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FLEXIBILITY AND SECURITY IN THE LABOUR MARKET THE WAGE DIMENSION

Mirco Tonin



International Labour Office
*Subregional Office for
Central and Eastern Europe · Budapest*



International
Labour
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Foreword

The research for this series of *flexicurity* papers has been guided by the International Labour Organization (ILO) Employment Sector's main activity, the Global Employment Agenda for the pursuit of Decent Work for All, approved by the ILO Governing body in March 2003. One key element of the Global Employment Agenda is successful management of labour market changes, provoked by global competition and technological progress, mobility and flexibility of workers, requiring adequate employment and income security in exchange. While the Agenda provides a framework for this debate and policy implications, the flexicurity papers contribute to its further elaboration and implementation in the regional and national context.

More specifically, these papers are the first outcomes of an ongoing ILO technical project on *flexicurity*, being carried out for Central and Southern Eastern Europe countries; this cash surplus funded project intends to combine research, technical cooperation activities and advocacy among policy makers. Therefore, each of the *flexicurity* papers has been discussed during national tripartite seminars to initiate dialogue on the formulation of policy options based on a good balance between flexibility and security. The intention is to facilitate the implementation of the flexicurity approach by mainstreaming it in the design of National Employment Action Plan(s).

The labour markets of the former command economies of Central and Eastern Europe have gone through profound transformation since the start of their political, economic and social reforms. While in the past full employment had been guaranteed by the State and the countries had even experienced labour shortages, after 1989 they were suddenly confronted with accelerating unemployment, which despite expectations of its temporary character remained fairly high and persistent. Neither the labour legislation nor labour market institutions were able to handle this new situation properly. Enterprises requested more freedom to reduce massive labour hoarding and adjust their workforce to production and economic changes, while large numbers of laid-off workers needed assistance in finding new jobs, improving their skills and managing an abrupt loss of income. National authorities responded by amending labour legislation and establishing national employment services aimed at providing job search assistance for the unemployed. They also introduced labour market policies for improving jobseekers' employability and for interventions on both the demand and supply sides of the labour market.

The exposure of enterprises from emerging economies to competition in global markets has been forcing them to rationalize production costs, including costs of labour, and react rapidly to market changes. Besides downsizing, they have also started offering time-limited labour contracts, contracts regulated by the Civil Code or informal employment with no contract at all, and making partial payments of wages "under the table" to evade taxation.

However, confronted with this tendency towards flexible forms of employment and higher informal employment, and the consequent significant weakening of workers' employment and social protection, governments have had to further amend existing labour legislation but also to think about more effective assistance to workers. Social dialogue has been playing an increasingly important role in this process, at both the national and enterprise level. The issue is now to find a new balance between appropriate adjustment flexibility for enterprises, which would remove impediments to productivity improvements, and reasonable employment and income security for workers, contributing towards reduction of unemployment and poverty.

The present cross-country paper is part of the ILO's flexicurity papers, together with those on Bulgaria, Croatia, Hungary, Lithuania and Poland.

Sandrine Cazes, Alena Nesporova

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Executive Summary

The study investigates the wage dimension of labour market flexibility and security in Bulgaria, Croatia, the Czech Republic, Hungary, Lithuania, and Poland.

The way wages are determined has shifted with the transition process. Starting from a highly centralised system, wages are now set in a very decentralised way. The coverage of collective bargaining is limited to a minority of the workforce and bargaining takes place mainly at the enterprise level. Moreover, implementation of the existing collective agreements is weak. An exception is Croatia, where the sectoral level of bargaining is important and coverage is greater.

Informal arrangements are very common in the labour market. The informal economy is particularly sizeable in Bulgaria, Croatia, and Lithuania. The payment of “envelope wages” above the officially declared level to evade taxes and social security contributions is frequent. Non-payment of contractually agreed wages is also an issue. These phenomena further increase the degree of wage flexibility.

Real wages have showed considerable downward flexibility during the transition process. With the exception of Hungary, real earnings fell at the outset of transition and adjusted further in the ensuing macroeconomic crises. There is a broad correspondence between the paths of productivity and real wages. An exception is Bulgaria, where despite a recovery in productivity wages have stagnated at very low levels. The responsiveness of wages to local unemployment is instead rather subdued, in particular in countries like the Czech Republic and Croatia – this despite wide variations in local labour market conditions due to differences in labour demand.

An analysis of wage variation along sectoral, educational, and professional lines reveals that the sectoral structure of wages is very similar to that characteristic of EU–15 countries. Croatia appears to present the lowest variation along all dimensions, while Hungary and the Czech Republic are the countries where educational achievements are rewarded most. Skill differentials are limited in Lithuania and Bulgaria, where there are instead wide sectoral differences.

The minimum wage has regained its role as an effective wage floor in most of the countries, at least for some segments of the workforce, while unemployment benefits have lost this function due to the tightening of regulation. A tendency toward differentiating the minimum wage applicable to different categories of workers is emerging.

The tax wedge on labour is very high, especially in Hungary. By contrast, Bulgaria presents the most favourable tax framework. High tax imposition extends also to low-wage-earners.

Several studies have shown the relevance of changes in the wage formation system in explaining the rise in inequality and poverty typical of the transition process. The Czech Republic and Hungary are the most equal societies, while Lithuania and Poland present both high inequality and poverty.

All in all, wages are flexible in the countries under consideration. The part of flexibility stemming from non-compliance with regulations is however perverse and should be overcome by negotiating a combination of flexibility and security effectively applying to the whole workforce.

Introduction

It is the capacity to provide decent and relatively stable living and working conditions to the population at large that determines the degree of security of a labour market, while the ability to adapt quickly to new conditions determines its flexibility. Usually four types of flexibility are singled out. External and internal flexibility refer to the possibility of adapting the quantity of labour through hiring and firing or variation in working time. Functional flexibility concerns the organisation of work and wage flexibility the ability of adjusting pay to respond to shocks and provide proper incentives.

The combination of flexibility and security shown by a labour market depends on the interaction of several institutions. In this comparative study we focus on the wage formation systems of five Central and Eastern European countries presenting different combinations of labour market institutions and outcomes: Bulgaria, Croatia, the Czech Republic, Hungary, Lithuania and Poland.

The study begins with an analysis of the wage determination system, highlighting the changes that have occurred during transition. The focus is on the institutional arrangements governing the formation of wages. The next section investigates the important issue of the informal economy, looking at its connection with wage flexibility. The importance of the informal economy and the non-respect of contractually-agreed provisions in these countries should be kept in mind while reading all sections. These make wage flexibility greater than the picture obtained by looking only at formal arrangements. Moreover, the comparison of official data on wages is made more cumbersome by the fact that the informal economy is of differing importance in the various countries. The fourth section assesses the degree of wage flexibility. First, we evaluate the responsiveness of the real wage to macroeconomic conditions and crises since 1989. Next, the regional dimension is examined, looking at the sensitivity of wages to local conditions. The variation in earnings along the sectoral dimension and along educational and professional lines is also considered. In the following section we investigate whether in the countries under consideration there is a wage floor. We look at how binding the minimum wage has been and whether unemployment benefits constitutes a lower bound for earnings. Section six analyses the issue of labour taxation. The incidence of social security contributions and taxation of income is evaluated. The next section deals with the connection between the wage formation system and inequality and poverty. The last section contains conclusions.

To put the study into context we provide in Table 1 a snapshot of the labour market situation in the countries under consideration.

Table 1: Main Indicators of labour market in 2003

	Activity [% 15–64]	Unemployment [% 15+]	Youth unemployment [% 15–24]	Long-term unemployment [%]
Bulgaria	60.9	13.6	26.8	8.9
Croatia*	62.4	14.4	35.8	..
Czech Republic	70.2	7.8	18.6	3.8
Hungary	60.6	5.8	13.1	2.4
Lithuania	69.9	12.7	27.2	6.1
Poland	63.9	19.2	41.1	10.7
EU–15	70.0	8.1	15.8	3.3

Note: * Labour market indicators: 2003 H2.

Source: Employment in Europe 2004, European Commission, except: Croatia: CSO.

Bulgaria and Hungary have very low activity rates, 10% lower than the EU–15 average. In the Czech Republic and Lithuania participation is higher, at around 70% of the working-age population.

In terms of unemployment the Czech Republic and Hungary are characterised by relatively low rates, both for the population at large and for the young. Long-term unemployment is also in line with the EU–15 average. The other countries, and particularly Poland, have higher, double-digit unemployment rates and extremely high youth unemployment. Thus, the Czech Republic is characterised by a relatively positive labour market outcome, both in terms of high participation and low unemployment, while the picture in Bulgaria, Poland, and Croatia is much worse.

The Wage Formation System

Like much else in Central and Eastern European economies, the way wages are determined has changed radically with the systemic transformation that these countries have undergone. Under the socialist regime tight centralised controls restricted wage growth and dispersion. At the outset of transition centralised controls were disbanded, but a restrictive income policy was temporally implemented through the tax system, with a punitive tax applied to excessive wage increases. The current wage formation system is characterised by a high degree of decentralisation, with low coverage rates of collective agreements and prevalence of bargaining at the enterprise level. The majority of the workforce is not covered by collective agreements and the low degree of implementation makes existing agreements less effective. The low incidence of collective bargaining is mainly due to the weakness of the social partners. Croatia represents an exception to this general picture. Centralised bureaucratic control was not as strong as in the other countries before transition, while the present system is much less decentralised, with coverage of collective agreements and unionisation well above the levels posted by the other countries in the study.

1. Wage Determination Before Transition¹

The strategy of forced growth that characterised the classical socialist system implied full employment and high investment rates. The full employment policy generated chronic labour shortages and labour hoarding by enterprises. The pursuit of high investment rates required a limitation on consumption, achieved by bureaucratic control over real wages through a centralised wage tariff system and price control. While firms faced only a mild constraint on their general budget, i.e. they could expect to be systematically bailed out in case of persistent losses², the constraint on the wage-fund was more drastic.

The average wage was low compared with non-centrally planned countries at a similar level of economic development, since free or subsidised provision of goods and services (housing, holidays, medical care and schooling) by the company or the state constituted an appreciable portion of households' consumption. Wage dispersion was limited. Relative wages were responsive to relative excess labour demand along occupational and regional lines, while effort, productivity or company performance generally played a limited role. "Material production", in particular heavy industry, was favoured and the differentials between earnings of non-manual and manual workers were narrow.

¹ This section draws extensively on Kornai, 1992.

² See Kornai, Maskin and Roland, 2003, for a review of the concept.

The reforms attempted in some countries like Hungary and Poland in the 1970s and 1980s produced a weakening of bureaucratic control and resulted in a surge in nominal wages. In Hungary, for instance, the wage determination system became more flexible between 1968 and 1988, allowing more freedom at enterprise level (Berki and Ladó, 1995).

The case of the former Yugoslavia was different. Under “self-management” there was less incentive for labour hoarding and open unemployment was present. Moreover, a less stringent bureaucratic control made wage restraint more difficult.

2. The Beginning of Transition: Tax-based Income Policy

At the beginning of transition stabilisation programmes characterised by tight monetary and fiscal policies were launched with the aim of maintaining macroeconomic stability. Poland paved the way with the Balcerowicz Plan in 1990; other macroeconomic packages were launched in Hungary and the Czech Republic in 1991 and in Lithuania immediately after independence. These programmes usually included a restrictive income policy based on a punitive tax on excessive wage increases, with the purpose of controlling inflation by avoiding a price-wage spiral. For example, in Poland the tax for additional wage increases more than 5% above the tax-free increment fixed by the government was 500% in 1990. The details of the system varied among countries, targeting the overall wage fund of an enterprise or the average wage. In some cases a linkage with productivity was introduced to improve the relationship between wages and enterprise performance. The application of the system was usually soon restricted to public enterprises, while for the budgetary sector a wage tariff system remained in force. This tax-based income policy was introduced long before the political transition in Hungary and lasted till 1992. In Poland and the Czech Republic it was implemented in the aftermath of transition and lasted till 1995, in Bulgaria till 1997. The tax-based income policy had a serious drawback in that it induced enterprises, both profitable and unprofitable, to increase wages at the maximum allowed rate, thus reducing incentives for labour to shift toward successful firms. Moreover, in the case of unprofitable enterprises wage growth was usually financed by asset sales and by cutting back on investment, thus further weakening their prospects (Cazes and Nesporova, 2003). However, centralised tax-based income policy has disappeared, leaving scope for a more decentralised wage formation system. Traces of this type of policy can still be found in the ceiling on the aggregate wage bill of 60 state-owned enterprises with large losses or arrears that constitutes one of the performance criteria of the stand-by agreement between Bulgaria and the IMF (IMF, 2004).

