is the system of benefits, of which the unemployment benefit is among the most influential instruments. It alleviates the negative effects of losing the status of employed person and the poverty risk. At the same time, benefits often have a negative impact on labour market flexibility. The larger the compensation for a loss of job and the longer the period of its duration, the better is poverty risk hedging and, consequently, also the weaker person's motivation to look for a job.

The effects of the factors above are summed up in Table 4.1.

Table 4.1

EFFECTS OF INSTITUTIONAL FACTORS ON LABOUR MARKET FLEXIBILITY

Institutional factor	Effect on labour market flexibility
Tax burden	-
Minimum monthly wage	-
Working time	-
Employment protection	-
Trade unions	-
Active employment policy	+
Passive employment policy	-

Despite the negative effect on labour market flexibility exerted by some of the factors in Table 4.1, they all can be used to improve employment protection and the quality of labour conditions. They give momentum to participation, boosting economic activity of the people and ensuring a more effective utilisation of labour force potential. Thus, the impact of institutional factors on labour market is not homogenous: they have to

be in balance to render labour market more attractive for workers, and, at the same time, to avoid excessive constraints on its flexibility.

4.1.1 Tax Burden

Relative to labour market, tax burden implies the personal income tax (PIT) and social contributions imposed on workers' income. For the purpose of comparing the tax burden in Latvia and the EU15, the implicit tax rate on labour¹ is used. In 1995, the implicit tax rate on labour in Latvia was above that of the EU15 average (38.9% and 37.3%, respectively; see Table 4.2). Of EU15 countries, the rate was within the range of 25.7% in the United Kingdom and 48.4% in Sweden.

Table 4.2

IMPLICIT TAX RATE ON LABOUR IN 1995 AND 2002

Country	1995 (%)	2002 (%)	Changes (in percentage points)
EU15	37.3	36.3	-1.0
Sweden	48.4	46.6	-1.8
Finland	43.9	43.9	0.0
Belgium	43.9	43.5	-0.4
France	42.2	41.8	-0.4
Italy	37.8	41.1	3.3
Denmark	40.7	39.9	-0.8
Germany	39.5	39.9	0.4
Austria	38.7	39.2	0.5
Greece	34.1	37.8	3.7
Latvia ¹	38.9	37.0	-1.9
Portugal	31.0	33.7	2.7
Netherlands	35.1	31.9	-3.2
Spain	28.9	30.0	1.1
Luxembourg	29.5	28.0	-1.5
Ireland	29.8	25.9	-3.9
UK	25.7	24.6	-1.1

¹ Authors' calculations.

Source: Eurostat.

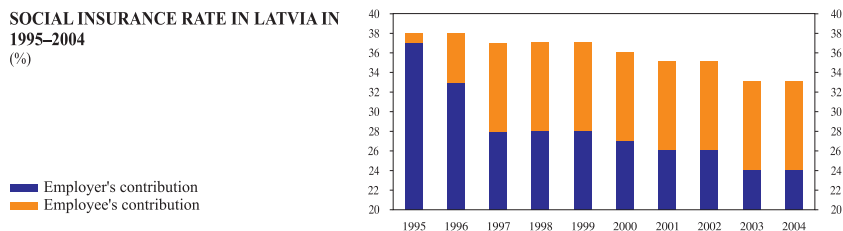
Between 1995 and 2002, the implicit tax rate on labour in Latvia dropped 1.9 percentage points (to 37.0%) on the back of a decrease in the social insurance contribution rate (see Chart 4.1). The average implicit tax rate on labour in EU15 countries dropped 1.0 percentage point at the same time (to 36.3%). According to authors' calculations, following the reduction of the social insurance contribution rate in Latvia in 2003, the implicit tax rate on labour stood at 36.9%.

¹ It is all direct and indirect taxes plus employer's and employee's social contributions levied on employed labour income divided by total compensation of employees.(44)

An overall assessment of the tax burden and its dynamics in Latvia leads to a conclusion that the situation is close to the EU15 average, and taxes do not facilitate deterioration in labour market flexibility vis-à-vis EU15.

Chart 4.1

SOCIAL INSURANCE RATE IN LATVIA IN 1995–2004
(%)



Source: (39).

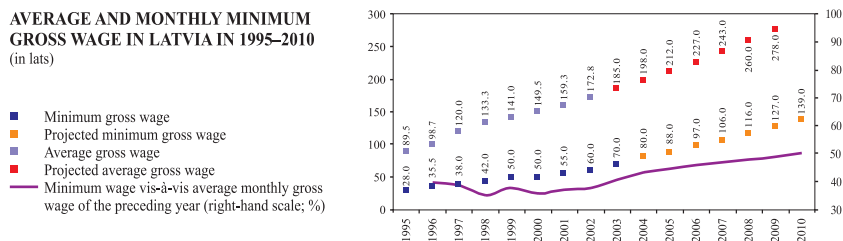
4.1.2 Monthly Minimum Wage

According to the Labour Law, the rate of monthly minimum wages and salaries for employees (hereinafter, the minimum wage) is fixed by the Cabinet of Ministers of the Republic of Latvia (hereinafter, the Cabinet). As of 1995, the Cabinet passed resolutions once or twice a year (except in 2000) on raising the minimum wage rate. Of late, the minimum wage has accounted for 30%–36% of the monthly gross wage (33%–47% in the EU25).

In 2003, a strategy on raising the minimum wage by 2010 was developed (see Chart 4.2). It envisages a gradual doubling of the minimum wage relative to the 2003 rate (70 lats). The projected minimum wage rate was calculated to reach 50% of the projected average gross wages and salaries of the preceding year in the run of seven up-coming years.

Chart 4.2

AVERAGE AND MONTHLY MINIMUM GROSS WAGE IN LATVIA IN 1995–2010
(in lats)



Sources: CSB and (27).

The projected and implemented rise of the minimum wage (to 80 lats) in 2004 applied to approximately 22% of the total number of wage earners¹, with the figure for the private sector being around 30.5%. It has affected a sizable share of wage earners and is a notable additional burden for employers.

¹ According to CSB data, this is an approximate number of wage earners receiving less than 80 lats in October 2003.

In six EU15 countries (Germany, Austria, Italy, Switzerland, Denmark and Finland) and one EU10 country (Cyprus), the minimum wage is not enforced by law, and the collective agreement reached via trade union intermediation is the core wage setting mechanism. The minimum wage in Belgium, the Netherlands and Luxembourg as well as in France, the UK and Ireland¹ is fixed above 900 euro; those in the Czech Republic, Spain, Portugal, Greece, Malta and Slovenia range between 400–900 euro; its amount in other EU10 countries is between 200 and 400 euro. The amounts of the minimum wage in Lithuania and Latvia are the lowest among EU25 countries in PPS (281 and 283 euro, respectively). The comparison of minimum wage amounts in PPS is given in Table 4.3.

Table 4.3

MINIMUM WAGES IN PPS IN JANUARY 2004
(euro)

Country	Minimum wage in PPS	Country	Minimum wage in PPS
Lithuania	281	Slovenia	667
Latvia	283	Greece	774
Estonia	304	Malta	821
Slovakia	320	Ireland	929
Hungary	364	UK	1 084
Poland	398	France	1 170
Czech Republic	439	Belgium	1 187
Spain	625	Netherlands	1 202
Portugal	663	Luxembourg	1 237

Source: Eurostat.

For purposes of comparison, relative amounts of minimum wages shall be considered. An indicator used for this purpose is the minimum wage against the average gross wages and salaries in the economy. In 2003, the minimum wage accounted for 54.5% of the average gross wages and salaries for full-time employment in industry and services in Malta (the highest rate among 14 countries of the EU25²) and 34.0% in Slovakia (the lowest rate; see Chart 4.3). In Latvia, the minimum wage amounted to 37.3% of the average gross wages and salaries for full-time employment in industry and services.

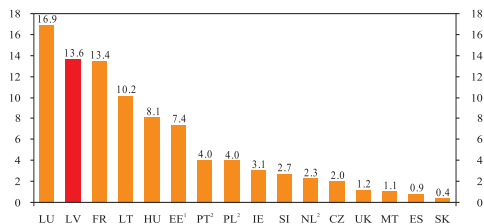
The proportion of employees earning the minimum wage reflects the degree of sensitivity to a rise in the minimum wage rate: the higher the indicator, the larger is labour market's sensitivity to changes in the minimum wage rate. The number of wage earners who receive the minimum wage is relatively large in Latvia despite the minimum wage being among the lowest in the EU25. In 2003, 13.6% of full-time employees were on the minimum wage in Latvia (one of the highest levels compared to other EU25

¹ The minimum wage in the UK and Ireland was fixed only at the end of the 1990s.

² Information for Estonia, Greece, France and Belgium is not available.

Chart 4.4

FULL-TIME EMPLOYED ON MINIMUM WAGE IN 2003 (%)



¹ Data for 2001.

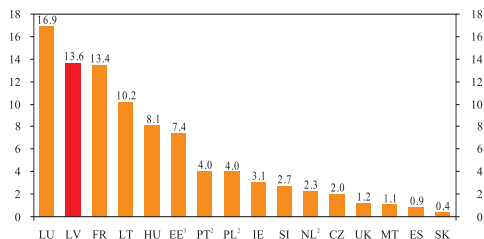
² Data for 2002.

Source: Eurostat.

countries; see Chart 4.4). It points to a relatively high sensitivity of the Latvian labour market to rises in the minimum wage rate.

Chart 4.4

FULL-TIME EMPLOYED ON MINIMUM WAGE IN 2003 (%)



¹ Data for 2001.

² Data for 2002.

Source: Eurostat.

Summing up the minimum wage description in Latvia, two important aspects deserve attention. On the one hand, the absolute level of the minimum wage in PPS in Latvia is among the lowest in EU25 countries. At the same time, the proportion of wage earners receiving the minimum wage is more important for the labour market flexibility studies. Monthly earnings of a considerably large part of employees are close to the amount of the minimum wage and imply that a rise in the minimum wage rate has a substantial effect on labour market flexibility vis-à-vis those EU25 countries where the minimum wage is enforced by law. This finding, however, should be treated with precaution due to a substantial part of wages being paid out unofficially.(3, 32) Consequently, the number of workers receiving wages and salaries close to the minimum wage rate may actually be smaller. On the other hand, the implementation of the plan on increases in the minimum wage rate (to 50% of the average gross wages and salaries) may reduce the relative flexibility of the Latvian labour market.

4.1.3 Working Time

In Latvia, working time is regulated by the Labour Law. Normally, the daily working time of employees shall not exceed 8 hours, with the normal weekly working time

lasting for 40 hours. Only in three EU25 countries (Latvia, Estonia and Poland), working time is fixed by law. In other countries, despite the average working time being set in compliance with law, there is a possibility to collectively introduce average working time schemes that are more flexible and, at the same time, ensure the abidance by the average working time stipulated. According to Eurostat data, 20% of wage earners in EU15 countries take the opportunity to do flexible working hours. In the EU15, working time ranges from 37 to 39 hours, except in France (35 hours) and Greece (40 hours).

