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## Formal and informal labour markets: Challenges and policy in the Central and Eastern European new EU members and candidate countries

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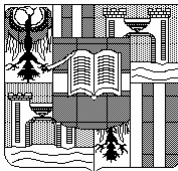
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**Formal and Informal Labour Markets:  
Challenges and Policy in the Central and Eastern European new EU  
Members and Candidate Countries**

by

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**Formal and Informal Labour Markets:  
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**Summary:**

The paper aims at comparing the formal and informal labour markets in the Central and Eastern European new EU Member States and candidate countries of the European Union. First, the current situation of the labour market is described, focusing on the recent developments since the breaking up of the East. Then the policy design of these labour markets is depicted and its effects on formal and informal labour markets. The most important challenges for employment policy as well as the effects of enlargement on the labour markets are analysed. The paper ends with a short summary.

JEL-Classification: J21, J23, H26, H11, O17, O57

Key words: Formal and informal labour markets, shadow economy, labour market policy, unemployment, employment, wage compensation, labour market regulation

## **1. Introduction**

Ten new countries have recently joined the EU in the largest enlargement the EU has ever seen so far. But the enlargement is not only important in terms of its size, but it is even more remarkable that new Member States have acceded which only some years ago started the transition from a planned to a market economy. The accession to the EU, and even more, the still incomplete transition to market economies poses an important challenge to the new and future Member States - but also to the EU and its old members. The transition is accompanied by an enormous restructuring of the economy and important income and job losses. These losses are partly compensated by an increase in the shadow economy.

The paper aims at comparing the formal and informal labour markets in the central and eastern new EU Member States and candidate countries on one hand and in the EU-15 on the other.<sup>1</sup> In chapter 2, the current situation of the labour market is described, focusing on the recent developments since the breaking-up of the East and on actual data on the labour markets. Chapter 3 describes the policy design and its effects on formal and informal labour markets. It deals separately with factors influencing labour demand and labour supply and finally tackles those policies which are crucial for a match of demand and supply. In chapter 4, based on the description of labour market trends and labour market policy, the main challenges for the employment policy is summarised. Chapter 5 concentrates on the consequences of enlargement on the labour markets in old and new European Member States. Finally chapter 6 gives a short summary.

## **2. The (formal and informal) labour markets: development and current situation**

The labour markets of the former centrally planned economies on the eve of transition were characterised by full employment (i.e. no open unemployment). Overstaffing, i.e. hidden unemployment, has been estimated to have been as high as 30%. Low wages had a “demotivating effect on workers”. Firms rarely laid off workers and, as open unemployment was virtually zero, an unemployment security system was redundant and hence non-existent. Where the structural division of labour is concerned, employment was concentrated in heavy industries, usually in large conglomerations, and in the public sector.<sup>2</sup>

Most new Member States and candidate economies experienced substantial falls in GDP and wages as well as a pronounced decrease of employment at the initial stage of transition, with smaller declines in labour productivity. Stagnant unemployment accompanying the restructuring of the economies was another key feature of the transition process. There are, however, a few exceptions to this pattern: The Czech

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<sup>1</sup> Two new EU Member States, namely Cyprus and Malta, and a candidate country, namely Turkey, are left out of consideration as they do not share the communist experience with the other new Member States and candidate countries.

<sup>2</sup> See IMF, 2001, and Nesperova, 2002.

Republic experienced an exceptionally long period of low unemployment and Estonia achieved significant labour reallocation from the beginning of the transition process.<sup>3</sup> The transition period was/is characterised by job shedding in the public sector and with some delay, job creation in the private sector – with an increased incidence of temporary (frictional) unemployment and a significant level of structural unemployment. The temporary mismatch between labour demand and supply was/is due to the length of time taken to develop new private enterprises and the process of privatisation of enterprises. Employment losses were transformed to a large extent into economic inactivity which concerned, in particular, less productive workers.<sup>4</sup>

The current employment rates of the new EU Member States and eastern European candidate countries and the EU average (for EU-15 and EU-25) are listed in the following table:

**Table 1: Employment rates 2002**

	total	male	female	older (55-64 years)
Bulgaria	50.6	53.7	47.5	27.0
Czech Republic	65.4	73.9	57.0	40.8
Estonia	62.0	66.5	57.9	51.6
Hungary	56.2	62.9	49.8	25.6
Lithuania	59.9	62.7	57.2	41.6
Latvia	60.4	64.3	56.8	41.7
Poland	51.5	56.9	46.2	26.1
Romania	57.6	63.6	51.8	37.3
Slovenia	63.4	68.2	58.6	24.5
Slovak Republic	56.8	62.4	51.4	22.8
EU-25	62.8	71.0	54.3	38.7
EU-10				
Average <sup>5</sup>	64.2	72.8	55.6	40.1
Maximum	75.9	82.4	72.2	68.0
	Dk	NL	Swe	Swe
Minimum	56.5	68.3	42.5	26.6
	Ita	Be	EL	Be

Source: Eurostat, May 2004

The employment rate is calculated by dividing the number of persons aged 15 to 64 in employment by the total population of the same age group. The indicator is based on the EU Labour Force Survey. Employed population consists of those persons who during the reference week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent.

Generally speaking, total and male employment rates tend to be lower than in the EU-15. However, the new EU Member States and candidate countries perform relatively better what concerns female employment. Concerning the employment of older workers, the performance is mixed, the new Member States and candidate countries tend, however, to have employment rates at the lower end of the EU-range.

The European Council in Lisbon in March 2000 set an overall goal for the European Economy "to become the most competitive and dynamic knowledge-based economy

<sup>3</sup> See Boeri, Terrell, 2002.

<sup>4</sup> For an overview of the evolution of labour market challenges see Boeri, Terrell, 2002; IMF, 2001, Nesporova, 2002.

<sup>5</sup> All averages given in this paper are weighted averages (according to the magnitude of the country).

in the world, capable of *sustainable economic growth with more and better jobs and greater social cohesion*." Moreover, it has set goals concerning the participation in the labour market:

- to raise the employment rate to 70% by 2010 and
- to increase the number of women in employment to more than 60% by 2010.

In Stockholm, intermediate targets have been agreed on:

- to raise the employment rate to 67% by 2005 and
- to increase the number of women in employment to 57% by 2005.

Finally, a goal for the participation of older workers was introduced at the meeting of the European Council in Stockholm:

- to increase the employment rate among older women and men (55-64) to 50% by 2010.

**Table 2: Increase of employment rates from the European Council in Lisbon until now**

	Total employment rates		Female employment rates		Employment rates of older workers	
	EU-15	EU-25	EU-15	EU-25	EU-15	EU-25
2000	63,4	62,4	54,1	53,6	37,8	36,6
2001	64,1	62,8	55,0	54,3	38,8	37,4
2002	64,2	62,8	55,6	54,7	40,1	38,7
2003	64,3	62,9	56,0	55,0	41,7	40,2
target 2005	67,0		57,0		-	
target 2010	70,0		60,0		50,0	

For definitions, see table 1.

In the enlarged EU, it has even become more difficult to reach these targets. From table 2, one can conclude that the targets for 2005 are not within reach. Since the European Council in Lisbon, the employment rates have risen but only very slowly. As policies have not changed fundamentally, it cannot be expected that the development of the employment rates will improve dramatically. This makes it unlikely, too, that the target values for 2010 will be reached. Only very hard efforts could provide a chance that the EU will not fail in reaching the goals.

Table 3 shows the total unemployment rates in 2002. The highest unemployment rates in the central and eastern European countries of concern exceed the upper bounds for the old EU countries. Moreover, in contrast to the old EU countries, unemployment seems to have risen in many countries since mid 1990s. This is even more true for long term unemployment. One can probably conclude that the structural problems in the labour market are more pervasive in the new EU Members and candidate countries than in the old EU Member States. These structural problems are – in addition to the kind of structural problems and resulting unemployment in the old EU Member States (such as due to globalisation or automatisisation) – connected to the still incomplete transition of firms and industries. Unemployment has increased during the period of transition as firms have been overstaffed during the Communist area. The process of restructuring makes (temporary) unemployment inevitable. A prolongation of the Communist situation of non-open unemployment, however, would make the transition an even longer-lasting and deeper-hurting process.