3. Where Do We Stand Now?

Collective bargaining in Central and Eastern European countries has generally a more limited role than in the majority of EU-15 member states. The coverage of collective agreements is far from being comprehensive in the countries under consideration. The estimated coverage rates (see Table 2) are similar to that of UK (36% in 2001), with the exception of Croatia, where more than half the workforce is estimated to be covered by collective agreements, and Lithuania, where the coverage rate is much lower. Moreover, the implementation of signed collective agreements is rather weak, with surveillance and

enforcement mechanisms underdeveloped. Remuneration and more generally working conditions in a large part of the private sector and in particular in SMEs are determined by bargaining on an individual basis or unilaterally by the employer. However, even the fact that salary is based on an individual contract is not to be taken for granted as employment without any type of contract or payments differing from the contractually agreed levels are also widespread³.

Table 2: Collective agreement coverage and unionisation rate

	Coverage Rate of Collective Agreements 1999–2001 [%]	Unionisation rate 1999–2001 [%]
Bulgaria	40*	30
Croatia	50–60	45
Czech Republic	25–30	30
Hungary	34; 45–50 (Lado)	20
Lithuania	10–15	15
Poland	40	15
EU–15 (unw.aver.)	78**	44

Note: Figures are estimates. For Hungary an alternative estimate is reported with the source.

* At sectoral level for 2002–03; **Greece, Ireland and Italy are not included.

Source: Carley (2002), except BL coverage: Markova (2003); CR coverage: Grgurev (2002); BL, CR unionisation: Bandelj (2003).

The level at which bargaining takes place matters in terms of economic outcome. According to economic theory a high degree of centralisation, with bargaining taking place mainly at national level, or decentralised bargaining at enterprise level imply lower unemployment and lower wages compared with the case in which the intermediate sectoral level is the most important. There is therefore a hump-shaped relationship between the degree of centralisation and wage level/unemployment (Calmfors and Driffil, 1988). The mechanism behind this result is that with more centralisation externalities arising from collective bargaining are increasingly internalised. Thus, trade unions acting at national level take into account the effects on the macroeconomic environment of their actions. At the same time centralisation increases the market power enjoyed by trade unions. At the intermediate level unions do not fully internalise the effect of their demands, while having some market power, thus explaining the high wage/high unemployment outcome.

In the countries under consideration the national level is rather underdeveloped with regard to bilateral collective bargaining, while national tripartite social dialogue has an important function and is sometimes the main forum for action by the social partners and a relevant source of their legitimacy. The state usually plays a leading role. From the wage determination perspective this forum is relevant mainly in connection with minimum wage fixing and for public employees. In Hungary and Poland recommendations for the average wage increase at sectoral and enterprise level are also drawn up in negotiations at national level, while in Croatia the prerogatives of the tripartite Economic and Social Council include the proposal of a harmonised wage policy (Djuric, 2003).

³ See section 3 on the informal economy.

Sectoral social dialogue, important in the EU–15 member states, is deemed to be the least developed in CEE countries (Ghellab and Vaughan-Whitehead, 2003), where agreements concluded at sectoral level are generally few and weak in content. Instead it is at the enterprise level that bargaining usually takes place.

This is the case for instance in the Czech Republic, where data provided by the largest trade union confederation show that in 2001–2002 around 26% of the workforce was covered by enterprise level agreements, while 19% was covered by higher level agreements. In Hungary, also, the sectoral level of bargaining is not very developed and the predominant level for wage negotiations is the enterprise. The coverage rate of workplace agreements was estimated at 39% in the private sector and 33% in the public sector in 2002 (Tóth & Neumann, 2003). Sectoral bargaining does not play a significant role in Poland either, in particular with regard to the competitive sector of the economy. The enterprise level is the dominating one and it is estimated that around 30% of the workforce is covered by enterprise collective agreements (Lado, 2002). Regional social dialogue at the voivodship level is developing, but its importance is still limited (Gardawski, 2003).

Bulgaria represents a partial exception, as bargaining at sectoral level has expanded in recent years. In 2002–03 agreements covering an estimated 40% of all employees were signed. Agreements concluded at regional level are also expanding but are still not very substantial.

Among the countries under consideration Croatia is the one where bargaining at intermediate level is the most significant (Rutkowski, 2003). Croatia moreover has the highest estimated coverage rate, combined with the highest unionisation rate. Lithuania instead is positioned at the opposite end of the spectrum as collective bargaining at any level is extremely underdeveloped and the unionisation of workforce is particularly low. The coverage ratio of around 10–15% is the lowest among the countries under consideration and the few collective agreements are in place in the public sector, SOE or privatised enterprises, while they are extremely rare in foreign-owned enterprises and SMEs (Babrauskiene, 2003).

As regards the content of collective agreements, it is estimated that in the Czech Republic around 60% of agreements contain provisions on wages (Hála et al., 2003), with wage settlement in company level collective agreements generally based on a 12-grade system (Cornejová and Fassmann, 2003). Moreover, in 2001–2002 around 8% of collective agreements stipulated minimum wages higher than the national one. According to a survey conducted by the European Trade Union Institute (Mermet, 2002) the main factors taken into account in the Czech Republic in bargaining over wages at enterprise level are inflation and productivity.

In Bulgaria provisions for sectoral minimum wages above the national minimum are more widespread than in the Czech Republic, as they are present in more than half the sectoral agreements. Moreover, a high share contain provisions for additional remuneration depending on length of service, night work, overtime and unhealthy working conditions (Markova, 2003). Negotiations over other aspects (wages, employment, job evaluation) take place at enterprise level. Factors taken into account in Bulgaria in wage bargaining at enterprise level are mainly inflation, profits and growth of incomes, while productivity is not particularly relevant (Mermet, 2002).

In Hungary, actual wage increases agreed upon in collective bargaining are not on the whole too far from recommendations issued at national level, with deviations generally above the upper bound. However, sectors in particular financial distress may agree upon lower levels, while sectors characterised by high heterogeneity of firms may set a wider

range for wage increases (Galgóczy, 2003). Moreover, in Poland the guidelines from the Tripartite Commission have a significant impact at lower bargaining levels, together with the inflation forecast and, at decentralised level and within the constraint posed by the financial position of the enterprise, productivity (Mermet, 2002). It thus appears that the tripartite co-ordination mechanism implemented in some countries at national level exerts some influence.

With the exception of Croatia, the low coverage rates in the countries under consideration imply that salaries are determined through collective bargaining only for a minority of the workforce, and mainly at the enterprise level. We can therefore characterise the wage bargaining system prevailing in these countries as highly decentralised. Croatia is the exception and it is interesting to note that it has the highest average wage in terms of purchasing power but not the highest productivity among the countries under consideration⁴, suggesting that the higher unionisation rate/coverage ratio combined with the prevalence of sectoral-level bargaining is indeed effective in pushing up wages, as implied by economic theory.

The weakness of the social partners that should be involved in bargaining (trade unions and employers' organisations) is usually considered to be one of the main impediments to the development of collective agreements (Ghellab and Vaughan-Whitehead, 2003; Lado, 2002). On the trade union side some of the weak points are the lack of technical and organisational resources, the fragmentation (Hungary, Croatia), the deep rivalry among unions (Hungary, Poland, Bulgaria), in particular in the first years of transition, and the politicisation of their role. The difficult labour market situation in some countries, together with the sectoral shifts in employment that characterised transition, made trade unions' activity even harder.

Unionisation rates are declining, as in many other countries in Europe. The unions' presence is concentrated in the public sector and in large enterprises (usually SOE or former SOE), while very weak if not non-existent in SMEs and most of the competitive sector.

On the employers' side, the main problem is the lack of representative organisations capable of forming an effective counterpart to trade unions. Moreover, even when they exist, these organisations very often lack the authority to conclude agreements. The high degree of heterogeneity among employers makes it difficult to reach a common platform to take to the bargaining table, in particular at the sectoral level. While not exclusive to Central and Eastern European economies, this heterogeneity is accentuated by the very different economic environment faced by multinational enterprises, newly created SMEs, and privatised companies.

It has already been mentioned and will be further developed in the next section that enforcement of both legislation and collective agreements is particularly problematic for these countries. Social partners could play an important role in this respect, thus effectively providing workers with the degree of protection guaranteed by existing norms and firms with a level competition field. A condition for this to take place is an increase in the social partners' capacity to play their role effectively at decentralised levels.

⁴ See section 4.1 on the level of wages.

Informal Economy and Non-payment of Wages

In an analysis of the wage formation system in CEE economies, it would be misleading to focus exclusively on formal arrangements. Stress has been laid on the need to consider not only official provisions but also their enforcement for the study of employment protection regulations in industrialised countries (Bertola, Boeri, and Cazes, 2000). From the point of view of wages in the countries under consideration, two aspects are of particular interest. First, in some of these countries a significant part of the workforce is employed under some type of informal arrangement. Second, formally agreed provisions may not be respected.

In the extreme case of an employment relationship not regulated by any type of contract, flexibility is full and protection is practically nil. In other cases only a part of the employment relationship is not formally regulated, as in the widespread practice of paying “envelope wages” over the officially agreed amount. The informal elements of the employment relationship are fully flexible, while the other aspects are subject to normal labour regulations. However, the effective degree of protection enjoyed by the employee may be lower than would appear. For instance, a worker officially paid the minimum wage, but receiving unreported additional payments, formally enjoys the standard protection against dismissal, but the possibility given to the employer of discontinuing “envelope payments” at will and reducing the effective wage to the possibly much lower formal minimum may easily induce the worker to leave the job “voluntarily”. In such a case the effective protection against dismissal is strongly reduced. Indicators of employment protection legislation should take into account this aspect, otherwise they risk describing a condition applying to just a part of the workforce, in some countries to just a minority.

Unpaid wages or partially paid wages are the most relevant cases of failure to respect contractually agreed provisions.

These two phenomena greatly increase the effective degree of wage flexibility. It is a “perverse” type of flexibility, however, open to abuses and one that, for instance, reduces the effective taxation of wages for some categories of workers, leaving the tax burden to others. The reduction of the degree of informality and the negotiation of a combination of flexibility and security effectively applying to the whole workforce is one of the most important tasks facing these economies, for reasons of both equity among workers and fair competition among firms. The fact that in some countries there exists a complacent attitude towards the informal economy, viewed as a buffer to moderate imbalances in the labour market (Renooy et al., 2004), represents an obstacle, however. As already mentioned, alongside a reform of the regulations, the presence of social partners at decentralised level would be an important tool to achieve a reduction in the degree of informality.

1. The Informal Economy

By its very nature, informal economic activity defies attempts to record its scale at all precisely. Some techniques have nevertheless been developed to provide at least a crude estimate of the dimension of the phenomenon (Schneider and Enste, 2000). In Table 3 estimates of the size of the informal economy in 2000 as a percentage of Gross National Income are reported. In all countries under consideration the informal economy is bigger than for the average EU–15 country, but the range is quite wide, from a level comparable to the EU–15 average in the Czech Republic to a level that is twice as large in Bulgaria, where more than a third of the national income was estimated to have been realised in the informal economy. In Croatia and Lithuania, also, the informal sector represents a very high share of the total economy. An estimate of the size of undeclared work is also reported, leaving the broad picture unaltered.

Table 3: Informal economy and undeclared work

	Informal economy [% of GNI], 2000	Size of undeclared work [% of GDP] ¹
Bulgaria	36.9	22–30
Croatia	33.4	
Czech Republic	19.1	9–10
Hungary	25.1	18
Lithuania	30.3	15–19
Poland	27.6	14
EU–15 (unw. aver.)	18.8*	6–7**

Notes: * excluding Luxembourg; **excluding Ireland, Luxembourg, Spain.

Source: World Bank.

Note: 1) Data are for 2002/3, except CZ and HU: 1998.

Source: Renooy et al. (2004).

High unemployment and poverty, the desire to avoid high taxation and social security contributions, together with a general distrust of public institutions and their weakness in restraining the phenomenon are among the reasons explaining the relevance of the informal economy in Central and Eastern European countries. The sectors where undeclared work is most common are agriculture, construction, social and personal services, and especially hotels and restaurants and retailing. Manufacturing is not much affected, on the other hand. Working, at least partly, in the informal sector is not a prerogative of unskilled labour. Medical services and some types of business services also see a significant incidence of undeclared work. As already mentioned, underreporting part of income is one of the main forms of participation in the informal economy, even if its incidence varies. In the Czech Republic “envelope” wages are deemed to be confined to few sectors of the economy, while in Bulgaria the practice is widespread (Renooy et al., 2004). A survey of wages and salaries in Bulgaria finds that firms are hiding around one third of the labour costs to avoid social contributions, mainly in agriculture and trade. Underreporting of wages appears to

affect both the private and the public sector (SOE), but is more common in the private. Working without any contract has only a minor incidence, involving in 1999 around 3% of the workforce according to a study of the Bulgarian shadow economy (Kyle et al., 2000).

An OECD study of Lithuania (OECD, 2003) also reports as a common practice the payment of supplements above the officially declared wage and estimates that 20% of private-sector employees earn more than is officially reported. A survey of employers puts at 86% the percentage of wages on which social insurance contributions are actually paid.