The actual working time per week averages 40 hours in the EU15 and 42.4 hours in the EU10. Actual weekly working hours in all the EU10 countries, except Cyprus and Lithuania, exceed the EU15 average. In the EU25, men work longer hours than women.

Due to differences in survey methodology, actual average weekly working hours of full-time employees of only twelve EU25 countries are available for comparison (see Table 4.4). In Latvia, those employed on a full-time basis worked on average 41.9 hours per week in 2003, which is the second largest indicator among the EU25 countries (42.4 hours per week in Estonia) for which 2002 data are available. Analysis of the above indicator by gender shows that both women and men in Latvia actually work longer hours on average than stipulated by law.

Table 4.4

ACTUAL AVERAGE WEEKLY FULL-TIME WORKING HOURS IN 2002

(in hours)

State	Total	Females	Males
Estonia	42.4	41.5	43.1
Latvia ¹	41.9	40.3	43.4
Slovenia	41.5	40.3	42.4
Slovakia	40.8	40.5	41.1
Finland	40.7	39.1	42.0
Cyprus	40.0	39.6	40.4
Malta	40.0	38.3	40.7
Belgium	39.2	38.0	39.8
Netherlands ²	39.1	38.1	39.4
Ireland	37.8	32.8	41.9
UK	37.8	34.4	39.6
Spain	–	37.3	39.8

Sources: (7), CSB data of 2003 (¹) and 2001 (²).

Part-time workers also spend longer hours at work than stipulated by law. According to this indicator, part-timers spend longer hours at work in France, Slovakia and Belgium than in Latvia (see Table 4.5).

The analysis of working time in Latvia leads to a conclusion that it is not flexible *de iure*, as the law stipulates definite duration of the working day and working week. It is

Table 4.5

ACTUAL AVERAGE WEEKLY PART-TIME WORKING HOURS IN 2002

(in hours)

State	Total	Females	Males
France	23.6	23.6	23.5
Slovakia	23.3	23.2	23.4
Belgium	23.1	23.1	23.3
Latvia ¹	22.9	21.8	24.4
Estonia	22.2	22.2	22.2
Cyprus	22.0	22.4	21.1
Austria ²	22.0	21.9	22.1
Malta	21.2	21.1	21.6
Netherlands ²	21.2	20.8	21.9
Finland	20.1	20.4	19.5
UK	15.6	15.8	15.1
Spain	–	17.2	18.0

Sources: (7), CSB data of 2003 ⁽¹⁾ and 2001 ⁽²⁾.

not typical for EU25 countries where employees actively take advantages of flexible working time. Despite regulated working time in Latvia, its *de facto* duration is longer, and the actual weekly working hours are among the longest in the EU25. This is likely to be due to a tendency to employ possibly smaller numbers of workers (in an attempt to avoid an increase in production costs), or the labour supply cannot fully meet the market demand (e.g. in terms of qualification).

4.1.4 Labour Protection

Labour protection is an integral part of the labour market. The state must not only ensure an adequate labour environment but also protect wage earners against negative factors, e.g. discrimination and injustice. The state must also regulate hiring and firing procedures, accounting for the interests of parties, the employee and the employer.

The labour protection standards of the Labour Law are consistent with general European labour protection standards. Compared to the former Code of Labour Laws of the Republic of Latvia, innovations introduced in the new Labour Law are positive. The latter places a particular emphasis on principles of equal rights and reduces the maximum duration of fixed-term employment contracts from 5 years to 2 years; this term (including extensions) is among the shortest in Latvia vis-à-vis other European countries (see Table 4.6).

In Latvia, as elsewhere in the Czech Republic, Hungary, Norway, Poland, Portugal¹ and Slovakia², the probation period for employees at private companies must not

¹ With exception for positions with high responsibility (180 day probation term) and senior managers (240 day probation period).

² (9).

Table 4.6

MAXIMUM DURATION OF FIXED EMPLOYMENT CONTRACTS IN EU25 IN 2003

(in months)

State	Duration
France	18
Germany, Greece, Spain, Latvia	24
Ireland, UK, Portugal	48
Hungary	60
Austria, Czech Republic, Finland, Italy, Netherlands, Norway, Poland	Unfixed

Sources: (8, 9).

exceed 3 months. Severance pay is currently low in Latvia (in a number of European countries, e.g. Austria, Belgium, Sweden, Poland, Norway, Finland and Italy, it does not exist at all¹). The Labour Law stipulates that as of 2005, it will depend on the labour record at the respective company and will be much higher for certain groups of employees. This will be an additional pressure on employers, particularly in the circumstances requiring substantial job reductions due to negative shocks.

Compared to the Code of Labour Laws, the new Labour Law regulates relationships between the employer and the employee more accurately, and renders cooperation between the two parties more efficient, thus improving overall efficiency and flexibility of the labour market. According to the World Bank, the new law does not unduly restrict job turnover, and the legal requirements for contract termination and wage setting are rather flexible by European standards.(32)

The Labour Law stipulates that employers shall not terminate employment contracts of certain categories of workers (e.g. pregnant women, women on postnatal leave, disabled persons); this provision has a restrictive effect on labour market flexibility, as it may complicate the job-seeking efforts of women and people with special needs. Upon taking on people of this category, employers shall act more cautiously because in the event of a failure the legislation may notably limit their ability to dismiss such workers. It may give rise to discrimination, which the Labour Law rules out. In Germany, for instance, the employer is not prohibited to dismiss such workers but only on condition that respective state institutions are advised on it in advance.

However, in the context of labour market flexibility, the overall assessment of Latvia's labour protection is positive. Its regulatory framework is consistent with EU practices and may be considered benevolent as ensuring and promoting effective functioning of the labour market.

¹ (9).

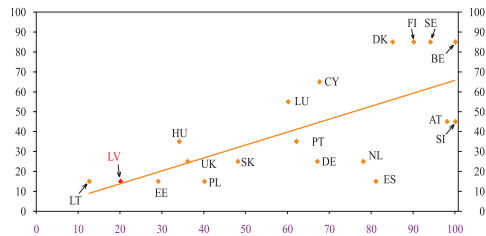
4.1.5 Trade Unions

In May 2004, the membership of 137 registered trade unions in Latvia was 185–190 thousand (around 18% of the total number of wage earners). Trade union activities are regulated by the Law "On Trade Unions of the Republic of Latvia" passed in 1990. Largest trade unions have formed the LFTUC, the only national trade union association. Twenty five trade unions with a body of over 180 thousand members are registered with LFTUC.

In general, trade union activities and their effects are a major factor that can undermine labour market flexibility. Due to their relatively small membership, the Latvian trade unions can influence wages insignificantly and mainly at the enterprise level. However in other countries, e.g. Slovenia, Belgium, Finland and elsewhere, unions affect wages mainly at the inter-sector or sector level (5) and thus play a more significant role in the overall wage setting process. Compared to other EU25 countries, Latvia has one of the smallest unionised workers' body and number of wage-earners whose wages can be influenced by trade unions (see Chart 4.5).

Chart 4.5

TRADE UNION MEMBERSHIP AND COLLECTIVELY NEGOTIATED WAGES IN 2002 AND 2003
(trade union membership (in % of total number);
negotiated wages (in % of all wages))



Source: (7).

In Latvia, trade unions are largely concentrated in the public sector. In 2002, unionised were 38% of wage earners in the public sector and only 8% in the private sector.(3)

LFTUC role in organising and regulating Latvia's labour market is constantly strengthening. Through a social dialogue, the organisation participates in the development of all primary laws and regulations. LFTUC managed to push through a gradual rise (by 2010) of the minimum wage to 139 lats.(24) Its contribution to labour protection improvements is of particular significance. The Confederation set the increase of the non-taxable wage minimum as a priority goal on February 20, 2004.(42)

As stated above, trade union activities are strong primarily in Latvia's public sector (vigorous and successful are union activities aimed at wage rises for medical nurses and teachers), while in the private sector they are minimal. The number of trade union members in Latvia is small vis-à-vis the majority of EU25 countries. Via collective

¹ The non-taxable wage minimum is stipulated by the Law of the Republic of Latvia "On Personal Income Tax", in effect as of 1994. Since 1994, the non-taxable wage minimum has been reduced on two occasions: from 25.00 lats to 22.50 lats per month in 1994, and from 22.50 lats to 21.00 lats per month in 1997.

agreements, wages are mainly fixed at the company level. It can be concluded that trade union impact on the labour market is less restrictive in Latvia than in other EU25 countries.

4.1.6 The Active Employment Policy

The implementation of the active employment policy in Latvia proceeds pursuant to the Law "On Support for Unemployed Persons and Persons Seeking Employment". Active employment measures aimed at improving job-seekers' skills and ability to meet the market demand in the changing economic and technological situation are a major aspect of the employment policy.

The ESA is responsible for the active employment policy and its implementation in Latvia. Over 20 private recruitment companies are also engaged in personnel selection and, along one of the central goals of the state active employment policy, contribute to the creation of a link between the employer and the employee.

Compared to other EU25 countries, expenditure for the active employment policy in Latvia is rather modest, accounting for 0.13% of GDP in 2001 (see Table 4.7). Due to legislative amendments, this share to GDP decreased further in 2002 (to 0.09%), and stood at almost the same level in 2003 (authors' calculations).

Public spending on active employment policy measures, which is inadequately small, influences their efficiency. Thus in 2003, of 54 729 jobless persons who were involved in the active employment policy programs 17.9% or 9 802 found permanent jobs within six months after the completion of training. The indicator for Austria was 49% in 2003, with 38% and 32% for Sweden and Spain, respectively.(10) Nevertheless, some indicators of active employment policy measures are quite high. This mainly refers to measures for specific groups of unemployed persons. According to ESA data for 2003, 66.7% of unemployed persons who took part in pilot projects and 37.8% of those who completed occupational training found employment in the course of first six months.(33)

Compared to the allocation for 2004, the financing for the active employment policy has more than doubled in 2005.(33, authors' calculations) Its rapid rise is primarily associated with the EU accession, which furnished Latvia with greater opportunities for implementing the active employment policy through attracting co-financing from the EU structural funds. This mainly refers to the ESF, which is the EU financial instrument for the implementation of the EU employment strategy. From the ESF, Latvia will receive support in areas that meet the goals of its active employment policy to a great extent: promotion of employment opportunities, development of education and lifelong learning, minimisation of social exclusion. In the three year planning period, Latvia can receive the ESF support of up to 132.75 million lats.(45)

Table 4.7

ACTIVE EMPLOYMENT POLICY EXPENDITURE IN EU COUNTRIES

State	Expenditure (in % of GDP)	Year
Estonia	0.06	2001
UK	0.10	2001
Lithuania	0.12	2001
Latvia	0.13	2001
Czech Republic	0.17	2000
Slovakia	0.18	2000
Poland	0.20	2000
Portugal	0.20	2001
Greece	0.30	2001
Slovenia	0.40	1998
Austria	0.40	2001
Hungary	0.47	2000
Italy	0.50	2001
EU15 (average)	0.70	2001
Spain	0.70	2001
Ireland	0.70	2001
Finland	0.70	2001
Germany	0.90	2001
France	0.90	2001
Netherlands	0.90	2001
Belgium	1.00	2001
Sweden	1.30	2001
Denmark	1.60	2001

Sources: (1, 10, 40) and authors' calculations for Latvia.