Unemployment in general and long-term unemployment in particular are higher among low educated and low skilled persons. The same is true for ethnic minorities and younger persons. In more than half of the new EU Member States and candidate

countries, unemployment rates of women are lower than for men, which is quite in contrast to most old EU countries. Women, however, suffer more from long-term unemployment than men.

**Table 3: Unemployment 2002**

	<b>total</b>	<b>male</b>	<b>female</b>	<b>long-term*</b>
Bulgaria	17.8	18.5	17.0	11.9
Czech Republic	7.3	6.0	9.9	3.7
Estonia	9.5	10.1	8.1	4.8
Hungary	5.6	6.0	5.1	2.4
Lithuania	13.6	13.7	13.4	7.0
Latvia	12.6	13.6	11.4	5.8
Poland	19.8	19.0	20.7	10.9
Romania	7.5	7.8	7.1	3.8
Slovenia	6.1	5.8	6.5	3.5
Slovak Republic	18.7	18.6	18.9	12.1
EU-25	8.8	8.0	9.8	3.9
EU-15				
Average	7.7	6.9	8.9	3.1
Maximum	11.3	9.1	16.4	5.3
	Esp	Fin	Esp	Ita
Minimum	2.7	2.1	3.0	0.8
	NL	Lux	NL	Lux

Source: Eurostat, May 2004

Unemployment rates represent unemployed persons as a percentage of the labour force. The labour force is the total number of people employed and unemployed. Unemployed persons comprise persons aged 15 to 74 who were: a) without work during the reference week, b) currently available for work, i.e. were available for paid employment or self-employment before the end of the two weeks following the reference week, c. actively seeking work, i.e. had taken specific steps in the four weeks period ending with the reference week to seek paid employment or self-employment or who found a job to start later, i.e. within a period of, at most, three months. Long-term unemployed are already unemployed for 12 months and more.

Where sectoral developments are concerned, most countries experienced a fall in the still very large agricultural sector and in the industrial sector. Although a rise in employment in the services sector has already been observed, the services sector is still viewed as the most likely source of new jobs.

The size of the shadow economy in the central and eastern European EU Member States and candidate countries amounts to on average 31% of the official GDP. The highest shadow economy has Latvia, followed by Bulgaria and Romania. The lowest shadow economy is estimated in the Slovak and the Czech Republics.

**Table 4: The size of the shadow (and official) economy– in % of GNP**

	<b>GNP at market prices (current US\$, billion) 2000</b>	<b>Shadow Economy in % of GNP 2000</b>	<b>Shadow Economy (current USD in billion) 2000</b>	<b>Shadow Economy GNP per capita</b>
Bulgaria	116.7	36.9	43.1	560.9
Czech Republic	500.1	19.1	95.5	1002.8
Hungary	440.6	25.1	110.6	1182.2
Latvia	71.8	39.9	28.6	1165.1
Lithuania	111.2	30.3	33.7	887.8
Poland	1568.2	27.6	432.8	1156.4

Romania	363.8	34.4	125.2	574.5
Slovak Republic	187.7	18.9	35.5	699.3
Slovenia	180.7	27.1	49.0	2723.6
<b>AVERAGE</b>	<b>279.4</b>	<b>31.0</b>	<b>76.9</b>	<b>910.2</b>

Source: own calculations based on Worldbank data, Washington D.C., 2002.

Methods used to calculate the shadow economy are the currency demand and the dymimic approach.