In a study on Croatian tax evasion (Madžarević-Šujster, 2002), the share of income tax and social security contributions evaded is estimated to be in the range 31%-47%. The lion's share of evasion is represented by social security contributions in private SMEs, in particular in the construction, distribution and tourism sectors.

2. Non-payment of Wages

Payments below the contractually agreed level are also a relevant feature of CEE countries. The phenomenon is particularly serious in the former Soviet Union, but some of the countries under consideration also experience such problems. Earle and Sabirianova (2002), in a study of Russia, underline how non-payment of wages is not an inevitable response to economic hardship and lack of financial resources by enterprises, but rather a strategic choice made by management.

In Bulgaria the problem of wage arrears is widespread, especially in SOE. The wage backlog of companies in the public sector was estimated at over 100 million euros in March 2003 (Daskalova, 2003). In Croatia it is estimated that over 6% of the workforce failed to receive salaries on time in 2002 (US, 2003). In Poland, labour inspections reveal the prevalence of breaches of wage regulations, with late or incomplete payment or outright non-payment recorded in half of the firms inspected (PIP, 2003). The phenomenon appears to be growing and spreading from SMEs to bigger companies. In Lithuania, also, cases of wage arrears have been reported (US, 2003).

Despite the partial protection provided by the existence in the countries under consideration of a guarantee fund to cover outstanding claims of employees in the event of an employer's insolvency, non-payment of wages is significantly harmful to workers' security and its elimination should therefore be high on the agenda.

Wage Flexibility

After having investigated both the formal and informal arrangements governing the wage formation system, we assess the degree of wage flexibility characterising the countries under consideration. Wage flexibility has been defined as the ability to adjust pay in response to shocks and to provide proper incentives. In this section, we first relate real earnings to macroeconomic conditions during transition and study how wages responded to the transformational recession and to subsequent crises. We then go on to study whether wages respond to variations in unemployment along regional lines and the variations in wages along the sectoral, educational, and professional dimensions.

All the countries under consideration experienced a deep recession at the outset of transition. As a consequence, employment and real wages both fell, except in the case of Hungary, where the fall in output was absorbed mainly by falling employment, and Lithuania, where the initial shock was mainly absorbed by collapsing wages. Since then, wages have been generally responsive to macroeconomic crises ensuing during the transition process and it is possible to notice a broad correspondence between the paths of real earnings and productivity. An exception is Bulgaria, where wages failed to recover despite an upturn in productivity. At sectoral level, also, Bulgaria shows less connection than the other countries between productivity and real earnings. For instance, in recent years wages in manufacturing stagnated in real terms despite a growth in the value added per worker. The particular “weakness” of wages in Bulgaria also emerges in an examination of the share of employees’ compensation in GDP and in a comparison of output per worker at purchasing power parity among the countries under study. The lower productivity in Bulgaria is in fact not enough to account for the inferior wage level.

Regional variations in unemployment are striking, in particular in the Czech Republic. Differences in labour demand across regions play an important role. Thus, regional wage differentials could act as a re-equilibrating mechanism. However, in countries like Croatia and the Czech Republic wages appear to be rather unresponsive to local conditions.

The study of the distribution of wages across sectors and of their responsiveness to skill differentials reveals that Croatia presents limited variations in all dimensions for which data are available. Bulgaria and Lithuania have the highest differentials among sectors, but do not seem to reward skills as much as other countries. By contrast, Hungary and the Czech Republic reward education highly.

1. The Development of Real Earnings During Transition

The outset of transition was associated with falling production, increasing prices and deteriorating labour market conditions, with rising unemployment and falling real wages (see Cazes and Nesporova, 2003, chapter 2). However, the extent to which the transformational recession hit wages and employment differs among the countries under consideration.

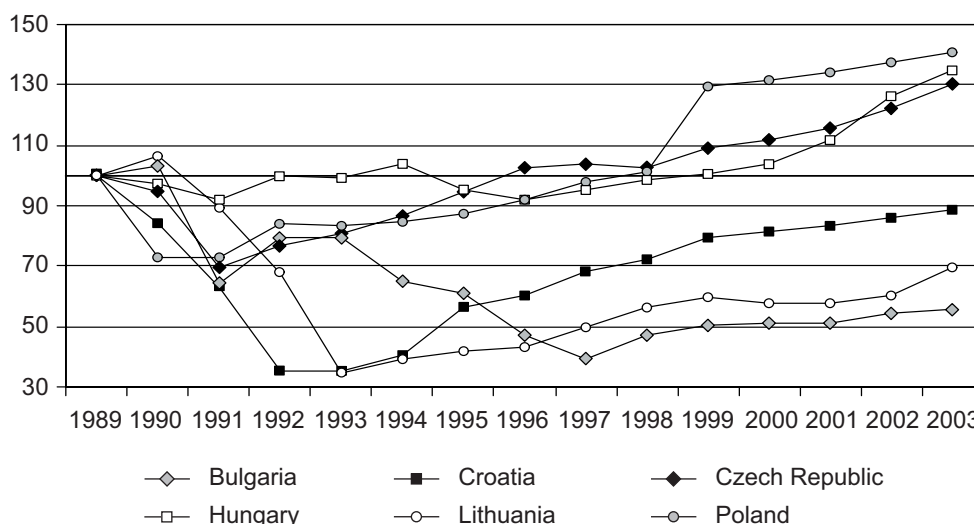
In Bulgaria real wages fell dramatically in 1991, in response to falling GDP and a surge in inflation due to price liberalisation. In the Czech Republic wages reached their lowest level in 1991, when price liberalisation provoked a surge in inflation and the transformational recession hit output. Poland underwent shock therapy at the very beginning of transition. In 1990 price liberalisation pushed inflation to almost 600%, GDP fell by more than 10% and there was a severe fall in real wages. Price liberalisation and consequent hyperinflation pushed down real wages also in Lithuania at the beginning of the 1990s to a third of their pre-transition level. On the other hand, as in many former Soviet countries, the drastic fall in GDP was not mirrored by a fall in employment, which decreased only marginally. Real wages in Croatia were heavily affected by the conflict of 1991-1995, falling to a third of the 1989 level in 1992-1993 as a consequence of hyperinflation. Hungary is an exception. It had double-digit inflation for the whole of the 1990s but did not experience the dramatic increase in prices at the beginning of transition that affected other countries, as price distortions were less serious in the partially reformed Hungarian economy. The transformational recession produced a drastic decrease in employment, but real wages remained quite stable.

Comparison of the pre- and post-transition levels of wages is difficult and the figures provided are indicative of what happened, rather than an exact description. The main obstacles to comparability are the facts that monetary wages were just a part of work compensation during socialism and that prices were not the instrument used to regulate demand and supply. Therefore, on the one side, deflating the average nominal wage by the price level tends to underestimate the true slump in real wages during the transition as services that were previously provided free or at subsidised prices (housing, holidays, medical care, schooling) were cut or not provided free anymore. On the other side, the fact that shortage and not price adjustment was the mechanism to control excessive demand for goods overestimates the purchasing power of wages during the previous regime and thus tends to overstate the actual slump when price liberalisation made prices responsive to demand and supply. The fact that Hungary, where liberalisation started before 1989, did not experience a substantial fall in real wages in the first half of the 1990s suggests that this fact may indeed be important (Mickiewicz and Bell, 2000). Thus, the different patterns of real earnings in the aftermath of transition are also due to the specific levels of suppressed inflation characterising each country. Hungary and the Czech Republic, for instance, had much lower suppressed inflation and did not experience the triple-digit upsurge in prices that affected the other countries after price liberalisation.

After the initial slump suffered by all countries except Hungary, real wages have generally continued to be responsive to crises that ensued as transition proceeded. In Bulgaria, the currency crisis of 1994 and the upswing in inflation made a dent in real wages, while the banking crisis cum currency crash and hyperinflation in 1997 further pushed down real earnings to their lowest level. The balance-of-payments cum currency crisis that affected the Czech Republic in 1997 and the following austerity programme temporarily halted the upward trend in real earnings after the 1991 trough. Real earnings in Hungary fell with

the stabilisation programme of 1995–97, the so-called “Bokros package” that introduced austerity measures and a strict income policy.

Figure 1: Real wages – deflated by CPI – 1989 = 100



Source: CPI: UNECE; Wages: ILO, author's calculations.

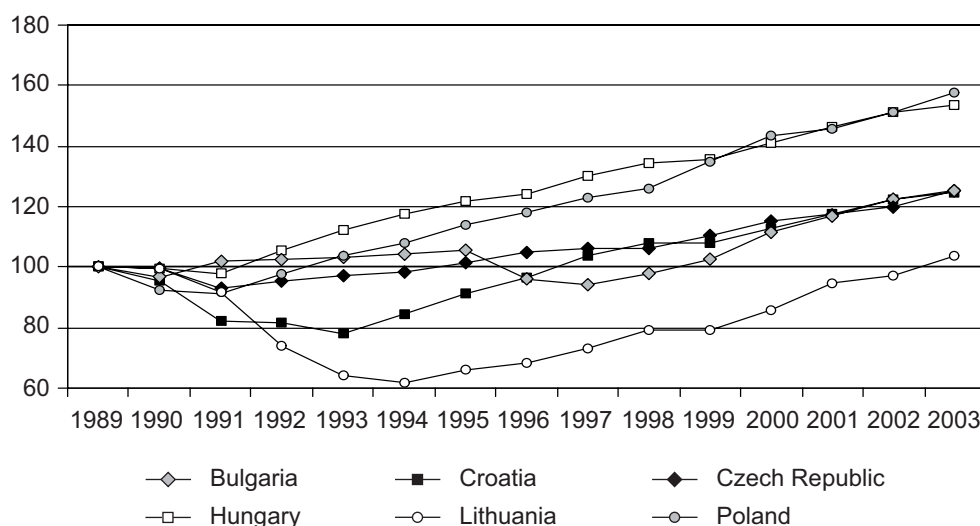
The downward flexibility of real wages has been achieved in environments generally characterised by high inflation and in some cases hyperinflation. In 2003 only Hungary had an inflation rate near 5%, however, while all other countries presented much lower price growth. The flexibility of real wages in a low-inflationary environment may be more problematic, owing to the nominal wage rigidity, i.e. the difficulty of cutting nominal wages, well documented in other countries. It is thus an open question whether wages would keep their ability to adjust in a stable-price environment in the event of a significant adverse shock affecting the economy.

As for the situation in recent years, only the Czech Republic, Hungary and Poland reached a wage level in 2003 that was above the 1989 starting point. Lithuania and especially Bulgaria were in fact well below, having experienced stagnating earnings levels in the years around 2000, with signs of an upward trend showing up only recently. Croatia experienced a dramatic slump at the beginning of the 1990s but has since been on a clearly rising path.

Production fell in all countries in the aftermath of transition, but the subsequent paths have been very different. In some (the Czech Republic, Hungary and Poland) the fall was contained, at least in comparative terms, and the recovery pushed production above the 1989 level in the following years. Bulgaria, Croatia and particularly Lithuania experienced instead a dramatic slump in terms of GDP and they are still below the pre-transition level. The paths followed by employment have also been different. In Hungary employment fell to just 70% of the pre-transition level in the mid-1990s and slowly started to recover afterwards. Bulgaria and Croatia have had an employment fall similar to the Hungarian case, with signs of recovery showing up only recently. The Czech Republic and Poland have kept a higher level throughout the period, but the trend in recent years is downward. The experience of Lithuania is of a moderate decline, comparable to the Czech and Polish

cases, until the end of the 1990s, followed by a dip around the year 2000 and a partial recovery in recent years. To assess the way in which wages were affected by the fall in GDP, while taking into consideration the reduction in employment, we compare the development of real wages with an index of productivity represented by real GDP divided by total employment, i.e. real GDP per worker (see Figure 2).

Figure 2: Productivity – GDP per worker – 1989 = 100



Source: GDP, Employment: UNECE, author's calculations.

In the absence of distortions in the labour market, productivity and real wages should move in the same direction and it is indeed possible to state that, with the notable exception of Hungary and Bulgaria in the first phase of transition, real earnings have broadly moved in line with productivity in the countries under consideration.

In Poland there is a strong similarity between the two paths. After a minor drop at the beginning of transition, output per employee recovered quickly, thanks to the rapid upturn in GDP, and since then has been on a steep upward trend. The Czech case looks similar, with a smaller growth rate of GDP per employee. The path of wages in Lithuania has also corresponded in its shape to the movement in our productivity measure. At the beginning of transition Lithuania followed the behaviour of other countries of the former Soviet Union, where, faced with a collapsing GDP, wages fell tremendously, while employment remained much more stable, so that falling wages corresponded to falling GDP per worker (Boeri and Terrell, 2002). The increase in real wages starts to take place once productivity is on the rise due to a recovery in GDP and labour shedding. Croatia has also followed a similar path, with an initial period of decreasing wages and productivity followed by a phase during which both have been on an upward trend. In Hungary productivity has a similar path to that of Poland, with the sharp fall in employment being in this case the main force behind the rapid increase in GDP per worker after the initial drop. Real wage growth stagnated during the 1990s, however, and has displayed a quick acceleration in recent years. Bulgaria is somewhat of an exception. Real wages have fallen dramatically and are recovering only very slowly. On the other hand, GDP per worker remained quite stable in the first years of transition and has been rising in recent years, thanks to sustained growth.