4.1.7 The Passive Employment Policy

Social benefits are the main instrument of the public passive employment policy. Unemployment benefits have a direct effect on the labour market. Depending on the benefit amount, it may either motivate an individual to re-establish the status of employed person or weaken incentives to work, thus undermining flexibility of the labour market.

The amount of unemployment benefit is relatively moderate in Latvia, with the replacement ratio¹ of 50%² in 2003, lower than for the majority of EU25 countries (see Table 4.8). Among the EU10, only Poland (40%) and Lithuania (25%) have lower indicators³.

¹ The proportion of the initial unemployment benefit amount against the previous income level.

² For employees with labour record from 1 to 5 years.

³ For Lithuania, replacement ratio was calculated taking into account the unemployment benefit that may be determined within the range of the GMI (guaranteed minimum income) and one fourth of the previous income level depending on the reason for losing job.

Table 4.8

MAIN INDICATORS OF UNEMPLOYMENT BENEFIT SYSTEM

State	Replacement ratio ¹ (January 2003; %)	Record required for entitlement to benefit ² (uninterrupted labour record prior to requesting benefit; total labour record in months)	Unemployment benefit ² (in % from previous income for a childless person)	Benefit duration period ² (in months; duration-affecting factor)
Lithuania	25	24 (36)	Not dependent (reasons for losing job, insurance)	6
Poland	40	12 (18)	Not dependent (insurance record)	6–18 (place of residence)
Latvia	50	9 (12)	50%–65% for first 3 months (depending on labour record), 75% for next 3 months, 50% for last 3 months ³	9
Estonia	50	12 (24)	Not dependent	6–12 (insurance record)
Czech Republic	50	12 (36)	50% for first 3 months, 40% for the rest	6
Slovakia	60	24 (36)	50% for first 3 months, 45% for the rest	6–9 (insurance record)
Slovenia	63	12 (18)	70% for first 3 months, 60% for the rest	3–24 (insurance record, age)
Hungary	64	12 (48)	65%	3–12 (labour record)
EU15 (average)	60	n/a	n/a	n/a

Sources: (1) (1), (11) (2), (37) (2).

In Latvia, the amount of the benefit is calculated basing on the insurance record and the income on which social security contributions against unemployment depend. The maximum length of entitlement to unemployment benefit is nine months, during which its amount is gradually decreasing to foster job-seeking efforts of unemployed persons. In Estonia and Lithuania, the benefit amount does not depend on the previous income level but is affected by other factors, e.g. reasons for losing the job.(11)

As the terms of benefit duration period differ, it is difficult to make comparisons across countries. Though fixed in Latvia, the Czech Republic and Lithuania, the period of benefit duration is longer in Latvia. In other EU10 countries, the duration of the benefit payment period depends on various factors: employment record, uninterrupted employment period prior to applying for benefit, place of residence and age.

Overall, it may be concluded that the procedures for granting and paying unemployment benefit in Latvia do not constrain labour market flexibility. The amount of the benefit vis-à-vis wages and salaries is modest. In contrast to other EU10 countries,

Latvia has a fixed unemployment benefit payment period (relatively, it would be longer for a person with a short employment record). The passive employment policy promotes employment and does not unduly restrict labour market flexibility.

4.2 Flexibility of Wages and Salaries

Flexibility of wages and salaries is a mechanism via which a faster adjustment of the labour market to changes in the economy can be achieved. However, institutional aspects of the labour market, e.g. the minimum wage, trade union activities, etc. can affect wage flexibility (see Chapter 4.1). Compared to other EU25 countries, these factors are moderate in Latvia and cannot notably disturb adjustment to shocks and cause disequilibrium of the economy.

In order to assess wage flexibility, three approaches have been used. First, the relationship between the changes in wage dynamics on the one hand, and sector value added and labour productivity, on the other, is analysed for 1998–2003. Second, comparative analysis of wages and salaries in the breakdown by sector of the Latvian economy has been conducted. Due to uneven development of sectors, a non-homogeneous wage structure and dynamics in the breakdown by sector can point to the degree of wage flexibility. Third, econometric estimation of wage flexibility has been carried out.

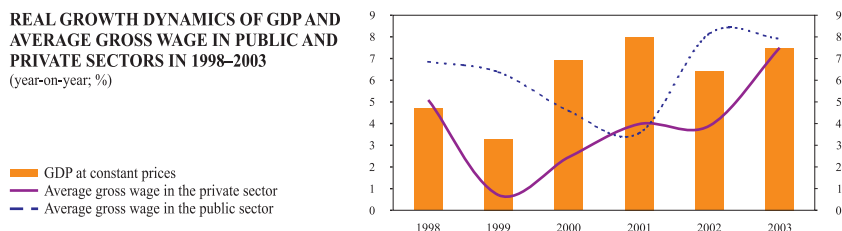
4.2.1 Relationship between Changes in Real Wage Dynamics and Sector Value Added and Labour Productivity

Wages and value added

In the private sector, wage dynamics recently has been much the same as that of GDP, whereas wage and GDP correlation in the public sector has not been so pronounced (see Chart 4.6).

Chart 4.6

REAL GROWTH DYNAMICS OF GDP AND AVERAGE GROSS WAGE IN PUBLIC AND PRIVATE SECTORS IN 1998–2003
(year-on-year; %)



Source: CSB.

The fact that wages reflect GDP changes stronger in the private sector than in the public sector can primarily be explained by predominant concentration in the public sector of areas that are not affected by economic cycles, i.e. public administration and defense, compulsory social insurance, education, and health care.

Between 1998 and 2003, two sub-periods can be distinguished when, first, Latvia's economy was affected by the 1998 Russian financial crisis, and, second, the economy was recovering from the adverse shock of the crisis. As a result, the Latvian economy went through both deceleration of the growth rate (with production volumes even shrinking in some branches) and its reversal to the pre-crisis level. That is why the analysis of real wages, value added and productivity over this period can be used in assessing wage flexibility.

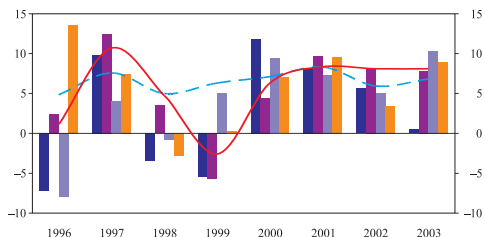
The effects of the 1998 Russian financial crisis on Latvia's economic growth were not homogenous. The crisis most affected industry, agriculture, hunting and forestry, fishing, fishing, transport, storage and communications, and financial intermediation. Under the impact of the crisis, companies operating in these sectors narrowed production in 1998 and 1999. Generally speaking, when output of goods is shrinking, the demand for labour weakens, and a downward pressure on wages is experienced. If along the fall in output, wages fall or their growth moderates, they can be assumed as adequately flexible and able to foster economic adjustment to unfavourable external conditions.

The dynamics of economic sectors after the Russian financial crisis is showed in Chart 4.7. Value added decreased only in the goods sector, while in the services sector it continued to increase both in 1998 and 1999, with the growth rate falling in financial intermediation and transport, storage and communications at the same time.

Chart 4.7

IMPACT OF 1998 RUSSIAN FINANCIAL CRISIS ON LATVIA'S ECONOMIC SECTOR GROWTH
(value added at constant prices; year-on-year; %)

- Agriculture, hunting and forestry; fishing
- Industry
- Financial intermediation
- Transport, storage and communications
- Goods
- Services



Source: CSB.

Chart A.3 in Appendix reflects changes in value added and real wages broken down by sector. Graphic analysis of the real wage and value added dynamics leads to an assumption that, overall, the wage dynamics in the services sector is consistent with the value added dynamics. Reflecting the effects of the 1998 Russian financial crisis, the growth rate of both wages and value added slightly moderated in 1999 and 2000, to be followed by a gradual acceleration of the growth rate. In the goods sector, no relationship between the wage and value added growth is recorded, with the decrease in value added in 1999 not resulting in a related shrinkage of real wages.

In some sectors, the wage growth and value added dynamics are rather similar. Starting with 2001, they are almost identical for hotels and restaurants. In construction and trade, the growth in value added exceeded that in real wages across the entire period

under review, yet the dynamics of the two were similar. In agriculture, hunting and forestry as well as fishing, changes in the growth of real wages coincided with those in value added, except for 2001–2003. The acceleration in real wage growth in 2002 and 2003 appears to be partly a result of the minimum wage rise, because in 2001 wages in these two sectors fell behind the average in the economy by around 27%. Regarding financial intermediation, real wage growth dynamics was almost consistent with that of value added, while for commercial services deceleration of the growth in both wages and value added had been observed since 2001, with any clearly pronounced interdependence among annual growth fluctuations missing.

Wages and productivity

According to the marginal productivity theory of wages, the largest amount of wages the employer is ready to pay to the employee is equal to the amount of additional value added that one extra worker generates. Consequently, with labour productivity growing in the economy, a wage rise could be anticipated. This theory deals with the wage setting mechanism only from the demand side, i.e. it determines wages that the employer is ready to pay. However, the amount of wages depends on the interaction of both the demand and the supply, with the effects from institutional factors (unemployment benefit, the minimum wage, trade unions, etc), labour availability and the like to be taken into account. Given such institutional framework in Latvia that does not unduly restrict the operation of the labour market (see Chapter 4.1), and the relatively high unemployment rate, the wage rise dynamics could be expected to correspond to productivity changes (at least in some sectors).

For the assessment of productivity, the paper uses three methods:

- 1) the method of value added generated by one employed person (data on the number of employed persons from Latvian labour surveys; hereinafter, the number of employed persons);
- 2) the method of value added generated by one employee (data on the number of employees from company annual reports; hereinafter, the number of employees);
- 3) the method of value added generated in one working hour (data on the number of hours worked from company annual reports).

The third method ensures the most precise evaluation of productivity, because it takes into account, e.g. the number of working days that may differ across years, or the effects on productivity from the share of part-time employed persons. Nonetheless, the first two methods also are quite acceptable for the assessment of productivity at the macroeconomic level. Comparing of the first and second methods reveals that the number of employed persons taken from the Latvian labour surveys is a better choice than the number of employees because the former covers the entire economy, i.e. includes employers, employees, self-employed persons and non-paid persons who work for their family members in their companies or private property, household plots or small farms). Likewise, GDP data do not comprise only value added that the corporate

sector generates but also one produced by individual businesses. When the number of employees from company reports is used in the productivity assessment, it should be remembered that the data scope is narrower than that of the generated value added.

In some recent years, the employed person dynamics differed notably from the employee and working hour dynamics, which can primarily be a result of different data collection methodologies. The number of employed persons was more volatile, and in some sectors, the development trends of the number of employed persons were opposite to the changes in the number of employees and working hours.

On the back of the data differences mentioned above, and depending on the method used, productivity calculations may lead to very distinctive assumptions. The study deals with productivity changes derived using the second and the third methods. It can be concluded that, first, these methods produce less volatile productivity indicators, and it seems to be a more plausible result. Second, company annual reports are used as data sources for wages and the number of employees and hours worked, and they produce more consistent data. Chart A.3 in Appendix shows the measured productivity changes in comparison with the changes in real wages.