The size of the shadow economy in terms of value added and the size of the shadow economy labor force are, of course, only rough calculations and the error margin is at least +/- 15%. This is true for all calculations, concerning the shadow economy in terms of value added or in terms of the labour market.<sup>6</sup> The estimation method has been the DYMIMIC (dynamic multiple indicators multiple causes) method, i.e. a latent estimator approach and values using the physical input method for some countries, like Bulgaria and Croatia.<sup>7</sup> The values reportet in table 4 are of similar magnitude with the values obtained by other authors (see e.g. Lacko, 2000, and Alexeev and Pyle, 2003). Of course, the values differ with respect to the different estimation procedures. That is the reason, why in this table only estimates of the DYMIMIC methods, we think the most reliable, are presented.<sup>8</sup>

The shadow economy in terms of value added is quite sizeable, but also the shadow economy<sup>9</sup> labour force is quite large in all these countries. The shadow economy labour force has been calculated by assuming a certain shadow economy wage rate and subtracting 1/3 of the shadow economy value added, assuming that this is material. If we then look at the shadow economy labour force, Latvia and Bulgaria have the highest shares. In general, these figures demonstrate that the shadow economy is a major factor in the economies of these transition countries. Moreover, the large size of the shadow economy leads to the conclusion that official figures may be biased.

**Table 5: The size of the shadow (and official) economy labour market**

	<b>Population aged 15-64, total (thousand) 2000</b>	<b>Population, total (thousand) 2000</b>	<b>Shadow economy labour force 2000 in % of working age population</b>
Bulgaria	5563	8167	31.0
Czech Republic	7165	10273	12.9
Hungary	6856	10022	21.4
Latvia	1609	2372	30.1
Lithuania	2482	3695	20.9
Poland	26555	38650	21.3
Romania	15355	22435	25.6

<sup>6</sup> These calculations are taken from Schneider, 2003b.

<sup>7</sup> Values using the physical input method, came from Johnson et al. (1997, table 1, pp.182-183), as well as from Lackó, 2000.

<sup>8</sup> For a detailed discussion about the estimation procedures compare Schneider, 2003b, and Schneider and Klinglmair, 2004.

<sup>9</sup> The calculation in these paper as in other papers is done in the following way: 1.) Having some knowledge about the shadow economy wage rates is used. 2.) From the overall value added figure from the shadow economy, the values of the materials subtracted, so that only the value added in terms of labour remains. 3.) This figure is divided by this wage rate, and gives millions of hours which is then converted into full-time-jobs.



Slovak Republic	3732	5402	17.1
Slovenia	1396	1988	22.4
<b>AVERAGE</b>	<b>6336</b>	<b>9211</b>	<b>26.7</b>

Source: own calculations based on Worldbank data, Washington D.C., 2002.

Methods used to calculate the shadow economy are the currency demand and the dymimic approach.

Illicit work can take many shapes. The underground use of labour may consist of a second job after (or even during) regular working hours. A second form is shadow economy work by individuals who do not participate in the official labour market. A third component is the employment of people, who are not allowed to work in the official economy (e.g. clandestine or illegal immigrants). Empirical research on the shadow economy labour market is even more difficult than of the shadow economy on the value added, since one has very little knowledge about how many hours an average “shadow economy worker” is actually working (from full time to a few hours, only). Hence, it is difficult to provide empirical facts.

### **3. Policy design and effects on the formal and informal labour market**<sup>10</sup>

#### **3.1. Labour demand**

Labour demand is heavily influenced by the costs of labour. These do not only comprise net wages, but also taxes and other non-wage costs (such as social security contributions). Moreover, any kind of regulation can be seen as a cost factor by firms.

##### **3.1.1. Labour costs**

Labour costs per working hour including non-wage labour costs in the central and eastern European countries are much lower than in the old EU countries, with the exception of Slovenia. Slovenian labour costs exceed those in Portugal where the lowest value within the EU-15 can be observed.

**Table 6: Hourly labour costs 2000 in Euro**

Bulgaria	1.35
Czech Republic	3.90
Estonia	3.03
Hungary	3.83
Latvia	2.42
Lithuania	2.71
Poland	4.48
Romania	1.51
Slovak Republic	3.06
Slovenia	8.98
EU-15	
Average	22.70
Max	28.56 Swe
Min	8.13 Prt

<sup>10</sup> See Burger (2003) for further details.

Source: Eurostat, 2003

The tax burden is an important component of the total labour costs. The tax wedge in the new EU Member States and candidate countries does not exceed the highest EU-15 values, which is reached in Belgium (with one exception for Hungary – see table 7). The tax wedge for an average production worker wage earner amounts to 55.6% in Belgium. This is relatively high compared to the eastern countries with tax wedges of 42.1 (Slovak Republic) and 52.6% (Hungary).