Bulgaria experienced both a dramatic fall in the employment level and a protracted fall in real wages, while the trade-off between price adjustment (fall in real wages) and quantity adjustment (decrease in employment levels) seems to operate for the other countries.

As already mentioned, the figures presented have to be considered as merely indicative. We have already underlined that comparing the wages before and after transition is difficult. Moreover, considering the way wages were fixed under socialism⁵ and the structural transformation the economies experienced, the level in 1989 does not represent an equilibrium reference point. A further issue is the specific way in which wages should be deflated. Using the Consumer Price Index⁶ as has been done in Figure 1 gives a better reflection of the impact on household purchasing power, while using an index like the GDP deflator⁷ makes it possible to take into account the price dynamics of a broader range of goods and services in the economy. In general the two indices move similarly, but in the case of Lithuania and Bulgaria in the early 1990s prices measured by CPI increased much more than implied by GDP deflator. In Table 4 we present the correlation between GDP per worker and the real wage calculated using both the CPI and the GDP deflator. The numbers broadly confirm the analysis made by comparing Figure 1 and Figure 2. The Czech Republic presents the strongest correspondence between the paths of GDP per capita and the real wage. Bulgaria and Hungary show a low correlation (negative, when the CPI is used) in the first period of transition, but in line with the other countries in the subsequent sub-period. In general, in the period 1997–2003 real wages moved in line with GDP per capita in all the countries under consideration, while discrepancies emerged in the first period of structural adjustment.

Table 4: Correlation GDP per worker – Real wage

	Real wage deflated using CPI			Real wage deflated using GDP deflator		
	1989–1996	1997–2003	1989–2003	1990–1996	1997–2003	1990–2003
Bulgaria	–0.18	0.88	–0.22	0.53	0.95	0.32
Croatia	0.84	0.93	0.79	0.79	0.93	0.91
Czech Republic	0.94	0.98	0.96	0.99	0.99	0.99
Hungary	–0.05	0.96	0.70	0.43	0.99	0.85
Lithuania	0.98	0.84	0.78	0.97	0.88	0.92
Poland	0.58	0.93	0.95	0.85	0.96	0.97

Source: GDP, CPI, GDP deflator: UNECE; Wage: ILO; author's calculations.

Another way to look at the level of wages is to compare the shares of domestic product that wages represent (see Table 5). The Czech Republic, Croatia and Hungary are at very similar levels, lower than the EU–15 average but not by too much. In the Czech Republic the share of GDP has been very stable since 1995, while in Hungary it decreased until the

⁵ See section 2 on the wage formation system.

⁶ A price index that measures the price level of a basket of goods and services purchased by an average household with respect to a base year.

⁷ A price index that measures the average level of the prices of all goods and services that make up GDP.

end of the 1990s and then started to recover. In Bulgaria, on the other hand, the figure is extremely low, as merely a third of GDP represents compensation of employees, and the trend is downward. Lithuania and Poland are in between.

Table 5: Compensation of employees (including SSC paid by employer) [% of GDP]

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Bulgaria	52	45	42	37	34	39	37	35	35	34	34
Croatia							48	47	45	45	45
Czech Republic			43	45	46	44	44	43	43	45	46
Hungary	54	51	47	46	45	45	43	44	46	46	
Lithuania	40	41	39	39	40	42	43	40	38	39	39
Poland			40	42	43	43	43	42	44	42	
EU-15	53	52	52	51	51	50	51	51	51	51	51

Note: For Croatia the figure has been calculated as Persons in paid employment.

* Average Gross Wage*(1+ % SSC paid by employee)/GDP.

Source: Eurostat – except Croatia: author's calculation.

To compare the levels of earnings among countries it is necessary to take into account differences in the price level. For instance, according to Eurostat the price level in the Czech Republic, Hungary, and Poland was around 52% of the EU-15 level in 2002, in Lithuania 46%, in Bulgaria just 33%, while in Croatia it was higher, at 56%. Taking into account these differences, compensation of employees (gross wages plus social security contributions paid by employers) in Poland and Hungary is slightly lower, Croatia enjoys a premium of around 10% over the Czech Republic, Lithuania is at around 60% and Bulgaria at approximately 40% of the Czech level. Therefore, among the countries under consideration, employee compensation is highest in Croatia, and lowest in Bulgaria. The first possible explanation of such large disparities in workers' compensation is differences in labour productivity. As an approximation for the level of productivity it is possible to use GDP per person employed expressed in terms of purchasing power parities. Taking the Czech level as 100, Croatia is at around the same level, Hungary is slightly above at 109, Poland is at 83, Lithuania is at 74 and Bulgaria has the lowest product per employed person at 54 (data from Eurostat). This kind of comparison is indicative only, but taking the Czech Republic as yardstick, Croatia and Poland have higher compensations than their productivity would suggest. The opposite is true of the other countries, with Bulgaria an outlier in this respect, as its compensation level is much lower than its lower productivity would justify.

2. Regional Dispersion

Labour markets in CEE countries are characterised by wide regional variations. The unemployment rate in Polish voivodships in May 2004 ranged from just above 15% in Mazowieckie, where Warsaw is located, to almost 30% in Warminsko-Mazurskie, in the North-East of the country. In Lithuania, a much smaller country whose total population is

comparable to that of a single Polish voivodship, the unemployment rate in 2003 ranged between 7.6% in Vilnius county, where the capital is located, and 14.4% in Telsiai county, in the North-West. In its 2003 transition report (EBRD, 2003) the EBRD underlines that during transition regional variations in unemployment have tended to widen and that policies to better integrate the domestic labour market are necessary. Table 6 presents the coefficient of variation of regional unemployment based on the NUTS⁸ 3-region level. Croatia also has a regional dispersion of unemployment comparable to the other countries (see Botrić et al., 2004). It emerges clearly from the table that the Czech Republic has in recent years had a comparatively high dispersion of regional unemployment, while Lithuania has the lowest. Note that the size of the territorial units taken into consideration is homogeneous, so that a cross-country comparison is meaningful.

Table 6: Regional unemployment – Coefficient of Variation – NUTS III

	1999	2000	2001	2002	2003
Bulgaria		45.8	27.7	31.0	34.5
Czech Republic	38.6	44.3	44.4	48.2	44.6
Hungary		35.5	34.2	35.9	36.7
Lithuania	24.6	24.5	25.1	26.5	17.0
Poland	35.7	38.0	35.6	27.1	25.8

Note: NUTS: Nomenclature of Territorial Units for Statistics. See note on page.

Source: Eurostat.

The present regional differences are a result both of imbalances accumulated under the central planning and of disparities emerging from the transition process (OECD, 1995). One of the characteristics of the command economy was the concentration of some types of production, in particular heavy industries, in huge enterprises located in particular sites. These sites were usually chosen for the presence of raw materials, for their proximity to the markets concerned or because of a pre-existing industrial tradition. This policy created areas dependent on a handful of industries and products. However, during socialism regional disparities in the industrial structure were not mirrored by equivalent disparities in living standards as massive redistribution provided a counterbalance. The transition to a market economy, with price liberalisation and cuts in subsidies, made the pre-existing differences more apparent. Moreover, the beginning of transition was characterised by severe product-specific demand shocks. Plants specialised in supplying the Russian market were badly hit by the redirection of trade toward Western Europe, as were heavy industries, which were able to survive only thanks to subsidies. The combination of high regional specialisation of production inherited from socialism and severe product-specific demand shocks characterising transition greatly contributed to regional disparities. In the case of Croatia war was a further factor, as different parts of the country were affected to differing extents. However, it has to be underlined that large differences among regional labour markets are common in Western European countries as well.

⁸ NUTS: Nomenclature of Territorial Units for Statistics. This is a five-level hierarchical classification of territorial units drawn up by Eurostat.

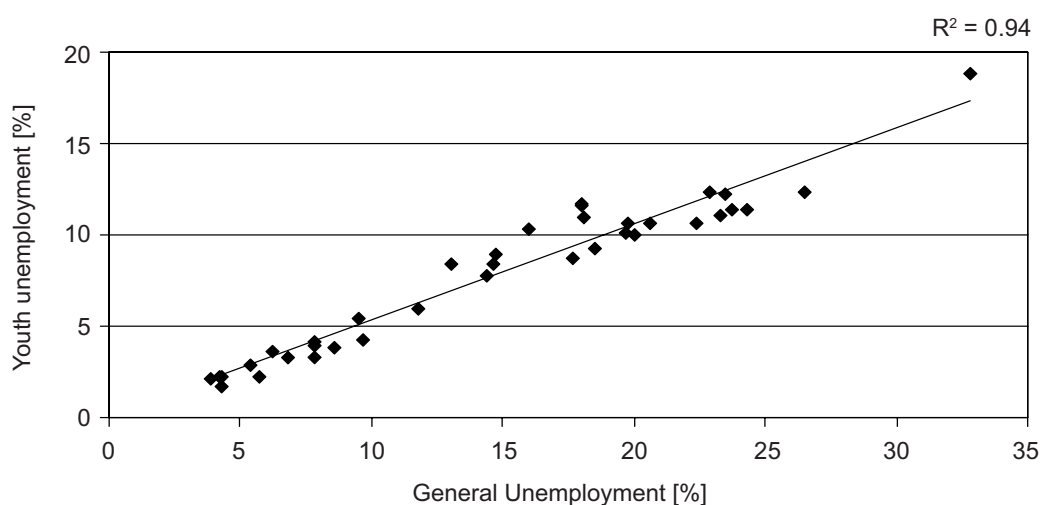
Regional variations may be due to regional disparities in labour supply or in labour demand. Unemployment rates may differ across regions either because persons with an identical professional profile but living in different regions have different employment probabilities (disparities in labour demand) or because the distribution of professional profiles differs across regions (disparities in labour supply). Of course, a combination of the two is also possible.

Understanding the source of variations is crucial for policy. If disparities across regions are mainly due to differences in labour demand, then encouraging mobility of labour may be a proper policy, but, migration from high unemployment regions to low unemployment regions will not solve the problem if regional disparities are due to a general lack of demand for certain profiles in the national economy, combined with a concentration of such profiles in particular regions. Instead, policies aimed at re-qualifying the labour force should be designed.

The evidence about the source of variations in unemployment rates in the countries under consideration is somewhat mixed. An OECD study of the Baltic countries (OECD, 2003) finds that, once individual factors (education, age...) are controlled for, the regional dimension of unemployment is indeed much smaller, suggesting that differences are related to labour supply. However, the study finds that in the case of Lithuania living in the capital city reduces the risk of being unemployed, even after controlling for individual factors. Scarpetta (OECD, 1995) in a study of the Czech and Slovak Republics, Hungary and Poland finds that the industry mix and proximity to a Western country are factors explaining regional differences in unemployment. Gacs and Huber (2003), in a sample including Bulgaria, the Czech Republic, Hungary, Poland and Romania, find that regional labour market developments were mainly driven by labour demand shocks in the period 1992-94, while in the period 1995-98 labour supply shocks played the dominant role.

A simple piece of evidence pointing to an explanation of regional differences due to demand disparities is the high correlation between general unemployment and youth unemployment that is evident at the level of NUTS-2 regions in the Czech Republic, Hungary, Poland and Bulgaria (see Figure 3).

Figure 3: Relationship youth/general unemployment in NUTS-2 regions (2001)



Source: Eurostat (data for Bulgaria, Czech Republic, Hungary, Poland).

Young people without previous professional experience (and thus, for instance, not having acquired outdated skills in some now defunct industry) face a higher unemployment risk in exactly the same regions where unemployment is higher for the population at large, suggesting that differentials in unemployment are due to region-specific economic problems, such as distance from reference markets or lack of infrastructures, i.e. related to differentials in labour demand.