Overall, it may be inferred that the relationship between real wages and changes in productivity in the services sector is less pronounced than the relationship between real wages and value added; nevertheless, productivity developments in some sectors explain fluctuations of real wages that would be impossible using the value added dynamics. In the goods sector, on the other hand, the recent real wage trend was more in line with productivity changes. It is not an unexpected result because in some services productivity is difficult to measure and is more of conceptual nature.

In manufacturing, changes in real wages were in line with those in productivity; in addition, the sustained productivity in manufacturing after the 1998 Russian financial crisis helps understand why, despite deterioration in value added in 1999, the sector did not experience a drop in real wages. In hotels and restaurants, a substantial decrease in productivity after the said crisis underpinned the drop in sector's real wages in 1998 and 1999.

In financial intermediation and commercial services, no relationship between productivity and real wages was observed. Here, changes in real wages were more associated with the sector growth. It might probably be due to these sectors requiring specific, highly demanded skills; therefore, the wage level in them was substantially determined by the supply side. With the sector production growth calming down, the pressure on wage growth also eased. In the sector of transport, storage and communications, no relationship between the real wage dynamics and changes in productivity was observed.

In general, the character of changes in real wages is more consistent with the changes in productivity in the goods sector and the changes in value added in the services sector. Transport, storage and communications is a sector, which does not display

clear relationship between real wages and sector value added and productivity. In this sector, value added and productivity developments were notably affected by the 1998 Russian financial crisis due to a substantial narrowing of freight transportation to Russia and a drop in oil and oil product transportation by pipeline to Ventspils in 2002. In 1998 and 1999, the respective real wage growth decelerated, whereas in 2002, real wages continued to rise despite a decrease in value added and productivity growth. The transport sector is capital intensive, with a comparatively small number of people working in it. Hence discontinuation of oil transportation by pipeline resulted in a significant worsening of sector productivity. At the same time, communications developed buoyantly, sustaining a rise in real wages also in 2002.

4.2.2 Wage Structure in Latvia's Economy in Breakdown by Sector

The wage structure and growth trends in Latvia have not been homogenous in recent years. Nevertheless, a trend of wage harmonisation by economic sector, or wage convergence, was observed in 2002 and 2003. This Chapter focuses on sectors underlying wage convergence and discusses whether it implies rigidity of wages.

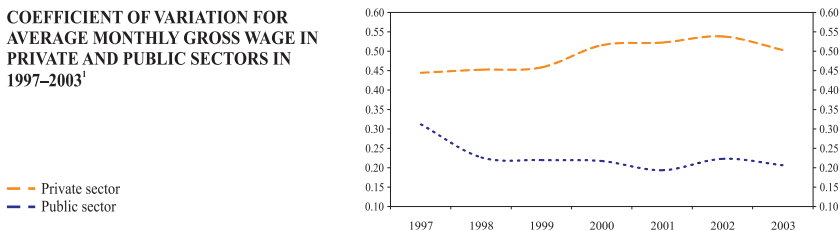
Wage differences among sectors can be expressed by the coefficient of variation.⁽²¹⁾ It is obtained dividing the standard deviation of wages across sectors by the average wage in the economy. The dynamics of the coefficient of variation is a better determinant of wage changes in sectors than the dynamics of standard deviation, as the latter is affected by changes in both the wage differentials and wage rates.

When calculating the coefficient of variation for private sector wages, those in public administration were not included. Public administration delegated to the private sector accounts for a small share and is carried out by few private companies providing services of public significance. In 2003, around 100 people were employed there, and hence the private sector wages cannot substantially affect the overall average wage level. Nevertheless, as wages in public administration for private sector employees notably exceed the private sector's average (around 2.5 times in 2003), the former significantly affect the (non-weighted) standard deviation and, accordingly, also the coefficient of variation. For similar reasons, financial intermediation was excluded from calculating the coefficient of variation for the public sector wages. In 2003, financial intermediation employed less than 1% of the public sector's total, with the wages in it exceeding the sector's average more than three times.

Chart 4.8 shows that the coefficient of variation for the average monthly gross wage in the private sector is higher than in the public sector, pointing to larger wage differentials. In the private sector, the respective coefficient had been growing since 1997, recording a substantial decrease only in 2003. In the public sector, the coefficient of variation was gradually declining between 1997 and 2003, recording an upward trend in 2002 and, similar to the private sector, a decrease in 2003.

Chart 4.8

COEFFICIENT OF VARIATION FOR AVERAGE MONTHLY GROSS WAGE IN PRIVATE AND PUBLIC SECTORS IN 1997–2003¹



¹ Non-weighted standard deviation of wages has been used in calculations.

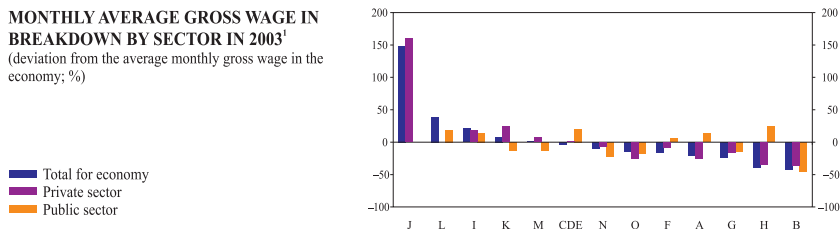
Sources: CSB and authors' calculations.

A decrease in the coefficient of variation for the average monthly gross wage can be an indicator of wage convergence in the economy. Generally, a rather high wage rise in sectors with relatively low wages and a rather low one in sectors with relatively high wages are preconditions for wage convergence. Nevertheless, wage convergence can be a result of a number of various factors. Wages are said to be flexible and their response to the changes in the economy adequate, if in sectors where they are generally below the average level they are moving toward such average levels due to the growing sector income. Wage convergence may point to rigidity only if it does not stem from real economic indicators (e.g. convergence is a result of trade union activities). Therefore, even in the presence of wage convergence, its determinative factors are of great importance. In order to find out which sectors determine changes in the coefficient of variation for the monthly average gross wage, the relationship between the wage rise in the breakdown by sector and the wage level of each respective sector against the average wage in the economy is analysed.

The wage structure in the breakdown by sector is given in Chart 4.9.

Chart 4.9

MONTHLY AVERAGE GROSS WAGE IN BREAKDOWN BY SECTOR IN 2003¹
(deviation from the average monthly gross wage in the economy; %)



Economic activities by NACE classification: A – agriculture, hunting and forestry; B – fishing; CDE – industry; F – construction; G – trade; H – hotels and restaurants; I – transport, storage and communications; J – financial intermediation; K – real estate, renting and business activities; L – public administration and defense, compulsory social security; M – education; N – health and social work; O – other community, social and personal service activities.

¹ Wages in public administration delegated to the private sector and financial intermediation included in the public sector are not reflected due to the insignificant private and public sector share of employees against the total in the sectors, respectively.

Source: CSB.

In 2003, the highest wages of all economic sectors were in financial intermediation

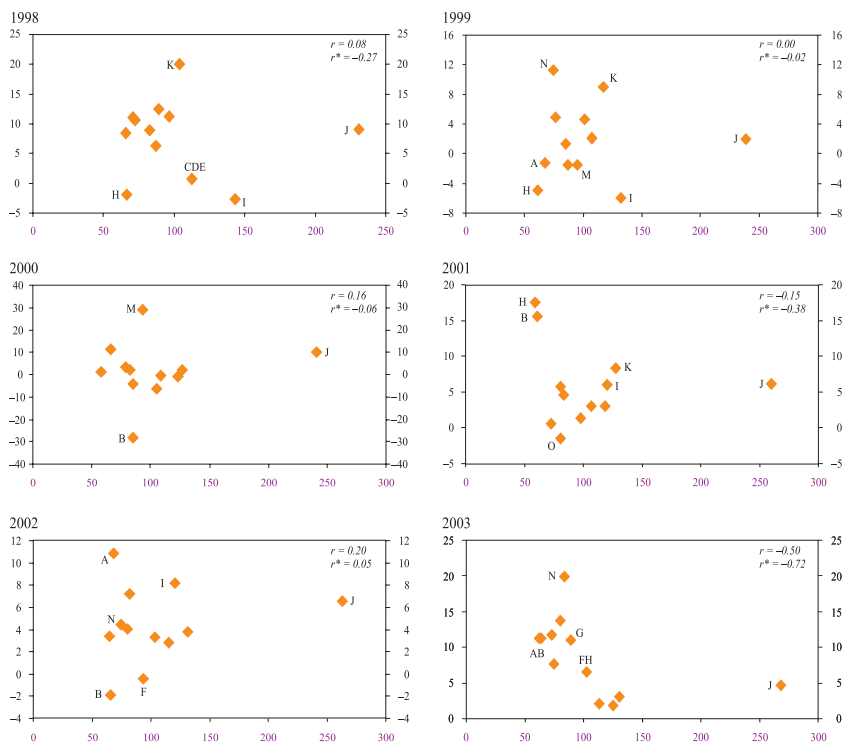
where the average level was exceeded more than twofold. The lowest (accounting for around 60% of the average) were wages in fishing, both private and public. Wages were also low in trade, and hotels and restaurants.¹

Charts 4.10 and 4.11 reflect the relationship between the wage rate and wage rise in the private and public sectors, respectively, between 1998 and 2003, and show the calculated coefficient of correlation r between the wage rate and wage rise in each

Chart 4.10

RELATIONSHIP BETWEEN REAL GROSS WAGE GROWTH AND RELATIVE WAGE LEVEL BY SECTOR IN PRIVATE SECTOR IN 1998–2003¹

(year-on-year growth; %; wages by sector in the previous year, in % of the average wage in the economy)



Economic activities by NACE classification: A – agriculture, hunting and forestry; B – fishing; CDE – industry; F – construction; G – trade; H – hotels and restaurants; I – transport, storage and communications; J – financial intermediation; K – real estate, renting and business activities; M – education; N – health and social work; O – other community, social and personal service activities.

¹ r^* is the calculated correlation coefficient between the wage growth and relative wage level in respective sectors, excluding financial intermediation.

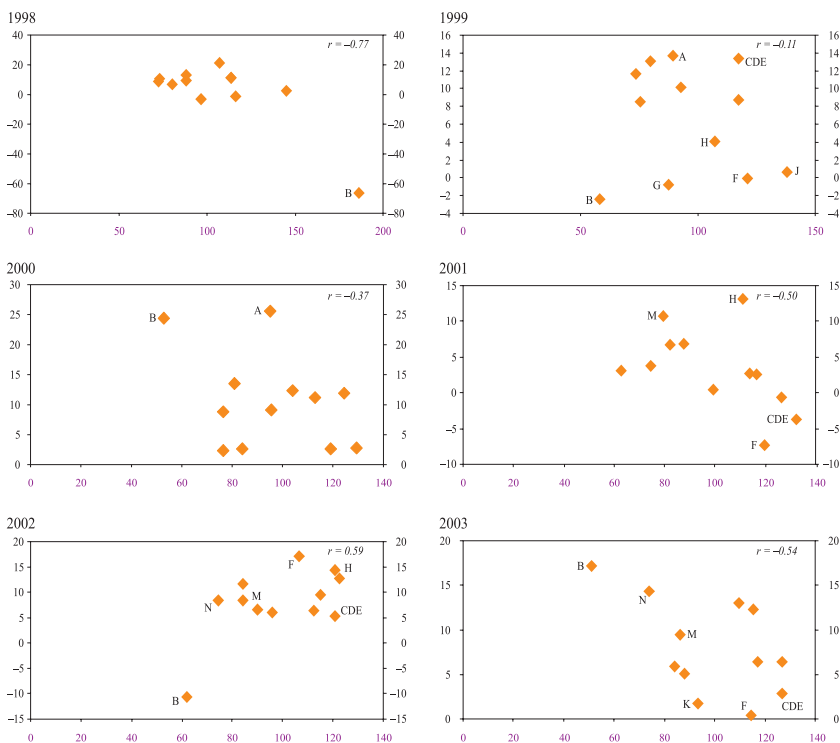
Sources: CSB and authors' calculations.