**Table 7: Tax burden – Average personal income tax and social security contribution rates on gross labour income**

	% average production worker wage			
	67%	100%	133%	167%
Czech Republic	41.6	43.0	44.3	45.3
Hungary	49.7	52.6	56.4	57.7
Poland	41.8	42.9	43.5	43.9
Slovak Republic	41.0	42.1	44.0	45.5
EU-15				
Median	38.5	44.2	47.2	49.9
Max	49.2	55.6	59.0	61.4
	Be	Be	Be	Be
Min	17.4	25.8	31.6	32.9
	Ire	Ire	Ire	UK

Source: OECD, Tax data base, 2000-02

The higher the costs of labour, the lower is the incentive for labour demand in the official economy and the higher is the incentive to shift demand to the informal sector. In almost all studies<sup>11</sup>, it has been found that an increase of the tax and social security contribution burden is one of the main causes for the increase of the shadow economy. Since taxes affect labour-leisure choices, and also stimulate labour supply in the shadow economy, or the untaxed sector of the economy, the distortion of this choice is a major concern of economists. The bigger the difference between the total cost of labour in the official economy and the after-tax earnings (from work), the greater is the incentive to avoid this difference and to work in the shadow economy. Since this difference depends broadly on the social security system and the overall tax burden, they are key features of the existence and the increase of the shadow economy. But even major tax reforms with major tax rate deductions will not lead to a substantial decrease of the shadow economy. They will only be able to stabilize the size of the shadow economy and avoid further increases. Social networks and personal relationships, the high profit from irregular activities and associated investments in real and human capital are strong ties which prevent people from transferring to the official economy.

An increase of the shadow economy leads to reduced state revenues which in turn reduces the quality and quantity of publicly provided goods and services. Ultimately, this can lead to an increase in the tax rates for firms and individuals in the official

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<sup>11</sup> See Thomas, 1992; Lippert and Walker, 1997; Schneider, 1994, 1997, 1998, 2000, 2003a; Schneider and Enste, 2000 and 2002; Johnson et al., 1998a, 1998b; Tanzi, 1999 and Giles, 1999 just to quote a few recent ones.

sector, quite often combined with a deterioration of the quality of public goods (such as public infrastructure) and administration, with the consequence of even stronger incentives to participate in the shadow economy. Johnson et al. (1998b) show that smaller shadow economies appear in countries with higher tax revenues, if achieved by lower tax rates, fewer laws and regulations and less bribery facing enterprises. Transition countries have higher levels of regulation leading to a significantly higher incidence of bribery, higher effective taxes on official activities and a large discretionary framework of regulations and consequently to a higher shadow economy. The overall conclusion is that *“wealthier countries of the OECD, as well as some in Eastern Europe find themselves in the ‘good equilibrium’ of relatively low tax and regulatory burden, sizeable revenue mobilization, good rule of law and corruption control, and [relatively] small unofficial economy. By contrast, a number of countries in Latin American and the Former Soviet Union exhibit characteristics consistent with a ‘bad equilibrium’: tax and regulatory discretion and burden on the firm is high, the rule of law is weak, and there is a high incidence of bribery and a relatively high share of activities in the unofficial economy.”* (Johnson et al. 1998a p. 1). The evidence of the bribery in Central and Eastern states, as well as Former Soviet Union States, is also supported by Johnson and Kaufmann (2001).

### **3.1.2. Regulation**

Regulations, which enterprises have to apply, are nothing else than costs to the enterprises and hence directly influence labour demand. This concerns the regulations on hiring and dismissals, working time and other non-standard forms of employment. Generally speaking, the Estonian labour market has been judged as the most flexible by various authors (see e.g. Rashid, Rutkowsky, 2001, Cazes, Nesporova, 2001) – job destruction and creation rates are even higher than the EU-15 average. Latvia, on the other hand, has very strict regulations. Although labour law lays down only the minimum requirements, the social partners have the right to develop more detailed provisions concerning mutual rights and obligations. Strict regulation can be observed in the Slovak Republic compared to other transition countries, but they are far less strict than in Italy, Spain or Portugal. In Poland, job turnover is similar to that in relatively regulated labour markets (such as Germany), but substantially lower than in flexible ones such as the UK or USA, due to the strict employment protection legislation and the presence of strong trade unions.