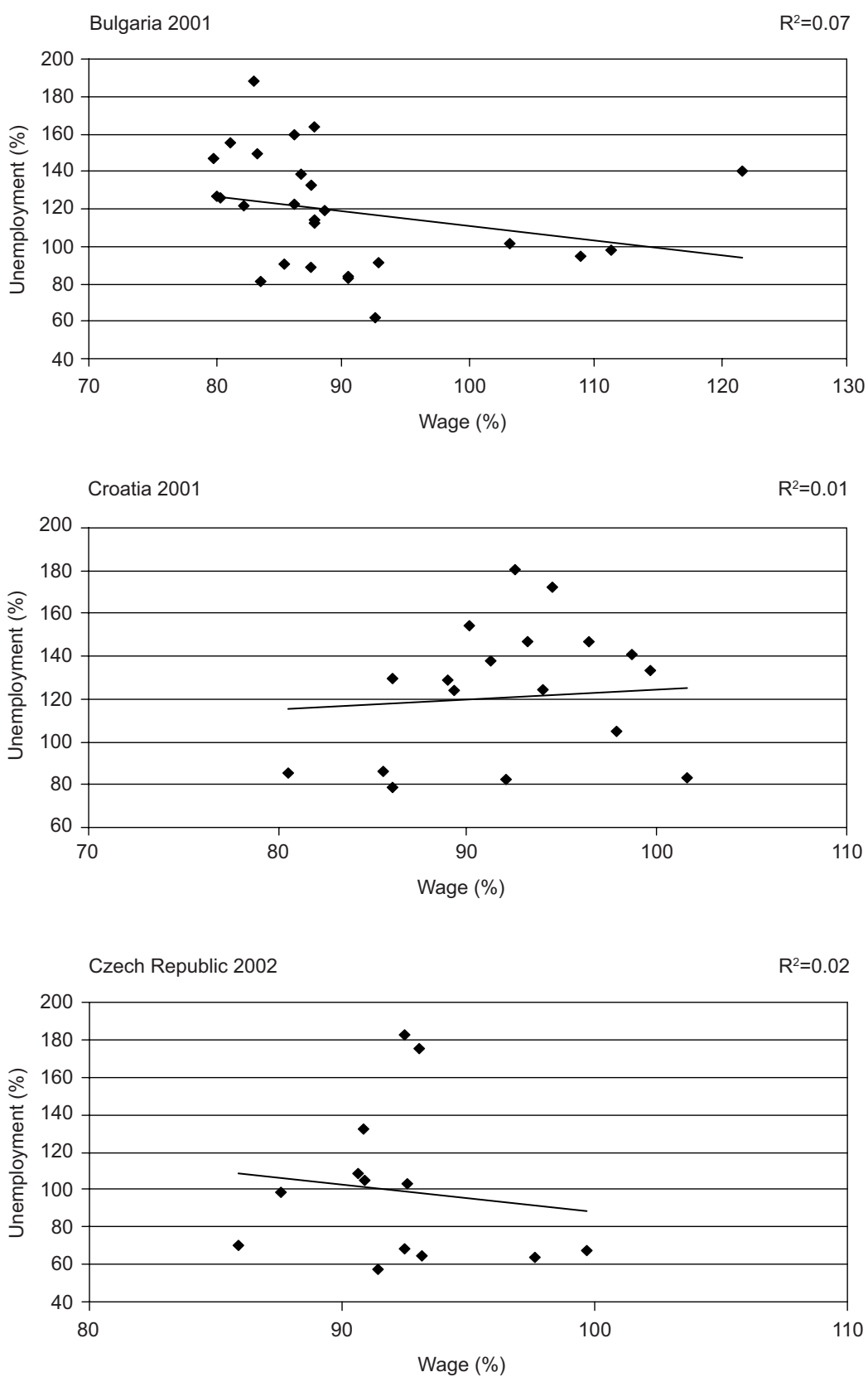
Of course, an effective tool to reduce disparities would be a regional policy aimed at solving the structural deficiencies affecting disadvantaged regions. Such a solution is beyond the scope of this study, however. As jobs offered in the low-unemployment regions fit the profile of at least a fraction of unemployed in the high-unemployment regions, differentials could also be reduced by inter-regional labour mobility. The inadequacy of transport infrastructures and the characteristics of the housing market, together with limited access to information on labour market conditions in other regions, are factors that have hindered inter-regional mobility in CEE countries (EBRD, 2003). Specific policies to counter these impediments to mobility like subsidies to commuting or accommodation costs are possible (Czarzasty, 2004). In this section, what we are mostly interested in is whether wages act as a re-equilibrating mechanism. A region where labour demand is low owing to some structural disadvantage may partly compensate for this through lower wages. The lower bargaining power of workers in high-unemployment regions or the smaller need by firms to motivate workers through comparatively high wages when unemployment is high may be the mechanisms leading to a negative correlation between wages and unemployment, higher unemployment being associated with lower wages⁹. Institutional factors, like the existence of a national minimum wage or the determination of wages through national level negotiations, may hinder the responsiveness of wages to local conditions.

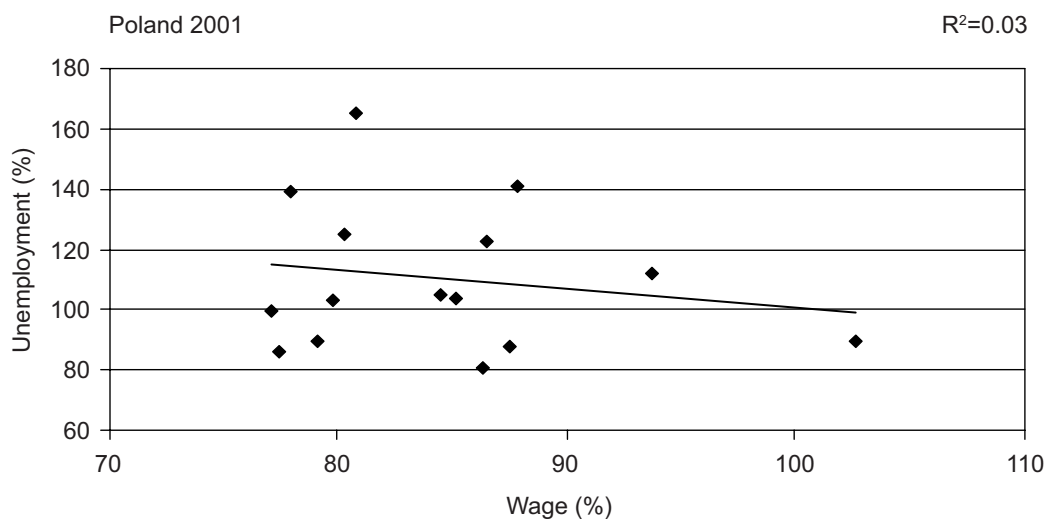
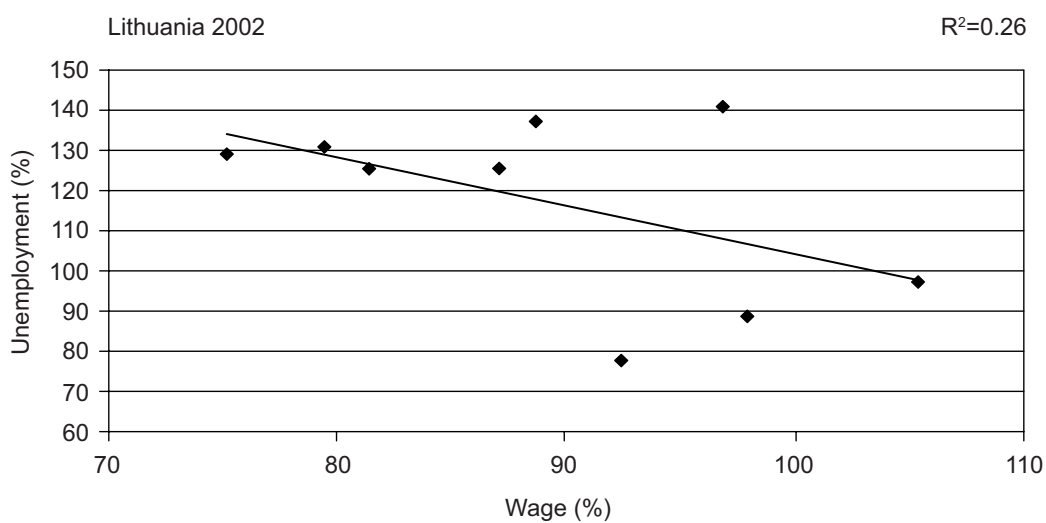
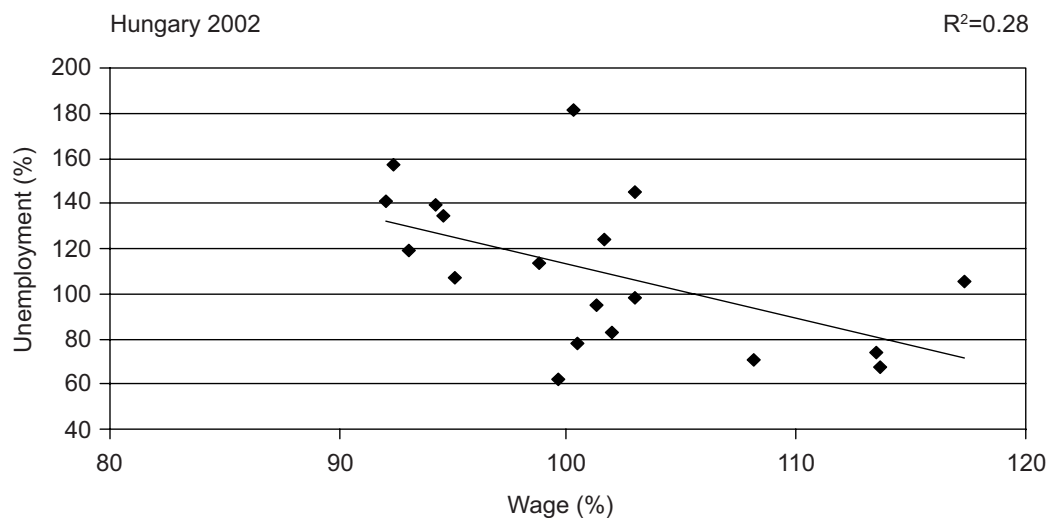
The search for evidence about the relationship between wages and unemployment in CEE countries has given mixed results¹⁰. In general, responsiveness of wages to local conditions does not seem to be worse than in other regions of the world. A study by Iara and Traistaru (2003) finds evidence of adjustment of regional average earnings to local market conditions, in particular in Bulgaria, where the adjustment is bigger and quicker than in Hungary and Poland, where it is lagged. Büttner (2003) finds that regional wage flexibility in accession countries is higher than in EU-15 countries. Responsiveness is particularly high in Bulgaria, Hungary and Poland, while in the Czech Republic it is more limited. Bornhorst and Commander (2004) find evidence of emerging wage flexibility in Bulgaria, the Czech Republic and Hungary. Mickiewicz and Bishop (2003) find that in their set of large Polish firms wage dynamics are sensitive to regional unemployment in state firms, but not in the private sector. Blanchflower (2001) finds that in Bulgaria the responsiveness of wages to local unemployment is higher than usually found in other countries, in line with the international average in Hungary and Poland and more subdued in the Czech Republic.

⁹ See Blanchflower and Oswald, 1994, for further details.

¹⁰ For a review, see Huber et al., 2002, page 40.

Figure 4: Relationship between wage and unemployment at regional level (both wage and unemployment rate are reported as % of national average)





Note: Reported data: Bulgaria, 26 districts (excl. district and city of Sofia); Croatia, 19 counties (excl. county and city of Zagreb); Czech Republic, 13 regions (excl. Prague); Hungary, 19 counties (excl. Budapest); Lithuania, 9 counties (excl. Vilnius); Poland, 15 voivodships (excluding Mazowieckie).

Source: National CSOs.

A common theme in the majority of the reported studies is that in the Czech Republic the adjustment of wages to local conditions is fairly subdued, while Bulgaria has higher regional wage flexibility. In Figure 4 we relate regional variations in unemployment to regional variations in wages in the countries under consideration. The region including the capital city is an outlier in most of the countries, with a lower unemployment rate and a higher average wage. This is not surprising, as well-paid professional jobs and company headquarters tend to be concentrated in the capital. For this reason, the graphs do not include the region containing the capital city. Due to the very different size of the countries under consideration the average dimension of regions is not uniform (as already mentioned, the whole of Lithuania is comparable to a Polish voivodship).

In general, unemployment presents much higher dispersion than wages. This is particularly evident in the Czech Republic, with unemployment ranging from a level corresponding to 57% of the national average to 183%, while wages vary within a much narrower interval. In Croatia also, a wide variation in unemployment is associated with a very limited variation in wages. In Lithuania and Bulgaria the spread is somewhat limited, with a relatively small variation in unemployment in the Lithuanian case and higher wage variability in Bulgaria.