¹ Wages for hotels and restaurants in the public sector exceeded the average, yet the public sector's share of this industry is small, accounting for around 2% of the total in hotels and restaurants.

Chart 4.11

RELATIONSHIP BETWEEN REAL GROSS WAGE GROWTH AND RELATIVE WAGE RATE BY ECONOMIC ACTIVITY IN PUBLIC SECTOR IN 1998–2003

(year-on-year growth; %; wages by sector in the previous year, in % of the average wage in the economy)



Economic activities by NACE classification: A – agriculture, hunting and forestry; B – fishing; CDE – industry; F – construction; G – trade; H – hotels and restaurants; I – transport, storage and communications; J – financial intermediation; K – real estate, renting and business activities; M – education; N – health and social work; O – other community, social and personal service activities.

Sources: CSB and authors' calculations.

respective sector. The analysis of these Charts underpins an assumption regarding sectors that determined changes in the coefficient of variation of wages in the reporting period. Horizontal axes depict average wages of sectors as percentages of the average wage in the economy, whereas vertical axes show increases on wages for sectors in respective years. Thus in Charts 4.10 and 4.11, a negative relationship indicates wage convergence among sectors, while a positive one is a sign of wage divergence.

The estimated correlation coefficients indicate that the relationship between wage rates by sector and wage rises was close to zero in 1999, negative in 1998, 2001 and 2003, and positive in 2000 and 2002. On the back of the coefficient of wage variation falling only in 2003, it is possible to assume that in 1998 and 2001, the higher percentage

wage rise in sectors with relatively low wages and the lower wage rise in sectors with relatively high wages could not reduce wage differentials of the sectors. It should be noted that in the reporting period, correlation between the wage rate and wage rise was substantially influenced by financial intermediation. If the latter is excluded from the calculation of the correlation coefficient, the said relationship in 2000 and 2002 is close to zero, indicating that it was financial intermediation that primarily determined wage differences among sectors in the reporting period.

In 1998, an increase of the coefficient of wage variation for the private sector was fostered also by real estate, renting and business activities. Wages and the wage rise are relatively high in this sector. In addition in 1998 and 1999, real wages decreased in hotels and restaurants where they were below the average level, as well as in fishing and agriculture, hunting and forestry due to the 1998 Russian financial crisis. In 2000 and 2002, a substantial increase in the coefficient of variation was due to a wage fall in fishing. In 2003, the coefficient of variation decreased due to a considerable wage rise in all sectors where wages lagged behind the average, i.e. in hotels and restaurants, trade, construction, agriculture, hunting and forestry, fishing, and education. Furthermore in 2003, the wage rise moderated in real estate, renting and business activities as well as financial intermediation. The acceleration of the wage rise in sectors with lower wages in 2003 is partly a result of the upward trend in the minimum wage (from 60 to 70 lats). However, wage rises in these sectors were accompanied by a simultaneous increase in value added (see Chapter 4.2.1). Being based on real economic indicators, this wage convergence does not point to rigidity of wages.

Chart 4.11 shows the real wage growth against the relative wage rate in the public sector.

In contrast to the private sector, the public sector displayed a negative relationship between the wage rise and the relative wage rate by sector, which fostered wage convergence among sectors and a decrease in the coefficient of wage variation. In a few last years, wage rises for medical workers and teachers had a substantial effect on the coefficient of wage variation, reflecting a rather significant role of trade unions in the public sector. Confirmed also by the coefficient of wage variation, the relationship between the wage rise and wage rate was positive only in 2002. It was strongly determined by fishing where wages dropped; yet, with this sector not included, correlation between relative wage rates and wage rises continued to be positive (0.22), mainly as a result of substantial wage rises in the public sector's well-paid industries, e.g. construction, hotels and restaurants, and manufacturing. In 2003, the coefficient of wage variation in the public sector decreased mainly due to the minimum wage, which was increased from 60 to 70 lats, and higher wages for teachers and medical workers.

In general, the wage dynamics in the private sector did not facilitate wage convergence in 1998–2002. In 2003, however, with wages growing faster in low-paid sectors and their growth rate declining in well-paid ones, the coefficient of wage variation decreased, implying wage convergence. Nevertheless, changes in the wage growth were a

reflection of sector development trends, and hence wage convergence in the private sector cannot be said to point to deteriorating wage flexibility in 2003.

Wage dispersion among branches is less pronounced in the public sector than in the private sector. The coefficient of wage variation in the former in 1998–2003, with the only exception in 2002, gradually decreased. Wage convergence was primarily triggered by higher wages to medical workers and teachers. Overall, it can be concluded that wages in the public sector are comparatively less flexible and are subject to trade union influence.

4.2.3 Econometric Estimation of Wage Flexibility

Estimation of wage setting mechanism

For the purpose of formal testing of Latvia's wages as an effective shock absorbing mechanism, an econometric model was built. The causal relationship between wages and unemployment can be twofold: as an indicator of labour demand and labour supply disequilibrium, which affects the labour price (wages), the unemployment rate may have an impact on wages. At the same time, wages also can have an impact on unemployment, e.g. when wages fall below the labour market equilibrium level, the demand for labour increases, and unemployment shrinks. In order to test causality of wages and unemployment in Latvia, the Granger causality test was used. The results did not lead to an unequivocal assumption regarding the direction of the causality (zero hypotheses held in both instances; see Table A.4 in Appendix). Taking into account the generally insignificant role of trade unions in the wage setting process in Latvia, employers are the main wage determination factor; hence the analysis assumed that the unemployment rate influences wages and not *vice versa*. In the model, the real average gross wage in the economy (WR_t)¹ is the endogenous variable, while deviation of the job-seeker ratio from the structural level ($UGAP_t$), and labour productivity ($PROD_t$)² are exogenous variables. Quarterly data (as of second quarter 1996 to the second quarter 2004) have been used. Quarterly labour remuneration data are available for the entire period. The data source for job-seekers and employed persons (used in productivity calculations) is labour surveys conducted in Latvia since November 1995. Until 2002, surveys were conducted on a six-month basis, thus quarterly data of the given indicators are not available, and employment and job-seeker data series interpolated on the basis of available annual data have been used for the period until 2002.³

Deviation of job-seeker ratio from the structural level is defined as

$$UGAP_t = \frac{UR_t}{NAWRU_t} \quad [4.1]$$

¹ Nominal gross wages are deflated with the CPI.

² Labour productivity is calculated as total GDP at constant prices per employed person.

³ Details on assumptions used in data interpolation are available from authors at request.

where

UR_t is the job-seeker ratio of economically active population;

$NAWRU_t$ (non-accelerating wage-inflation rate of unemployment) is the structural unemployment rate.¹

If wages are flexible, they are expected to be negatively dependent on the deviation of job-seeker ratio from the structural level. If the actual job-seeker ratio is higher than the structural level (a positive deviation), a downward pressure is exerted on the wage level; if the job-seeker ratio is below the structural level (a negative deviation), wages rise.

Wage and productivity data series were seasonally adjusted;² seasonality was not identified for cyclical level data series of the job-seeker ratio. Using the augmented Dickey–Fuller (ADF) test, stationarity of data series was tested. For real wage and productivity data series, the unit root hypothesis was not rejected, while the data series of job-seeker ratio's deviation from the structural level was found to be on the margin of stationarity (see Table A.5 in Appendix). Therefore, on the back of the outcome of co-integration analysis, the Engle–Granger two-step procedure was used (see the results of regression residual stationarity testing in Table A.6 in Appendix). The following equation describing the wage setting mechanism in a long term is obtained:

$$\log(WR_t) = -1.963 - 0.231 \log(UGAP_t) + 0.980 \log(PROD_t) + 0.034 \text{ dummy} + e_t \quad [4.2]$$

<i>t</i> -statistic	(-12.242)	(-5.594)	(43.513)	(4.843)
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$R^2 = 0.985$
 $DW = 1.479$

Regression results confirm that both deviation of the job-seeker ratio from the structural level and labour productivity are significant factors with an effect on real wages over a longer term. The estimated coefficient shows that when long-term absolute deviation of the job-seeker ratio from the structural level decreases by 1%, real wages increase (decrease) by 0.231% on average if the job-seeker ratio is below (above) the structural level. With labour productivity increasing by 1%, the long-term growth in real wages is 0.980% on average.

The long-term equation was supplemented with a dummy, which was "1" for the period from the third quarter of 1998 to the second quarter of 2000, and "0" for all other periods. The dummy was included in the long-term equation for the purpose of separating from the long-term equilibrium relationship the economic changes resulting from

¹ $NAWRU$ is such an unemployment rate at which wage growth is constant. $NAWRU$ was estimated using a method offered by J. Elmeskov.(13) According to this method, wage growth is proportional to the difference between the actual unemployment rate and $NAWRU$, and $NAWRU$ is equal to $NAWRU_t = u_t - \frac{\Delta u_t}{\Delta^2 w_t} \Delta^2 w_t$, where u_t is the actual

unemployment rate, and w_t is the average gross wage of employees in the economy. It is assumed that with time $NAWRU$ gradually changes, and as $NAWRU$ derived via this equation was quite volatile, the HP filter with parameter $\lambda = 1\ 600$ was used.

² Here and hereinafter, seasonal adjustment of data series was conducted using X-12 ARIMA methodology.

the 1998 Russian financial crisis, which determined the impact of productivity and the cyclical job-seeker ratio on the wage setting mechanism in the post-crisis period. The coefficient estimated with the dummy is statistically significant and displays that in the period from the third quarter of 1998 to the second quarter of 2000 when the drop in productivity and the rise in the cyclical job-seeker ratio were notable, real wages recorded a less pronounced decline than at other stages of the reviewed period. At constant productivity and deviation of job-seeker ratio from the structural level in the post-crisis period, real wages on average were by 0.034% higher than at other points of the reviewed period.