The increase of the intensity of regulations (often measured in the numbers of laws and regulations, like licenses requirements) is also an important factor, which reduces the freedom (of choice) for individuals engaged in the official economy.<sup>12</sup> Regulations in this respect must be seen in a broader context, not only as labour market regulations, but also trade barriers, and labour restrictions for foreigners. Johnson et al. (1998b) find an overall significant empirical evidence of the influence of (labour) regulations on the shadow economy. This impact is clearly described and theoretically derived in other studies, e.g. for Germany (Deregulation Commission 1990/91). Regulations lead to a substantial increase in labour costs in the official economy. But since most of these costs can be shifted on to the employees, where these costs provide another incentive to work in the shadow economy, where these

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<sup>12</sup> For a (social) psychological, theoretical foundation of this feature, see Brehm, 1972, and for a (first) application to the shadow economy, Pelzmann, 1988.

costs can be avoided. Empirical evidence supports the model of Johnson et al. (1997), which predicts, inter alia, that countries with more general regulation tend to have a higher share of the unofficial economy in total GDP. A one-point increase of the regulation index (ranging from 1 to 5, with 5 = the most regulated country), ceteris paribus, is associated with an 8.1 percentage point increase in the share of the shadow economy, when controlled for GDP per capita (Johnson et. al., 1998b, p. 18). They conclude that it is the enforcement of regulation, which is the key factor for the burden levied on firms and individuals, and not the overall extent of regulation - mostly not enforced - which drive firms into the shadow economy. Friedman et al. (1999) reach a similar result. In their study every available measure of regulation is significantly correlated with the share of the unofficial economy and the sign of the relationship is unambiguous: more regulation is correlated with a larger shadow economy. A one-point increase in an index of regulation (ranging from 1-5) is associated with a 10% increase in the shadow economy for 76 developing, transition and developed countries.

### *(1) Employment protection legislation*

Regulations concerning the hiring and dismissals of employers can make it easy or difficult for firms to adjust their workforce. High costs of dismissals and strict rules concerning hiring (e.g. quotas for special groups) may smooth out employment dynamics over the economic cycle. However, this may be achieved at the cost of misallocation of human resources, to the extent that it encourages employees to reduce turnover costs by hoarding labour. For employees, strict labour regulation provides secure jobs and may increase their motivation. Employees may be willing to pay a premium, in form of lower wages, for having secure employment. On the other hand, the job security provided by employment protection legislation could also lead employees to reduce their work effort. Labour protection improves the situation of insiders compared to outsiders. Thus, low productive outsiders in particular may face even more difficulties in finding a job. Employment protection legislation in former communist countries has been found to result in lower job turnover, lower flows into unemployment and longer unemployment spells, but not to longer job tenure (see Nesporova, 2002).

The CEECs<sup>13</sup> tend to be most restrictive concerning collective dismissals and least restrictive concerning temporary employment as can be seen from table 8 which depicts indicators of the strictness of employment protection legislation in some new EU Member States and candidate countries and old EU countries. In comparison to some old EU members, regulation seems to be in line with the more restrictive countries (such as Germany, Italy, France and Portugal) concerning regular employment, but less restrictive, close to less regulated countries such as the United Kingdom, where temporary employment is concerned. On collective dismissals, the CEECs can only be compared to Italy and Portugal.