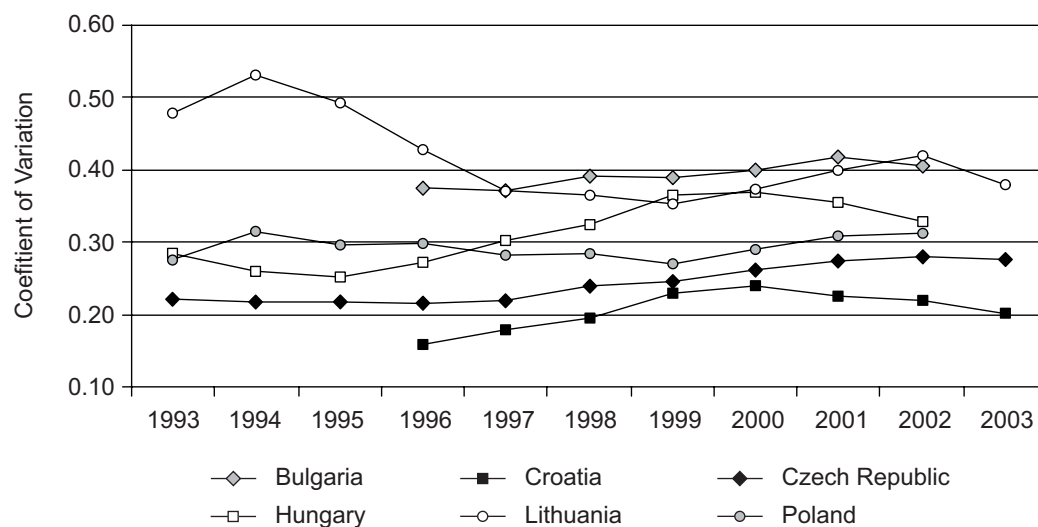
An increase in wage flexibility along geographical lines could represent a useful component in a policy package aimed at reducing regional imbalances, in particular in countries like the Czech Republic and Croatia, where the responsiveness of wages to local conditions appears to be particularly subdued.

3. Sectoral Variations

During socialism “material production”, and in particular heavy industry, was favoured in terms of earnings. With transition the rankings of sectors according to average earnings have quickly converged with those prevailing in EU–15 countries. At present, in all the countries under consideration people working in financial intermediation earn much more than in the rest of the economy, while fishing, agriculture and hotels and restaurants are the least well-paid sectors. Other sectors enjoying higher-than-average wages in all the countries are mining, public administration, and electricity, gas and water supply. Construction (category F in NACE¹¹) and trade and repairing (category G) generally have less-than-average wages. An exception is the Czech Republic, where these two sectors are characterised by wages in line with the level for the whole economy.

The evolution of the dispersion of wages across sectors in the last ten years as indicated by the coefficient of variation is presented in Figure 5. There is not a distinctive general trend, but the relative positions of countries are quite well established. Croatia displays the lowest level of dispersion, comparable in 2002 to the French and UK cases. The Czech Republic is also characterised by low dispersion. Lithuania and Bulgaria present much higher inter-sectoral variations.

¹¹ NACE: Statistical classification of economic activities in the European Community.

Figure 5: Dispersion of wages by economic activity (NACE)

Source: Author's calculations.

Data on the distribution of wages across sectors should be handled with particular caution. As seen in section 3, the incidence of informal activities and among these of underreporting of wages differs greatly among the countries under study and among different sectors of the economy. For instance, distribution is one of the sectors where the incidence of underreporting of wages is usually considered to be among the highest. Looking at data on dispersion of wages by economic activity in 2000 (the year for which we have an estimate of the size of the informal economy) we can see that wages in trade and repair services are 104% of the average in the Czech Republic, 87% in Hungary, 84% in Poland, 79% in Lithuania and Croatia and only 70% in Bulgaria. This ranking is a mirror of the ranking of the different countries according to the size of the informal economy and suggests that the big difference between the Czech Republic and Bulgaria (104% vs. 70%) is related to the different importance of the informal economy between the two countries, as indicated by the percentage of income estimated to be produced in the informal sector (18.8% vs. 36.9%). Repeating the same exercise for wages in the public administration, the fact that in Lithuania, Bulgaria and Croatia the ratio to the average wage in this sector (151%, 136% and 132% respectively) is higher than in Poland, Hungary and the Czech Republic (128%, 118% and 111%) is probably related to the fact that underreporting of wages is particularly serious in the private sector. This may lead the dispersion of earnings across sectors to be overestimated, particularly in the case of Bulgaria and Lithuania, and so make the low dispersion in the Croatian case even more striking.

It is also interesting to repeat the analysis of the correlation between productivity and earnings at sectoral level. Table 7 presents the correlation between sectoral value added and sectoral wages.

Table 7: Correlation between sectoral real wage (deflated by CPI) and sectoral value added per worker

NACE category						
	Bulgaria 1996–2002	Croatia* 1996–2001	Czech Rep. 1996–2002	Hungary 1996–2003	Lithuania** 1997–2003	Poland 1996–2003
C: Mining and Quarrying	0.86	0.34	0.69	0.97	–0.33	0.92
D: Manufacturing	–0.01	0.86	0.94	0.96	0.61	0.90
E: Electricity, Gas and Water Supply	0.40	0.94	–0.43	0.21	0.94	0.22
F: Construction	0.15	–0.06	–0.37	0.52	0.54	0.92
G: Wholesale and Retail Trade; Repair	–0.02	0.90	0.94	–0.14	0.67	0.77
H: Hotels and Restaurants	–0.40	0.88	–0.08	–0.40	0.27	0.61
I: Transport, Storage and Communications	0.71	0.76	0.89	0.91	0.55	0.94
J: Financial Intermediation	0.32	0.58	0.83	0.89	0.47	0.94
K: Real Estate, Renting and Business Act.	–0.94	–0.57	0.80	–0.81	0.67	–0.87

Note: * Croatia: for categories F–I correlation is 1996–2003;
 ** Lithuania: for categories C–D correlation is 1998–2003.

Source: CPI, Sectoral VA: UNECE; Sectoral Wages. Sectoral Employment: ILO.

It can be seen that Bulgaria presents several sectors in which the correlation is negative or low, while the other countries, and particularly Poland, perform much better. Of particular interest is the manufacturing sector, representing the most important single sector in almost all the countries under consideration, with between one-fifth and one-quarter of total value added. In the manufacturing sector wages and productivity appear to go hand in hand in Croatia, the Czech Republic, Hungary and Poland, while in the case of Bulgaria increasing productivity is paired with stagnating real earnings. Note that in the period considered (1996–2002 for Bulgaria) the CPI and the GDP deflator do not diverge substantially, so the behaviour of real earnings does not depend on the specific price index considered. It is also noticeable that the electricity, gas and water supply sector has instead low correlation in the Czech Republic, Hungary and Poland due to a sustained wage growth well above productivity. This may point to rent-sharing in sectors characterised by a certain degree of market power.

4. Dispersion by Educational Achievement and Professional Position

In the section dealing with wage determination before transition it was stressed that during socialism wage differentials between manual and non-manual workers were narrow. Due to the compressed earnings structure, education had little impact on wages (EBRD, 2000).

The emphasis of the previous regime on education left as a legacy to the CEE countries a generally well-educated workforce. However, the combination of a narrowly-focused educational system that stressed the acquisition of specific skills through vocational training and the sectoral and technological shocks that came with the transformation quickly made some of the skills acquired in the previous system obsolete. This has made job mobility at the beginning of transition particularly difficult for part of the workforce, mainly older blue-collar workers (Cazes and Nesporova, 2003). Studies of several CEE countries (among them Bulgaria, the Czech Republic, Hungary and Poland) show that workers with vocational education had a higher probability of losing their job, a lower probability of finding new employment and suffered a negative wage premium compared with workers having general secondary education (Boeri, 2000).

Table 8: Gross average earnings by educational achievement [as % of average earnings]

	Bulgaria (1)	Croatia (2)	Czech Rep.	Hungary (3)	Lithuania (4)	Poland	Germany (5)
Year	2002	2001	2001	2002	2002	2002	2001
Primary education	80	72	64	63	63	71	94
Secondary	84	92	106	103	73	94	118
Higher post-secondary	110	122	107	147	94	91	160
University	134	164	178	223	149	151	174
University/Primary	169	227	277	355	237	212	186

Notes: (1) Secondary is weighted average of lower and upper secondary; University is weighted average of high degree "specialist", "bachelor", "master", "doctor", with the number of employees used as weights
 (2) Net earnings
 (3) Secondary is an average of Vocational, General, and Technical Secondary School
 (4) Secondary is an average of basic and upper secondary
 (5) Categories are: Volks-, Haupt- oder Realschulabschluss; Abitur; Fachhochschulabschluss; Hochschul- oder Universitätsabschluss.

Source: CSO.

Workers with adaptable skills have experienced an increase in their relative wage, however, as the wage distribution became more responsive to market conditions and the adoption of new technologies and production methods increased the demand for skills. There are however notable differences in the return from education among the countries under consideration.

In Table 9 average earnings for different educational levels are presented. Compared with a country like Germany, workers with primary education fare comparatively worse in terms of percentage of average wage earned, while the situation for the highly educated is more mixed. It is striking to note that the wage premium enjoyed by a university graduate over a worker having completed only primary education is four times as great in Hungary as in Bulgaria. The Czech Republic also presents wide variations in earnings by educational level. While it is difficult to infer from the wage premiums enjoyed by higher educated workers the level of success of a country in adapting to new technologies, they certainly

represent an incentive for skill acquisition and thus can constitute a positive factor in the growth and catching up processes.

Another way of assessing the dispersion of wages is to look at the wage differentials across occupations.

Table 9: Gross average earning by major occupational groups [as % of average earnings]

	Bulgaria	Czech Rep.	Lithuania	Hungary	Poland	Germany*
Year	2002	2002	2000	2002	2002	2003
Senior officials and managers	199	205	187	218	230	196
Professionals	133	133	122	145	133	171
Technicians and associate professionals	117	107	95	105	102	123
Clerks	85	81	86	83	89	101
Service workers	59	68	70	64	60	64
Agricultural and fishery workers	67	64	56	59	67	—
Craft and related trade workers	94	84	89	77	84	84
Plant and machine operators	96	83	88	81	89	88
Elementary occupations	60	58	56	55	59	67
Senior officials and managers/Elementary	3.3	3.5	3.3	4.0	3.9	2.9
Max/min	3.4	3.5	3.4	4.0	3.9	3.0

Note: * Gross annual earnings.

Source: CSO.

The country where the gap between the top level and the lowest level is greatest is once again Hungary, followed immediately by Poland. Bulgaria, as in the case of educational differences, is at the opposite end of the scale, with the lowest disparity between managers and people employed in elementary occupations. Lithuania also has a low level of variation along the occupational dimension. Again, people performing elementary occupations fare comparatively worse than in Germany, while for senior officials and managers the situation is mixed.

Is There a Wage Floor?

The Minimum Wage and Unemployment Benefits

After having assessed the degree of wage flexibility, it is useful to look at two of its institutional determinants: minimum wage regulation and unemployment benefits. Both can have a strong impact on the degree of flexibility and security characterising a labour market. By definition, the minimum wage, if properly enforced, constitutes a floor for wages. For unemployed workers who are entitled to them unemployment benefits represent the outside option to consider when deciding whether to take up a job or not, thus also constituting a wage floor in some cases. The minimum wage and unemployment benefits may therefore both reduce the downward flexibility of wages and compress the wage distribution. On the other hand, having a source of income in case of unemployment reduces the income insecurity faced by a worker, while a minimum wage may protect workers with low bargaining power against the risk of getting a wage that is not sufficient to sustain a decent life, thus increasing the degree of security characterising a labour market.

The actual role played by the minimum wage depends on the level at which it is fixed in relation to the wage distribution that would prevail in its absence. In this section, we describe how the minimum wage is set and then assess how binding it has been during transition by comparing it to the average wage. However, a minimum wage small in comparison to the average may still matter for some categories of workers, in particular low skilled workers employed in sectors characterised by low wages. To see whether this is indeed the case we look at the wage distribution for different sectors of the economy. To evaluate the impact of unemployment benefits, we look at the amount of time an unemployed person is entitled to them and at the replacement rate.

The analysis reveals that in recent years the minimum wage has considerably increased in relative terms in countries like Hungary, the Czech Republic and Bulgaria. With the exception of the Czech Republic, the minimum wage seems to have recovered its role as an effective wage floor for the sectors of the economy where pay is usually lower. A drive toward introducing more differentiation in the applicable minimum wage also emerges. On the other hand, unemployment benefits have lost their role as wage floor due to a shortening of duration and a reduction in the replacement ratio, thus reducing also the degree of protection in the event of unemployment.

1. Minimum Wage

In the countries under consideration the minimum wage is set by the government after negotiations with the social partners through tripartite national bodies. The government usually has a pivotal influence, as it retains the right to decide if no agreement is reached.

Minimum wages above the national standard can be negotiated by the social partners through bilateral bargaining¹². However, the enforcement of the minimum wage is poor, particularly in Lithuania, Poland and Bulgaria (US 2003).