For the labour market flexibility analysis, short-term wage fluctuations and adjustments to the long-term trend are more important than the long-term developments. They are expressed by the following equation:

$$\Delta \log(WR_t) = 0.012 - 0.088 \Delta \log(UGAP_t) + 0.155 \Delta \log(PROD_t) - 0.367 e_{t-1} + \varepsilon_t \quad [4.3]$$

t-statistic (2.761) (-2.180) (0.615) (-2.191)

R² = 0.195

DW = 2.147

The model results indicate that the response of real wages to deviations from the long-term trend is statistically significant, and on a quarterly basis, the real wage dynamics offsets around 36.7% of the deviation in the previous period. The cyclical component of the job-seeker ratio has a strong impact on real wages also in the short term. When the speed at which the job-seeker ratio moves away from the structural level accelerates by 1%, growth in real wages decreases (increases) by around 0.088%, if the job-seeker ratio is above (below) the structural level. The productivity-estimated coefficient is positive, yet in a short term, the impact of productivity on wage adjustments to the long-term trend is not statistically significant.

On the back of the error correction model results, it may overall be concluded that wages are a shock-absorbing mechanism in Latvia. Over a longer term, labour force productivity is a major factor determining the level of real wages. Over a shorter term, real wages depend on the job-seeker ratio; in the event of the Latvian economic development being affected by a negative shock, growing unemployment will dampen real wage growth, which, in turn, will boost competitiveness and facilitate the re-establishment of the previous economic equilibrium. The model results imply that, on a quarterly basis, the real wage dynamics offsets around 36.7% of the deviation from the long-term trend of the previous period.

Vector auto regression model

Previous analysis of Latvia's labour market aspects presented the country's labour market as adequately flexible despite the presence of a number of flexibility-deteriorating factors and potential risks that could reduce flexibility in the future. Aiming at quantitative estimation of Latvia's economic ability to adjust to shocks and obtaining

indicators of wage flexibility comparable across countries, the structural VAR model used by S. Fabiani and D. Rodríguez-Palenzuela in assessing labour market flexibility in the OECD countries¹ (17) has been applied. The general character of the method encourages the comparison of Latvia's labour market flexibility indicators with those of other countries.

The relatively simple application to labour markets of various countries and resulting comparative data are the advantages of this method. Like any universal method, its essential weakness is the neglect of national economic peculiarities. Moreover, Latvia's labour market flexibility estimation results produced by this method should be approached with caution, as they are based on rather short time series (quarterly data from the second quarter of 1996 to the second quarter of 2004), but the complete shock-adjustment of the modelled indicators (GDP, real wages and the job-seeker ratio) can be more accurately evaluated only in the medium term. All the above stated notwithstanding, the results produced by the model are of interest and communicate quite a good idea of the adjustment capacity of the Latvian economy.

The VAR model built by S. Fabiani and D. Rodríguez-Palenzuela has three endogenous variables:

WR_t is the real wage in the economy,²

Y_t is GDP at constant prices,

UR_t is the job-seeker ratio.

In the model, they are expressed as functions of such structural shocks as productivity or supply side, labour supply and aggregate demand shocks. It is assumed that in a short term, all these shocks affect all endogenous variables of the model. In a longer term, however, the aggregated demand shock exerts influence only on the job-seeker ratio, the labour supply shock has an effect on job-seeker ratio and real GDP, whereas the productivity shock is the only one to affect all endogenous variables of the model over a longer horizon. The estimated flexibilities of real wages, GDP and job-seeker ratio resulting from structural shocks are indicators of the labour market flexibility: more flexibility in the labour market is associated with higher flexibility of real wages and GDP under a structural shock; less flexibility in the labour market rests upon higher job-seekers' elasticity in the conditions of a structural shock.

The VAR model built for the needs of Latvia's labour market study is based on quarterly data for the period from the first quarter of 1996 to the second quarter of 2004. Data on wages, GDP deflator and GDP are available for the entire reviewed period, while job-seeker ratio data are interpolated using annual data for the period up to 2002. The results of ADF testing showed that time series of endogenous variables are non-stationary. Therefore, four period differentials of real wages and real GDP (natural

¹ In their paper, S. Fabiani and D. Rodríguez-Palenzuela covered such OECD countries as Spain, Canada, France, Italy, the UK, the US, the Netherlands, Germany, Austria, Portugal, Finland, Sweden, Denmark and Belgium.

² The nominal wage is deflated by GDP deflator.

log) that are stationary are included in the model. Regarding the job-seeker ratio, it was decided to include, similar to the error correction model above, the deviation of the job-seeker ratio from the structural level ($UGAP_t$) whose time series natural log is close to stationary. It was done assuming that the other variables of the model do not impact the structural level of the job-seeker ratio.

Vector $X_t = (\Delta wr_t, \Delta y_t, ugap_t)'$ is the vector of endogenous variables of the VAR model. In compliance with the model terms, the dynamics of real wages, GDP and job-seeker ratio are determined by the shocks of three types: productivity, labour supply and aggregate demand shocks. Vector $e_t = (e_t^p, e_t^l, e_t^d)'$ is the vector of VAR model residuals (the latter may be auto correlated). The task is to identify the vector of structural shocks $\varepsilon_t = (\varepsilon_t^p, \varepsilon_t^l, \varepsilon_t^d)'$ from the estimated VAR model and to obtain impulse response functions of endogenous variables.

The following VAR model has been built to assess Latvia's labour market flexibility:

$$X_t = A_0 + A_1 X_{t-1} + e_t \quad \text{VAR}(e_t) = \Omega \quad [4.4].$$

In order to estimate dependence of endogenous variables on structural shock vector ε_t , a structural VAR model should be identified:

$$BX_t = \Gamma_0 + \Gamma_1 X_{t-1} + \varepsilon_t \quad \text{VAR}(\varepsilon_t) = I \quad [4.5].$$

If equations $A_0 = B^{-1}\Gamma_0$, $A_1 = B^{-1}\Gamma_1$, $e_t = B^{-1}\varepsilon_t$, hold, structural VAR model [4.5] is consistent with model [4.4].

For identification of coefficients, it is necessary to impose certain restrictions on the equation system [4.5]. The model framework allows imposing three long-term restrictions: the only shock that influences real wages in a longer term is the productivity shock, and the demand shocks do not impact the production over a longer horizon. These long-term restrictions on elasticities are sufficient to just-identify the structural VAR model.

Table 4.9 gives the comparison of wage flexibility estimated for Latvia using the structural VAR model and the results in a number of OECD countries obtained by S. Fabiani and D. Rodríguez-Palenzuela. Real wage elasticity relative to structural shocks in a short term (after 1 quarter) and medium term (after 12 quarters) was estimated. Due to Latvia's structural VAR model being estimated on a 34-quarter basis, the analysis of the model results did not include the long-term wage elasticity estimates.

Wages are said to be flexible, if an increase in the labour supply results in a wage rate decrease, thus bolstering the demand for labour and facilitating the labour market's return to equilibrium. Hence the larger the absolute value of wage elasticity relative to labour supply, the more flexible the wages. The model results confirm that the

Table 4.9

REAL WAGE ELASTICITY RELATIVE TO LABOUR SUPPLY SHOCK

Real wage elasticity relative to labour supply in a short term (T = 1) and medium term (T = 12) ¹		
State	T = 1	T = 12
Latvia	-0.0247	-0.001
Portugal	-0.0030	-0.019
UK	-0.0024	-0.005
Austria	-0.0020	-0.003
Spain	-0.0019	0.000
Netherlands	-0.0011	-0.006
France	-0.0010	-0.007
Belgium	-0.0003	-0.001
Denmark	-0.0001	-0.008
US	0.0002	-0.002
Sweden	0.0004	0.000
Germany	0.0005	0.002
Canada	0.0009	0.000
Italy	0.0021	0.004
Finland	0.0022	0.000

¹ Real wage short-term elasticity is the response of real wages to one standard error labour supply shock after one quarter. Medium-term elasticity is the accrued response of real wages to one standard error labour supply shock after 12 quarters.

Sources: (17) and authors' calculations.

short-term wage elasticity in Latvia is higher than in OECD countries covered by S. Fabiani and D. Rodríguez-Palenzuela: one quarter after a labour supply shock wages decrease by 0.03%, with the effect fading almost completely in the course of the following 12 quarters.

In general, econometric estimations lead to a conclusion that wages in Latvia are flexible and act as an efficient shock-absorbing mechanism. In a long-term, wages are affected both by productivity and the job-seeker ratio. In a short term, wages are determined by the job-seeker ratio, therefore in the event of an adverse economic shock resulting in larger numbers of job-seekers, deceleration of wage growth will facilitate a faster return of the economy to the pre-shock level. Real wages respond to a labour supply shock flexibly and ensure that when the labour supply strengthens, real wage growth moderates, thus promoting employment and preventing the job-seeker ratio from lingering above the structural level long.

CONCLUSION

Flexibility of the labour market in Latvia is comparatively high, as confirmed by the country's fast economic recovery from structural shocks in the early 1990s and of the 1998 Russian financial crisis. Labour market situation has been stable since 2001, with economic activity of the population growing, the number of employed persons and employment level increasing, and the job-seeker ratio declining. It evidences that, overall, the labour force of Latvia has managed to adjust to the new labour market conditions.

The institutional framework of Latvia, decisive for operational efficiency and long-term development, does not create any serious obstacle for the labour market to respond adequately to economic shocks and, overall, is less restrictive relative to the labour market flexibility than in other EU15 countries and the majority of EU10 countries. Trade unions do not have much weight on wages in the economy, with their rates primarily being set at the company level. The existing tax burden does not have an adverse impact on flexibility of Latvia's labour market vis-à-vis other EU15 countries. The unemployment benefit is not excessively large compared to other EU countries and acts as a job-seeking stimulus. All these factors are important for the labour market to respond flexibly to market changes. The projected increase in the minimum wage to account for 50% of average wages and salaries in the economy may cause deterioration of institutional framework in the future.

By sector, wages on the whole follow the development trends of each respective sector of the economy and reflect adequately high wage flexibility. Only in 2003, certain wage convergence was observed, which cannot be treated as sector harmonisation due to the growth dynamics reflecting primarily changes in real economic indicators.

The error correction model demonstrates that the wage response to deviations from long-term equilibrium is statistically significant and that such deviations are offset at good speed. Labour productivity and the job-seeker ratio are important factors that influence wages in a longer term. Increases in real wages are affected by the job-seeker ratio, confirming that wages are an efficient shock-absorbing mechanism. Findings via the VAR model indicate sufficiently high degree of wage elasticity vis-à-vis other countries. It can be assumed overall that flexibility of the Latvian labour market underpins efficient adjustment of the economy to shocks, i.e. efficient convergence toward equilibrium.