**Table 8: Strictness of Employment Protection Legislation, Late 1990s<sup>1</sup>**

	Regular Employment	Temporary Employment	Collective Dismissals	Overall EPL strictness Index <sup>2</sup>
Czech Rep.	2.8	0.5	4.3	2.1
Estonia	3.1	1.4	4.1	2.6

<sup>13</sup> CEECs = Central and Eastern European Countries; i.e. Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia

Hungary	2.1	0.6	3.4	1.7
Poland	2.2	1.0	3.9	2.0
Slovak Rep.	2.6	1.4	4.4	2.4
Slovenia	3.4	3.1	4.8	3.5
UK	0.8	0.3	2.9	0.9
Germany	2.8	2.3	3.1	2.6
France	2.3	3.6	2.1	2.8
Italy	2.8	3.8	4.1	3.4
Portugal	4.3	3.0	3.6	3.7

Notes: 1) Indicators range from 0 to 4 according to degree of strictness. 2) Weighted average of indicators for regular contracts, temporary contracts, and collective dismissals. 3) Rankings increase with strictness of employment legislation.

Source: Knogler 2002 and Worldbank, 2002

The termination of a contract is usually connected with costs for the employer which can be divided in two groups: first, the severance benefits paid directly to the employee, and second, costs imposed from outside on the employer, such as information procedures or negotiations with trade unions. The notice period for the termination of a contract (two months on average) tends to be much longer in the CEECs than the (old) EU average (12.3 days). The grounds for terminating a contract are limited. Usually termination is prohibited during justified periods of absence and for pregnant women. Disabled individuals tend also to have special regulations concerning dismissal. When an employee is dismissed, notification to a third party (labour office and/or trade union) is generally required without the necessity of receiving permission from this third party. This is broadly in line with EU-15 practice.

Laws about severance pay tend to play the greatest role in countries where unemployment benefits are low. These countries require formal sector employers to pay benefits when permanent employees are dismissed. The typical amounts often correspond to between six and twelve monthly wages for tenured workers. Both the severance pay and the notice period tend to increase stepwise with the length of the employment period in the firm. In some countries, support for job search must be given by the dismissing enterprise.

Regulations aimed at the integration of and providing job chances for disadvantaged groups often achieve the opposite results: Enterprises may choose between a special quota of disabled workers or a levy in Poland as well as in Austria. In both countries, most enterprises vote for the latter. Latvia e.g. imposes quotas on employers concerning women re-entering the labour market, for labour market entrants, ex-convicts and workers less than five years from retirement age. All together this touches around one third of the labour force.

## *(2) Working time*

Working time flexibility is one way to decrease labour costs, especially if overtime is considered. From the employee's point of view, working time flexibility may lead to welfare gains resulting from a better match of actual working time and preferences. The availability of part time and fixed term contracts may induce more people to enter the labour market (in particular those who have to care for children or elderly persons) and may induce employers to increase labour demand. Moreover, these forms of work provide a way for new labour force entrants to achieve experience. Their advantage lies in the greater flexibility in organising production schedules and in the more advanced possibilities for reacting to variations in demand.

The degree of working time flexibility is varied across the CEECs. Low flexibility can be observed in Bulgaria and in Lithuania. In most countries, a shift away from regular full-time wage employment, which is still the most prevalent form, to irregular time-limited and flexible employment arrangements, including self employment, has been taking place and is still on-going. Normal working time normally corresponds to a 40-hours working week and shorter working periods for certain sectors. Overtime is usually restricted and an additional premium has to be paid. Special restrictions are applied to certain groups, such as young persons, pregnant women or minors.

Non-standard employment as a % of total employment is characterised by a wider spread in the new EU Member States and candidate countries than in the old EU Member States. Part-time employment is in none of the CEECs more pronounced than in the Netherlands, the EU-15 country with the highest part-time share, and is less pronounced in the Slovak Republic, Bulgaria and Hungary than in Greece, the EU-15 country with the lowest part-time share. Several eastern countries (e.g. Lithuania, Romania) have only recently changed legislation in order to increase incentives for and provide flexible forms of part-time work.