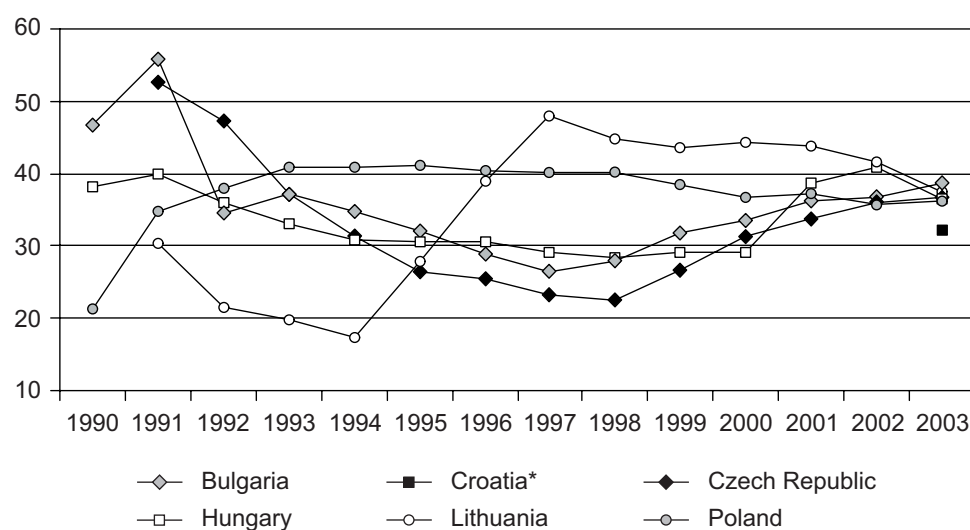
With the exception of Poland, in the aftermath of transition the minimum wage declined even more than the average wage. Reaching levels as low as 17% of the average wage in Lithuania in 1994, it lost any function in protecting workers with low bargaining power against poverty (Vaughan-Whitehead, 1995). In recent years, however, the minimum wage has shown a tendency to recover its value and has converged in the countries analysed to a level around 35–40% of the average wage (see Figure 6). In the Czech Republic the minimum wage reached its lowest level in 1998, when it represented just over 20% of the average wage. In 1992–95 and again in 1996–97 the nominal value was left unchanged, allowing continuous erosion by inflation and real wage growth. Since then, the minimum wage has been increased each year, allowing a steady recovery. In Hungary a slow decrease was abruptly halted by two considerable hikes in 2001–2, when the minimum wage was increased in nominal terms by almost 100%. Bulgaria has also displayed a rising trend and in 2004 the minimum wage was increased to 120 Lev per month (ca. 61 euros), representing over 40% of the average wage prevailing in the first quarter of 2004. In Lithuania the minimum wage was increased in May 2004 by 10% to 500 Litas per month (ca. 145 euros) or 44% of the average wage for the first quarter of the year.

The increases in recent years have given the minimum wage a potential role as an effective wage floor, in particular in the sectors of the economy where earnings are lower and for the categories of the workforce with low educational attainment or skill levels¹³.

In Lithuania in October 2003 almost 20% of the workforce was working at the minimum wage or less, this being particularly prevalent in the hotels and restaurants sector, where the minimum wage was binding for 44% of the workforce, and in trade and repairing, with a 29% spike in the sectoral wage distribution at the minimum wage level. Also in the Bulgarian 2002 wage distribution there is a spike at the minimum wage level. In Poland in 2001 6.5% of the workforce was working for the minimum wage, with once again a particularly high incidence in hotels and restaurants (18%) and trade and repairing sectors (14%). In Hungary after the substantial 2001 increase 12% of the total workforce was employed at the minimum wage. For the construction sector the incidence was higher (33%), as it was in hotels and restaurants (29%) and trade and repairing (24%). Analysing the Croatian wage distribution in 2002 in the light of the minimum social insurance threshold (deemed to represent a minimum wage in practice) we can observe a similar sectoral pattern. On the other hand, in the Czech Republic only 2.5% of the workforce in the hotels and restaurants sector was employed at the minimum wage in 2002, and the percentage was much lower in the other categories.

¹² See section 2.3 regarding collective bargaining.

¹³ See section 4.4 for a characterisation of the wage distribution along these dimensions.

Figure 6: Minimum wage as % of average gross wage

Note: * Minimum social security threshold.

The minimum wage seems therefore to constitute an effective wage floor in the majority of the countries under study – even more so in the countries where recent increases further boosted its level in comparison with average earnings.

However, if we take into account underreporting of wages, a spike in the distribution of earnings at the minimum wage level may not necessarily be an indication that the minimum wage is indeed a binding constraint. The fact that the minimum wage seems to be more binding in the countries and in the sectors where the practice of paying envelope wages is deemed more widespread¹⁴ indicates that this may be the case.

Directly connected to this issue is the recent introduction in some countries of a “minimum social insurance threshold” to avoid social security contributions being paid according to the minimum wage instead of at the supposedly higher actual wage. In Bulgaria such a system was introduced in 2003. Employers have to pay contributions on the basis of minima determined by collective bargaining at sectoral and branch level for 48 economic activity groups and nine occupational groups. These minima in practice work as minimum pay levels, despite their different original function (Neykov, 2004). In Croatia since 2003 there has been regulation of the minimum basis for calculation of obligatory social security contributions. The minimum basis is defined as 35% of the average wage. The employer is obligated to pay both the employer’s and the employees’ parts of social security contributions at least in the amounts corresponding to the minimum basis. In principle, the actual wage could be lower, but in practice the minimum basis serves as a threshold salary for the lowest-paid full-time employees (Nestic, 2004).

A risk connected with this system is that if the minimum insurance threshold does not represent in practice a minimum wage, it may make social security contributions regressive, forcing lower paid employees to pay more as a percentage of their salary than higher paid ones.

¹⁴ See section 3 on the informal economy.

The importance of the informal economy may somewhat reduce the significance of the minimum wage in some countries. However, due to the fragmented nature of labour markets in the countries under consideration, for instance along regional lines or along the age dimension, the minimum wage still plays an important role for some parts of the workforce. With respect to this issue, there has recently been a noticeable tendency towards differentiating the minimum wage applicable to different categories of workers. For instance, in Poland the minimum wage applying to persons not having worked for at least two years is 80% of the national minimum wage in the first year of employment and 90% in the second. In Lithuania the possibility of setting different levels of minimum wage for different branches, regions, or categories of workers has been introduced and in the middle of 2003 the minimum wage for employees in certain agricultural activity units, state politicians, lawyers, state officers and civil servants has been fixed at a lower level than for the rest of the workforce. In the Czech Republic the minimum wage applying to employees who benefit from disability pension or to young employees is lower.

When fixing the minimum wage both the needs of the workers and their families and the capacity of the firms to pay should be taken into account. On the one hand, setting too low a minimum wage may fail to ensure workers with low bargaining power the income needed to sustain themselves and their families, thus creating a group of working poor. Too high a minimum wage could on the other hand adversely affect the labour market position of these workers by reducing labour demand for their profiles or by pushing them into the informal sector¹⁵. Kertesi and Köllő (2003) indeed find evidence that the 57% minimum wage increase in Hungary in 2001 meant a loss of employment opportunities, in particular in small firms, and a higher probability of unemployment after its implementation for the workers for which the new minimum wage was binding.

Having a different, lower, minimum wage for young new entrants in the labour market takes into account both the weaker labour market position of these inexperienced workers and the fact that, usually not having a family to sustain, they have lower minimal needs. Considering that the unemployment rate for young people is usually double that of the general population in the countries under consideration (see Figure 3), a policy of setting lower minima for young workers may be useful. Moreover, it would allow the general minimum wage to better reflect the needs of workers with families to sustain, as there would no longer be a risk of pricing out the young workers. A further issue is whether this differentiation should be extended to other dimensions. A natural candidate is the regional dimension. The cost of living is not uniform in the different regions and, moreover, there is wide regional variation in labour market conditions (see Section 4.2). A differentiation of the minimum wage along the regional dimension, at least in the bigger countries, could therefore be a useful tool. Adjusting the minimum wage to the cost of living in different parts of the country, thus having a more uniform minimum wage in terms of purchasing power, would also be more equitable than simple nominal equivalence.

¹⁵ The question of the effect on employment of an increase in the minimum wage is still not settled in economics, however. A minimum wage hike having the effect of increasing efforts or decreasing search frictions may lead to a higher employment level, see Card and Krueger, 1995.

2. Unemployment Benefits

Unemployment benefit systems have been introduced at the outset of transition and frequently reformed since, usually under the pressure of fiscal constraints¹⁶. The duration of benefits and the amount paid are the two most important variables. A long duration and relatively generous payment, as compared with the minimum wage, for instance, may represent a disincentive to leave the status of unemployed by taking a job in the formal sector. The amount received as benefit may thus represent a wage floor, as it does not pay to be employed at a lower wage. However, this consideration is weakened by the fact that benefits are not usually open-ended and that working for a certain period is generally a condition for drawing benefits later on.

At present, in the countries under study duration of benefits is usually restricted to less than 1 year, exceptions being Poland, where the usual term of 6 months is extended in regions with a high unemployment rate, and Croatia, where, depending on the duration of previous employment, benefits can be paid for 13 months. In Bulgaria the normal maximum duration is 1 year, in Hungary 9 months and in the Czech Republic it is limited to 6 months. Special provisions exist for older workers. Thus in Croatia men with more than 30 years of service and women with more than 25 years can claim benefits till retirement or reemployment. In the Czech Republic the maximum duration is extended to 9 months for workers above 50 and to 12 for workers above 55.

The benefits paid to the unemployed are usually proportional to the previous earnings. Poland represents an exception, as a base amount is paid, with some form of differentiation depending on the length of service. The base payment is well below the minimum wage, in particular for those with less than 5 years of employment, who receive only 80% of the base amount. In the other countries some form of proportionality in relation to previous earnings is introduced. In Bulgaria unemployment benefits correspond to 60% of previous earnings, in the Czech Republic to a level declining from 50% to 40% during the unemployment spell, with the possibility of getting 60% in case of retraining, in Hungary unemployment benefits are fixed at 65% of the gross average salary of the previous calendar year. This theoretical proportionality is however seriously limited by minimum and maximum thresholds to the payable benefits. In Croatia for instance the minimum benefit is 797 kunas per month (ca. 105 euros¹⁷) and the maximum is just 20% higher at 1000 kunas (ca. 132 euros), corresponding to just one quarter of the average net wage. In Lithuania the minimum and maximum are 135 litas (ca. 39 euros) and 250 litas (ca. 72 euros) respectively, well below the minimum wage. In Hungary thresholds are defined by reference to the minimum old-age pension, with the maximum fixed at double that level, i.e. below the minimum wage. Only in the Czech Republic and Bulgaria are maximum benefits above the minimum wage level. In the Czech case the incidence of minimum-wage jobs is, however, very small. In the Bulgarian case, by contrast, minimum-wage employment is widespread and benefit thresholds in 2004 are 80 BGN (ca. 41 euros) and 140 BGN (ca. 72 euros), compared with a minimum wage of 120 BGN.

¹⁶ See Vodopivec et al., 2003 for a review.

¹⁷ At the 2003 average exchange rate.

It has been underlined (Boeri and Terrell, 2002) that at the outset of transition the role of wage floor was played by unemployment benefits owing to the very low level of the minimum wage. In the countries under consideration the increase in the minimum wage in recent years and the tightening of unemployment benefit regulation, with regard both to duration and the replacement ratio, have reversed the situation.

The Tax Wedge

The tax system also exerts a strong influence on wage distribution. Of particular interest for labour market analysis is the tax wedge, which is the difference between the labour cost to the employer and the net take-home pay of the employee. The labour cost to the employer consists of the gross wage plus the social security contributions (SSC) paid by the employer and, when they exist, other payroll taxes. To calculate the net take-home pay of the employee we need to subtract from the gross wage the part of social security contributions paid by the employee and the personal income tax (PIT) and add any cash benefit, such as children-related transfers. Hence, the main components of the tax wedge are social security contributions and personal income tax.

It is striking that the tax burden on labour in the countries under consideration is very high, in some cases higher than in the average EU-15 country and much higher than in the average OECD country. This is particularly true for Hungary, despite a decrease in 2003, while Bulgaria seems to provide the most favourable tax regime.

Other things being equal, a higher tax wedge reduces equilibrium employment, by decreasing labour demand because of higher total labour costs, and labour supply because of lower net take-home pay. Moreover, a higher tax wedge makes it more attractive to work in the informal sector or to underreport wages. Both the average and the marginal tax rates are relevant in assessing the effect of the tax burden on economic behaviour¹⁸. The applicable marginal and average rates vary with the level of income. Table 10 presents the main features of the tax systems in 2003.