Table A.1
DYNAMICS OF MAIN MARKET INDICATORS IN 1990–2003
(in thousands, if not otherwise stated)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Economically active population	1 416.3	1 405.4	1 347.2	1 320.3	1 300.1	1 275.9	1 262.8	1 217.5	1 212.5	1 200.4				
of which:														No data available
Employed persons in	1 409.0	1 397.0	1 294.2	1 205.0	1 083.0	1 045.6	1 017.7	1 037.0	1 043.0	1 038.0				
Agriculture, hunting and forestry;														
fishing (%)	17.4	17.8	20.0	19.5	19.3	18.5	18.3	18.6	17.6	17.0				
Industry (%)	27.8	26.6	25.3	23.1	21.0	20.4	19.8	20.2	18.4	17.7				
Construction (%)	9.7	9.3	6.6	5.5	5.5	5.4	5.6	5.8	6.0	6.2				
Services (%)	45.2	46.4	48.1	51.9	54.2	55.7	56.2	55.4	57.9	59.2				
Job-seekers	7.6	8.6	53.0	115.3	217.1	230.3	245.1	180.7	169.5	162.6				
Job-seeker ratio (%)	0.5	0.6	3.9	8.7	16.7	18.1	19.4	14.8	14.0	13.5				
Economic activity	68.8	68.5	66.0	64.9	64.8	64.4	64.2	62.2	62.1	61.4				
(age group from 15; %)														
According to labour survey data				No data available										
Employed persons in							945.2	985.5	982.0	965.1	939.0	960.0	989.0	1 006.9
Agriculture, hunting and														
forestry; fishing (%)							17.5	21.8	19.2	16.4	14.5	15.2	15.6	13.5
Industry (%)							21.7	20.7	21.1	19.9	20.5	18.3	19.4	19.5
Construction (%)							5.4	5.2	5.5	6.0	6.0	7.1	6.1	7.5
Services (%)							55.4	52.3	54.3	57.6	59.1	59.5	59.0	59.5
Job-seekers							246.9	176.2	162.3	161.4	158.3	144.6	134.5	119.2
Job-seeker ratio (%)							20.7	15.2	14.2	14.3	14.4	13.1	12.0	10.6
Economic activity														
(age group 15–64; %)							71.7	70.4	69.8	68.6	67.2	67.9	68.8	69.2

Source: CSB.

Table A.2

ECONOMIC ACTIVITY IN AGE GROUP 15-64 IN SELECTED TRANSITION ECONOMIES IN THE 1990s
(in % of economically active population)

State	1990			1999		
	Males	Females	Total	Males	Females	Total
Armenia	79.5	69.1	74.1	78.5 ^a	55.6 ^a	66.4 ^a
Azerbaijan	77.8	36.4	66.7	50.1 ^{bc}	44.2 ^{bc}	47.1 ^{bc}
Belarus	82.0	72.6	77.2	45.8 ^{bc}	46.0 ^{bc}	45.9 ^{bc}
Bulgaria	77.7	72.2	75.0	75.9	64.9	70.2
Czech Republic	82.2	74.1	78.1	79.9	64.1	72.0
Georgia	80.1	63.5	71.5	78.9	62.5	70.2
Estonia	83.3	75.9	79.4	76.8	65.0	70.4
Russia	91.6	71.7	76.5	74.2	63.9	68.9
Latvia	83.6	75.3	79.4	75.1	62.4	68.5
Lithuania	81.8	70.5	76.0	77.4	67.6	72.3
Poland	80.1	65.1	72.5	72.5	59.2	65.8
Romania	76.7	60.5	68.5	75.1	61.9	68.4
Slovakia	82.5	74.2	78.3	76.9	62.3	69.5
Slovenia	76.7	64.8	70.7	71.9	62.6	67.3
Tajikistan	77.7	56.2	66.8	32.5 ^{dc}	28.2 ^{dc}	30.3 ^{dc}
Ukraine	79.7	69.8	74.5	71.4	61.8	66.4
Hungary	74.5	57.3	65.4	67.5	52.3	59.7

a - 1997.

b - 1998.

c - age group from 15.

d - 1996.

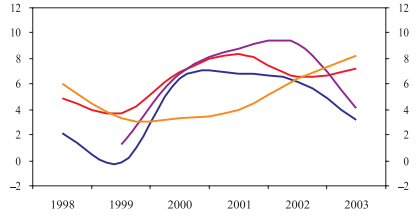
Source: (36).

Chart A.3

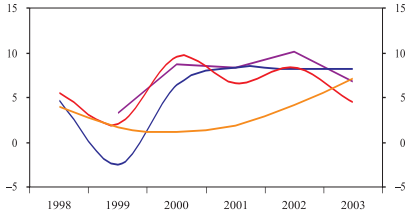
**WAGE, PRODUCTIVITY AND VALUE ADDED
GROWTH IN ECONOMY AND BY SECTOR**
(at constant prices; year-on-year; %)

- Real wages
- Productivity relative to the number of employees
- Productivity relative to hours worked
- Value added

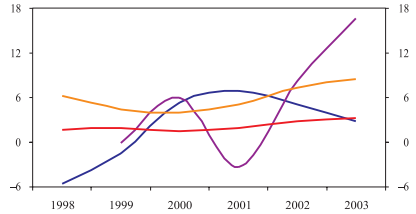
Total economy



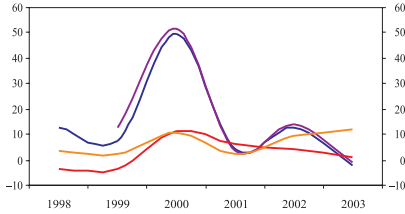
Goods



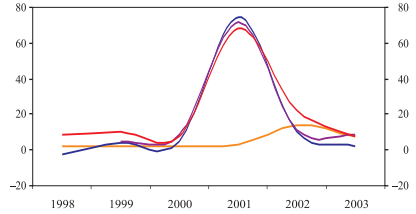
Services



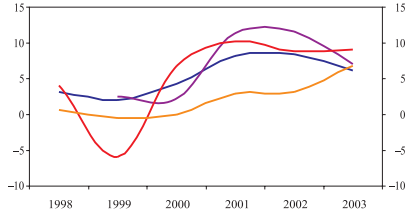
Agriculture, hunting and forestry; fishing



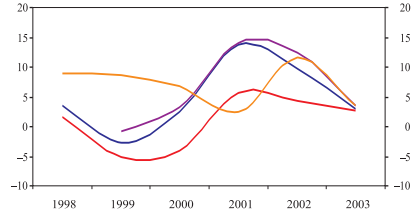
Mining and quarrying



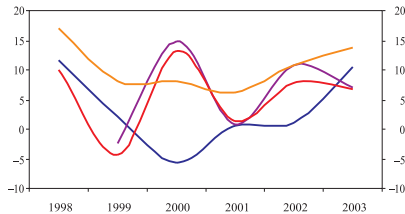
Manufacturing



Energy



Construction



Trade

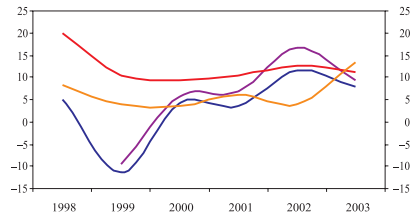
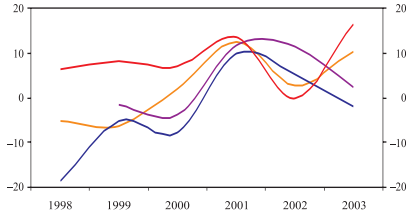
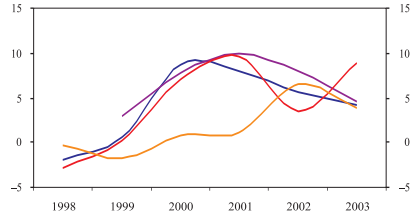


Chart A.3 (cont.)

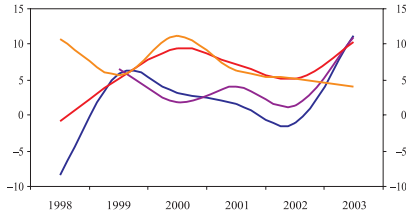
Hotels and restaurants



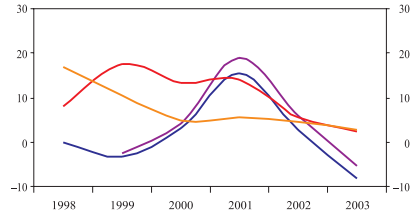
Transport, storage and communications



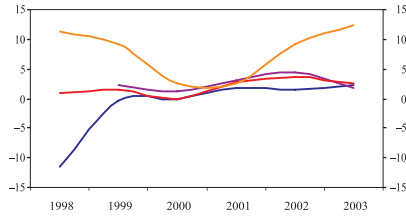
Financial intermediation



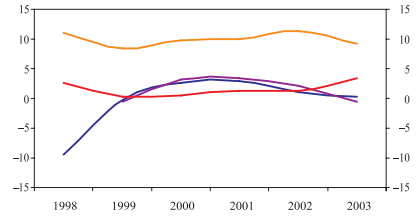
Real estate, renting and business activities



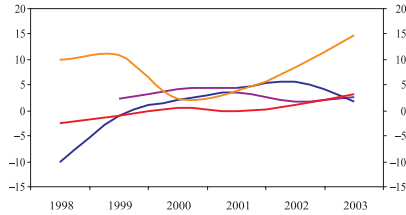
Public administration and defence



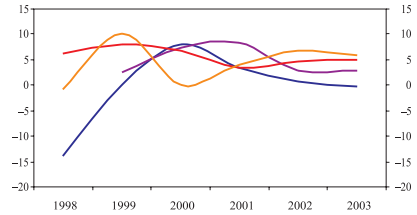
Education



Health and social work



Other services



- Real wages
- Productivity relative to the number of employees
- Productivity relative to hours worked
- Value added

Sources: CSB and authors' calculations.

Table A.4

RESULTS OF GRANGER CAUSALITY TEST

With 2 period lags

Number of observations: 28

Null hypothesis	F-statistic	Probability
$\Delta \log$ (deviation of job-seeker ratio from structural level) does not Granger Cause $\Delta \log$ (real wage)	1.772	0.192
$\Delta \log$ (real wage) does not Granger Cause $\Delta \log$ (deviation of job-seeker ratio from structural level)	1.115	0.345

Table A.5

STATIONARITY TESTING OF VARIABLES

Null hypothesis:

variable \log (deviation of job-seeker ratio from structural level) has a unit root.

With a constant and 1 period lag		
	t-statistic	P-value ¹
Augmented Dickey–Fuller test statistic	-2.445	0.138
Test critical values	1% level	-3.654
	5% level	-2.957
	10% level	-2.617

Null hypothesis:

variable $\Delta \log$ (deviation of job-seeker ratio from structural level) has a unit root.

With a constant and 0 period lag		
	t-statistic	P-value ¹
Augmented Dickey–Fuller test statistic	-7.958	0.000
Test critical values	1% level	-3.654
	5% level	-2.957
	10% level	-2.617

Null hypothesis:

variable \log (real gross wage in economy) has a unit root.

With a constant and 1 period lag		
	t-statistic	P-value ¹
Augmented Dickey–Fuller test statistic	-1.188	0.668
Test critical values	1% level	-3.646
	5% level	-2.954
	10% level	-2.617

¹ McKinnon (1996) one-sided P-values.

Table A.5 (cont.)

Null hypothesis:
variable $\Delta \log$ (real gross wage in economy) has a unit root.

With a constant and 0 period lag			
		<i>t</i> -statistic	<i>P</i> -value ¹
Augmented Dickey–Fuller test statistic		-6.674	0.000
Test critical values	1% level	-3.654	
	5% level	-2.957	
	10% level	-2.617	

Null hypothesis:
variable \log (real productivity) has a unit root.