Among the countries under consideration Croatia has the highest total tax burden, as measured by the ratio of tax recovery to GDP, with a level similar to the average EU-15 country. Hungary and Poland are just below this level, while Bulgaria and Lithuania belong to a different category, with taxes representing a much smaller proportion of GDP. The way the total tax burden is distributed among different types of tax also varies widely, in particular the relative relevance of direct versus indirect taxation. The Czech Republic and Poland rely heavily on social security contributions, while in Lithuania it is the personal income tax that is particularly important. Hungary has a more even balance between SSC and PIT. On the other hand, in Croatia and Bulgaria indirect taxation, and in particular value-added tax, represents a larger share of tax revenues. Indirect taxation is generally considered to be less distorting than direct taxation. Therefore, the relevance of indirect taxes in Croatia mitigates the distorting effect on labour of the high tax burden, while in

¹⁸ A steeper tax schedule (with an unchanged average but higher marginal tax rate) may for instance induce people to work less, due to a substitution effect, while a change of the tax system increasing the average rate but leaving the marginal rate unchanged may induce a bigger labour supply due to an income effect.

Bulgaria both the limited taxation and the structure of the tax system are comparatively favourable to labour allocation.

Table 10: Main features of the tax system in 2003

Country	Personal Income Tax					Social Security Contributions	
	Total Tax (2002) [% of GDP]	Number of brackets	Minimum Rate	Maximum Rate	Income above which maximum rate applies	Standard tax-exempt income	Total % of taxable income
					[% of taxable income]	[% of average gross wage net of SSC*]	
Bulgaria	27.5	4	15	29	236	43	42
Croatia	41.1	4	15	45	438	—	37
Czech Rep.	35.4	4	15	32	186	21	48
Hungary	38.8	3	20	40	94	7	46
Lithuania	28.8	1	33	33	—	26	34
Poland	39.1	3	19	40	374	14	45
EU-15	40.5	—	—	—	—	—	—

Note: * (Annual income to which the maximum rate or the exemption applies)/12*average gross monthly wage*(1-SSC paid by the employee expressed as % of taxable income)

Note: Croatia 2004

Source: UNECE (see UNECE 2004 Table 5.2.1 and 5.2.3 for further details), exc. Total Tax: Eurostat; exc. Croatia: IMF & MoF.

With the exception of Lithuania, which like other Baltic countries applies a flat rate income tax, the tax system is progressive, with an increasing marginal tax rate. From this point of view Hungary is an outlier, because the maximum rate comes into effect very early in the income scale, below the level represented by the average wage. The higher maximum marginal rate in the case of Croatia applies only to incomes well above the average wage, thus making it irrelevant for the majority of households. Moreover, there is a maximum level of monthly earnings on which social security contributions have to be paid, at a level close to the threshold at which the maximum rate for the PIT applies, thus mitigating the marginal tax burden on high salaries. Bulgaria presents both the lowest maximum rate and the highest standard tax-exempt income as a share of the average wage among the countries under consideration.

Table 11 presents the evolution of the tax wedge over time. The data for Bulgaria and Croatia are not fully comparable as they refer to a worker earning the average wage for the general economy instead of the lower average wage for production workers in manufacturing used for the other countries. This overstates the tax burden of these two countries compared with the others. To provide a basis for comparison, the tax wedge in 2003 for a worker earning 167% of the average wage for production workers in manufacturing was 46.2% in the Czech Republic, 55.8% in Hungary, and 43.9% in Poland. The steep increase in Hungary is due to the characteristics of the personal income tax mentioned above.

Table 11: Tax wedge [% of labour cost for worker earning average wage]

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Czech Republic	43.2	42.6	42.9	42.8	42.7	43.1	43.1	43.5	43.8
Hungary	51.4	52.0	52.0	51.6	50.7	49.6	49.0	49.0	45.7
Lithuania	—	—	—	—	—	48	—	—	—
Poland	44.7	44.7	43.9	43.2	43	43	42.7	42.8	42.9
EU (unw. aver.)	43.3	43.4	43.5	43	42.7	42.4	41.4	40.6	—
OECD (unw. aver.)	37.3	37.3	37.5	37.2	36.6	36.9	36.4	35.9	—
Bulgaria	39.1	44.1	41.8	42.7	42.9	43.6	41.4	40.7	40.3
Croatia	48.3	48.5	46.8	46.4	44.4	41.6	39.9	41.1	—

Note: for CZ, HU, LT, PL, EU, OECD: single persons without children earning average wage for production worker in manufacturing sector

Source: CZ, HU, PL, LT, EU, OECD : OECD; BL: USAID; CR: WB

Table 12: Tax rate on low-wage-earners [% of labour cost]

	1996	1997	1998	1999	2000	2001	2002	2003
Bulgaria	40.3	37.8	39.1	37.1	39.4	36.5	35.2	35.2
Czech Republic	41.4	41.5	41.4	41.4	41.6	41.6	41.8	42.0
Hungary	46.8	47.8	47.4	48.2	46.2	45.8	46.0	41.0
Lithuania	37.6	39.3	39.5	39.7	42.0	42.2	41.3	39.5
Poland	43.6	42.9	42.1	41.9	41.9	41.4	41.6	41.6
EU (15 countries)	39.7	40.0	39.3	38.5	37.9	37.0	36.9	37.2

Source: EUROSTAT.

It is of particular interest to look at the taxation of low-wage-earners, defined as people earning two-thirds of the average wage for a production worker in manufacturing. On the demand side, the higher labour cost due to higher taxes represents a disincentive for the creation of low-productivity jobs, thus making it more difficult to find employment in the formal sector for some categories of workers. On the supply side, a combination of high taxes on wages and a relatively generous unemployment benefit or social assistance system may create a so-called unemployment trap¹⁹. The countries under consideration, with the exception of Bulgaria, impose a tax wedge of around 40% on low-wage-earners (see Table 12), a level that is above the EU-15 average. Hungary was characterised by the highest tax burden on low-wage workers, but in 2003 a five-percentage-point reduction

¹⁹ Accepting a low-paid job and paying taxes can be financially unrewarding compared with receiving unemployment benefits or other types of social assistance, especially taking into account possible additional costs connected with working (e.g. commuting) and the opportunity of performing some activities in the informal economy during the period of unemployment.

took it to a comparable level with the other countries Bulgaria once again emerges as the country with the least burdensome tax regime.

A reduction of the tax burden on wage earners would be useful to increase participation in formal employment and raise disposable income. This is made difficult, however, by the fiscal constraint facing these countries. Increasing the tax base by favouring the transformation of informal work into formal employment would be a satisfactory solution, but it is interesting to note that the country with the largest estimated informal economy, Bulgaria, has the lowest taxation of labour. This suggests that intervention on other regulatory fields beside taxation may be crucial in achieving a reduction of the degree of informality characterising the economy.

Inequality

The labour market is an essential factor shaping the capacity of a society to provide decent living conditions for the population at large. After having investigated the degree of wage flexibility and its determinants, we briefly examine the impact on society, looking at the issues of inequality and poverty. The increase in inequality has been a distinctive feature of the transition process. Irrespective of the pace of reforms, the first years of transformation have been characterised by rising inequality (Rutkowski, 2001). Beside the fall in living standards²⁰, this has been one of the factors behind the emergence of poverty as a significant phenomenon.

In a study of inequality in transition countries Milanovic (1999) finds that the change in the concentration of wages was the most important factor behind increasing income inequality. Rutkowski (2001) finds that the decentralisation of wage-setting and the consequent widening wage differentials among industries and, above all, educational standards²¹ were the main determinants of increasing earnings disparity in the 1990s. A study by the World Bank (2000) finds that the main factor underlying household poverty is low earnings, while the lower labour market participation (both in terms of inactivity and unemployment) and the higher dependency ratio characterising poor households are less relevant.

Measuring inequality and poverty is a complex issue, more so in countries characterised by a high degree of informal activity. In table 13 two widely used indicators of inequality are presented: the Gini coefficient²² and the quintile ratio²³. Measures of relative²⁴ and absolute²⁵ poverty are also presented.

²⁰ See section 4.1 on the development of real earnings.

²¹ See sections 4.3 and 4.4 on wage dispersion.

²² The Gini coefficient is a measure of inequality that takes the value of 0 in case of a perfectly equal society, where income or earnings is the same for everybody, and 1 in the opposite case of an extremely unequal society, where all national income or earnings is concentrated in one household. A higher Gini index therefore characterises more unequal societies.

²³ The quintile share ratio is calculated as the income or earnings of the top 20% of the population in relation to the same measure for the bottom 20%. A higher quintile ratio implies a wider difference between the top and bottom layers of society. The quintile ratio differs from the Gini coefficient, in that it focuses on the two extremes of the income or earnings distribution, rather than taking into account the whole distribution

²⁴ Relative poverty is defined as a disposable income below 60% of the national median.

²⁵ Absolute poverty is defined as income below the equivalent of USD 4.30 in purchasing power per day.

Table 13: Poverty and inequality

2001	Absolute Poverty rate ¹	At-risk-of-poverty rate ²		Income quintile share ratio ³	Gini Index ⁴
		Before social transfers	After social transfers		
Bulgaria	18.2 (1995)	19	16	3.8	26
Croatia	4 (1998)	35	17	4.3	28
Czech Rep.	0.8 (1996)	18	8	3.4	25
Hungary	15.4 (1997)	20	10	3.4	23
Lithuania	22.5 (1999)	24	17	4.9	32
Poland	18.4 (1998)	30	15	4.5	30
EU-15		24	15	4.4	28

Source: 1: World Bank (2000) 2, 3, 4: Eurostat—EU-15 is estimated, exc. for Croatia: CSO—includes income in kind.

Definitions: 1: Share of population living with less than USD 4.30 in PPP per day.
 2: Share of persons with disposable income below 60% of the national median disposable income
 3: Ratio of total income received by 20% of population with highest income to that received by 20% of population with lowest income.
 4: See footnote.

The Czech Republic and Hungary emerge as the most equal societies, while Lithuania is characterised by the highest level of inequality of all the countries under consideration. The Czech Republic has a very low incidence of poverty, in both relative and absolute terms, while the more unequal Lithuania has much higher poverty rates.

Social transfers appear to be particularly ineffective in fighting relative poverty in Bulgaria, where they reduce the poverty rate only by a few percentage points, and to a lesser extent in Lithuania. The other countries manage instead to cut the percentage of population at risk of poverty by half.

The analysis conducted here is too limited to draw conclusions about the causal effect of labour market institutions on poverty and inequality. However, as highlighted by the studies mentioned at the beginning of the present section, the wage determination system is clearly relevant in determining the level of inequality and social exclusion characterising a country and in a balanced discussion of the wage system efficiency issues have therefore to be associated with considerations regarding the social preferences for an equal and inclusive society.

Conclusions

Two characteristics of the wage determination system in the countries under consideration have been conducive to high wage flexibility. First, collective bargaining is relatively limited. For most of the workforce remuneration is determined on an individual basis, with collective bargaining taking place mainly at a decentralised level. Croatia represents an exception in this regard. Second, informal arrangements are widespread. Payments above the officially declared level or below the contractually agreed level are in some countries common practice. Flexibility stemming from non-respect of regulations is however of a perverse type and its reduction should be high on the agenda. High tax pressure on labour definitely represents a strong incentive to evade regulation, but the Bulgarian case suggests that this is not the only aspect. A comprehensive approach to reform, involving several regulatory fields, should be applied. Greater involvement of social partners at decentralised level could also contribute to increased compliance. An increase in the tax base would permit the necessary reduction in the taxation on labour, which is very high, particularly in Hungary.

Wages have displayed high downward flexibility during the transformational recession at the outset of transition and during subsequent macroeconomic crises. High inflation has been the mechanism for reducing real wages and it remains an open issue whether earnings would display such a high flexibility in a low-inflation environment should circumstances require it. In such an eventuality co-ordination mechanisms at national level could prove useful and should therefore be introduced beforehand or strengthened in the countries where they already exist.

A broad correspondence between the paths of real earnings and productivity emerges in the countries under consideration. In Bulgaria, however, the connection between wages and productivity is looser, with real earnings failing to follow productivity increases. Several other indicators also point to a “weakness” of wages in Bulgaria.

Increasing the responsiveness of wages to local conditions could represent a further tool within a policy package aimed at reducing regional disparities. This is particularly true in countries like Croatia and the Czech Republic. A contribution to this could be made by the development of the regional dimension of social dialogue, which has already started in some countries. Introducing differentiated minimum wages along the regional dimension would also serve the same purpose. More differentiation would make it possible to take into consideration differences in price levels, and thus in the purchasing power of wages, across regions. A tendency to introduce some form of differentiation in the minimum wage has been reported for some countries. Extending such differentiation to other dimensions would enhance the effectiveness of the minimum wage in a segmented labour market. A more differentiated minimum wage would also help to combat underreporting, as suggested

by the Bulgarian experience with social insurance minima, without introducing regressive elements in the social security system. Introducing a stronger relation between previous earnings and unemployment benefits would also represent an incentive to report wages.

Wage policy has a strong influence on the capacity of a society to provide decent living conditions for the population at large and to handle changes. The negotiation of a combination of flexibility and security applying effectively to the whole workforce is one of the most important tasks facing these economies.

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