With a constant and 1 period lag			
		<i>t</i> -statistic	<i>P</i> -value ¹
Augmented Dickey–Fuller test statistic		-0.460	0.887
Test critical values	1% level	-3.646	
	5% level	-2.954	
	10% level	-2.616	

Null hypothesis:
variable $\Delta \log$ (real productivity) has a unit root.

With a constant and 0 period lag			
		<i>t</i> -statistic	<i>P</i> -value ¹
Augmented Dickey–Fuller test statistic		-5.727	0.000
Test critical values	1% level	-3.654	
	5% level	-2.957	
	10% level	-2.617	

Table A.6

REGRESSION RESIDUAL STATIONARITY TESTING

Null hypothesis:
residual e_t has a unit root.

With a constant and 1 period lag			
		<i>t</i> -statistic	<i>P</i> -value ¹
Augmented Dickey–Fuller test statistic		-4.288	0.002
Test critical values	1% level	-3.646	
	5% level	-2.954	
	10% level	-2.616	

¹ McKinnon (1996) one-sided *P*-values.

BIBLIOGRAPHY

1. *The Acceding Countries' Strategies Towards ERM II and the Adoption of the Euro : an Analytical Review*. Peter Backé, Christian Thimann, Olga Arratibel et al. Frankfurt a. M. : European Central Bank, 2004. 64 p. Occasional Paper Series, No. 10.
2. AGHION, Philippe, BLANCHARD, Olivier J. On the Speed of Transition in Central Europe. Cambridge : MIT Press, *NBER Macroeconomics Annual*, 1994, pp. 283–320.
3. ANTILA, Juha, YLÖSTALO, Pekka. Working Life Barometer in the Baltic Countries 2002. Helsinki : Ministry of Labour, Finland, 2003. 325 p. Labour Policy Studies, No. 247.
4. BLANKE, Jennifer, LOPEZ-CLAROS, Augusto. The Lisbon Review 2004 : An Assessment of Policies and Reforms in Europe. Geneva : World Economic Forum, 2004.
5. CARLEY, M. Industrial Relations in the EU Member States and Candidate Countries [online]. 2002 [cited July 14, 2005]. Available: <http://www.eiro.eurofound.ie/about/2002/07/feature/tm0207104f.html>
6. CARLEY, M. Trade Union Membership 1993–2003 [online]. 2004 [cited July 14, 2005]. Available: <http://www.eiro.eurofound.eu.int/2004/03/update/tm0403105u.html>
7. CARLEY, M. Working Time Developments – 2003 [online]. 2004 [cited July 26, 2005]. Available: <http://www.eiro.eurofound.eu.int/2004/03/update/tm0403104u.html>
8. Darba likums. Latvijas Vēstnesis, Nr. 105, 2001, 6. jūl.
9. A Detailed Description of Employment Protection Regulation in Force in 2003 [online]. 2004 [cited July 26, 2005]. Available: <http://www.oecd.org/dataoecd/4/30/31933811.pdf>
10. Communication from the Commission to the Council : Draft Joint Employment Report 2003/2004 [online]. Brussels : Commission of the European Communities, 2004 [cited July 26, 2005]. Available: http://europa.eu.int/comm/employment_social/employment_strategy/report_2003/jer20034_draft_en.pdf
11. EDERVEEN, Sjeff, THISSEN, Laura. Can Labour Market Institutions Explain Unemployment Rates in New EU Member States? [online] Brussels : European Network of Economic Policy Research Institutes, 2004 [cited July 26, 2005]. Working Paper, No. 27. Available: http://shop.ceps.be/BookDetail.php?item_id=1130-10k
12. EHRENBERG, R. G., SMITH, R. S. Modern Labor Economics : Theory and Public Policy. New York : Addison-Wesley Educational Publishers Inc., 1997. 652 p.
13. ELMESKOV, Jorgen. High and Persistent Unemployment : Assessment of the Problem and Its Causes. Paris : Organisation for Economic Co-operation and Development, 1993. 121 p. Economics Department Working Papers, No. 132.
14. *Employment in Europe 2003 : Recent Trends and Prospects*. Luxembourg : Office for Official Publications of the European Communities, 2003. 7 p. Available also online: http://europa.eu.int/comm/employment_social/news/2003/oct/eie2003_foreword_toc_en.pdf
15. *EMU and Labour Market Flexibility*. London : HM Treasury, 2003. 60 p. Available also online: <http://image.guardian.co.uk/sys-files/Guardian/documents/2003/06/09/labour1.pdf>
16. *Extracts from Presidency Conclusions on the Lisbon Strategy by Theme* [online]. Lisbon to Brussels : European Councils, October 2003 [cited July 27, 2005]. Available: http://europa.eu.int/growthandjobs/pdf/thematic_lisbon_conclusions_1003_en.pdf
17. FABIANI, Silvia, RODRÍGUEZ-PALENZUELA, Diego. Model-Based Indicators of Labour

Market Rigidity. Frankfurt a. M. : European Central Bank, 2001. 35 p. European Central Bank Working Paper Series, No. 57.

18. HAZANS, Mihails. Commuting in the Baltic States : Patterns, Determinants, and Gains [online]. Bonn : Zentrum für Europäische Integrationsforschung, 2003 [cited July 27, 2005]. ZEI Working Paper, No. B02-2003. Available: http://www.zei.de/download/zei_wp/B03-02.pdf

19. HAZANS, Mihails. Determinants of Inter-Regional Migration in the Baltic Countries [online]. Bonn : Zentrum für Europäische Integrationsforschung, 2003 [cited July 27, 2005]. ZEI Working Paper, No. B17-2003. Available: http://www.zei.de/download/zei_wp/B03-17.pdf

20. HAZANS, Mihails. Potential Emigration of Latvian Labour Force After Joining the EU and Its Impact on Latvian Labour Market [online]. 2003 [cited July 27, 2005]. Available: <http://www.biceps.org/publications.html>

21. HAZANS, Mihails. Wages in Latvia: A Cross-Industry Analysis [online]. 2001 [cited July 27, 2005]. Available: <http://www.biceps.org/publications.html>

22. *Implementing the OECD Jobs Strategy: Assessing Performance and Policy*. Paris : OECD, 1999. 190 p.

23. Informatīvais pārskats par galvenajām sociālās politikas pārmaiņām 2002. gadā [online]. 2004 [cited August 8, 2005]. Available: <http://www.lm.gov.lv/index.php?sadala=296&id=261>

24. KARNĪTE, Raita. Tax-free Income to be Increased [online]. 2004 [cited July 27, 2005]. Available: <http://www.eiro.eurofound.ie/about/2002/07/feature/tn0207104f.html>

25. KENEN, P. B. Preferences, Domains, and Sustainability. *American Economic Review*, vol. 87, No. 2, 1997, pp. 211–213.

26. KENEN, P. B. The Theory of Optimum Currency Areas: An Eclectic View. In: FIDRMUC, J. The Endogeneity of the Optimum Currency Area Criteria, Intraindustry Trade, and EMU Enlargement. LICOS-Centre for Transition Economics, *Discussion Paper*, No. 10601, 1969.

27. Konceptija par minimālo darba algu [online]. Apstiprināta ar Latvijas Republikas Ministru kabineta 2003. gada 28. maija rīkojumu Nr. 356 [cited August 8, 2005]. Available: <http://www.mk.gov.lv/index.php/?id=753>

28. KREDLER, Dennis. Labour Market Flexibility and EMU Sustainability: The Effects of the French Law on Working Time Reduction : Thesis Presented for the Degree of Master of European Studies. Bruges, 2000.

29. *Labor, Employment and Social Policies in the EU Enlargement Process : Changing Perspectives and Policy Options*. Washington : World Bank, 2002. 406 p.

30. *Labour Flexibility and Migration in the EU Eastward Enlargement Context : the Case of the Baltic States*. T. Paas, R. Eamets, M. Rõõm et al. [online]. Ezoneplus Working Paper, No. 11, September 2002. Available: http://opus.zbw-kiel.de/volltexte/2005/2477/pdf/ezoneplus_wp_eleven.pdf

31. *Labour Markets in Hard-Peg Accession Countries : The Baltics and Bulgaria*. Washington : International Monetary Fund, July 2001. 80 p. IMF Country Report, No. 01/100. Available also online: <http://www.imf.org/external/pubs/cat/longres.cfm?sk=15202.0>

32. *Latvia: The Quest for Jobs and Growth : a World Bank Country Economic Memorandum : Report No. 26768-LV*. World Bank, 2004, vol. 1. 83 p. Available: http://www-wds.worldbank.org/servelet/WDSContentServer/WDSP/IB/2004/02/03/000012009_20040203102947/Rendered/PDF/26768LV.pdf

33. Latvijas Nacionālais 2004. gada rīcības plāns nodarbinātības veicināšanai [online]. Available: <http://www.lm.gov.lv/?sadala=370>

34. McKINNON R. I. *Optimum Currency Areas*. American Economic Review, vol. 53, No. 4, September 1963, pp. 717–725.
35. MUNDELL, R. A *Theory of Optimum Currency Areas*. The American Economic Review, vol. 51, No. 4, September 1961, pp. 657–665.
36. NESPOROVA, Alena. Unemployment in the Transition Economies [online]. United Nations Economic Commission for Europe, No. 2, Chapter 3, 2002 [cited September 1, 2005]. Available: http://www.unece.org/ead/pub/022/022_3.pdf
37. Par apdrošināšanu bezdarba gadījumam. *Latvijas Vēstnesis*, Nr. 416/419, 1999, 15. dec.
38. Par nodarbinātību. *Latvijas Republikas Augstākās Padomes un Valdības Ziņotājs*, Nr. 2, 1992, 30. janv.
39. Par valsts sociālo apdrošināšanu. *Latvijas Vēstnesis*, Nr. 274/276, 1997, 21. okt.
40. SCHNEIDER, Friedrich, BURGER, Christina. Formal and Informal Labour Markets : Challenges and Policy in the Central and Eastern European New EU Members and Candidate Countries [online]. Linz : Department of Economics : Johannes Kepler University, June 2004 [cited July 27, 2005]. Working Paper, No. 0405. Available: <http://www.econ.jku.at/Schneider/0405.pdf>
41. SOLTWEDEL, R., DOHSE, D., KRIEGER-BODEN, C. EMU Challenges European Labour Markets. IMF Working Paper, No. 99/131, 1999.
42. Valsts politikas prioritāte – ar nodokli neapliekamā minimuma paaugstināšana. *Latvijas Brīvo Arodbiedrību Savienības Vēstis*, Nr. 105, 2004, 27. febr.
43. WATT, A., JANSSEN, R. Unemployment and Labour Market Institutions: Why Reforms Pay Off? Chapter IV, IMF World Economic Outlook, April 2003 – a View from Europe. Basis for Presentation at the Technical Meeting on Global Labour Markets and Institutions. Washington D. C. : World Bank and IMF, 5–7 November 2003. Available: <http://www.imf.org/external/pubs/ft/weo/2003/01/index.htm>
44. <http://europa.eu.int/comm/eurostat> [Eurostat statistics from Eurostat website].
45. <http://www.esfondi.lv/page.php> [website of the Department of EU Funds, Ministry of Finance of the Republic of Latvia, 2003].

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