**Table 9: Non-standard employment as a % of total employment 2002**

	Part time employment	Fixed term employment
Bulgaria	2.5	5.3
Czech Republic	4.9	8.1
Estonia	7.7	2.7
Hungary	3.6	7.3
Latvia (2000)	11.3	6.7
Lithuania (2001)	9.7	6.3
Poland	10.8	15.4
Romania	11.6	1.0
Slovak Republic	1.9	4.9
Slovenia	6.1	14.2
EU-15		
Average	18.1	13.0
Maximum	43.9 NL	31.0 Esp
Minimum	4.5 Gre	5.1 Lux

Source: European Commission, 2003a

The incidence of fixed-term contracts is clearly below the lowest EU-15 value in the Slovak Republic, Estonia and Romania. Several European countries limit the use of fixed-term contracts to certain maximum periods, and fixed-term agreements are limited in about one-third of collective agreements in Bulgaria, Czech Republic, Hungary and the Slovak Republic and in almost half in Poland, thereby strengthening the position of insiders at the cost of outsiders.

In Bulgaria, the proportion of fixed term contracts amounted to 1/3 of all contracts in mid-2000 according to trade unions. Due to the application of the seniority principle, fixed-term contracts are characterised by lower wages. Such contracts seem to be widespread for unskilled workers in some sectors (e.g. forestry and tourism) in Romania. Increasing reliance on alternative forms of labour contracts is observed in

Poland, particularly in sectors that account for most of the growth in employment over the last few years. These alternative forms are, however, not new – private, temporary labour contracts were already concluded under central planning in the 1980s.

### **3.1.3 Self employment and entrepreneurship**

The starting point for the enterprise sector in the former centrally planned economies of Central and Eastern Europe was not encouraging. Most enterprises were state owned and in most countries heavy manufacturing dominated. The change in the enterprise structure during the last decade has been impressive. The business sector is thriving in most CEECs. The private sector has increased significantly over the last decade, but in a number of countries the private sector is still relatively small. In Latvia, Romania and Slovenia, the public sector still accounted for one third of GDP or more in 2001 and only in Estonia, the Slovak Republic and Hungary the private sector produced more than 80% of GDP. The relatively small private sector in some countries may indicate a lack of competition and room for efficiency gains.<sup>14</sup>

SMEs are still to be developed and are seen as an important job motor. 50 to 60% of all employees in the countries concerned work for small enterprises with less than 50 employees. Most self-employment in the new EU Member States and candidate countries is concentrated in agriculture, where private initiative was tolerated even in the Communist area, and in the services sector.

So far, a favourable climate for entrepreneurship has emerged, but improvements in the administration and local government are needed to support business in general and SMEs in particular. Barriers to entry and exit remain in some sectors and administrative burdens are heavy in several countries. There may still be a substantial amount of red tape preventing start-ups to thrive and grow.

In the new EU Member States and candidate countries, self employment is not a strategy for the unskilled, but rather a labour market choice that brings high rewards. Entrepreneurs are consequently one group of winners of the transition. In all new EU Members and candidate countries, the self-employed account for the largest share of individuals in the top consumption group. The share of self employment is similar to the (range of) ratios in the old Member States (EBRD, 2000).

**Table 10: Self employment in % of total employment, 2001**

Bulgaria	13.7
Cyprus	20.6
Czech Republic	14.6
Estonia	6.7
Hungary	13.9
Latvia	10.3
Lithuania	15.9
Poland	22.5
Romania	25.7
Slovak Republic	8.4

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<sup>14</sup> See Östling, 2003.

Slovenia	11.8
EU-15	
Average	14.8
Maximum	43.3 Ge
Minimum	5.0 Se

Source: European Commission, 2002

### 3.2. Labour supply

Labour supply is heavily influenced by the tax-benefit system, as people calculate whether it pays off to be in work instead of receiving unemployment (and/or other types of benefits). Especially for unemployed persons, the decision is complex. Their decision, whether to search for a job or not, may also depend on their experiences on the labour market. Active labour market policy, in general or specifically targeted to the needs of special groups which tend to be disadvantaged on the labour market, may encourage unemployed persons to search for and take up a job.

#### 3.2.1. Tax-Benefit-Systems

The high incidence of job shedding in the transition period has led to the introduction of an unemployment insurance system in all new EU Member States and candidate countries. The design of the tax-benefit system, comprising also social assistance and early retirement schemes, is of crucial importance. Generous benefit systems together with high taxes provide little incentives to search or take up a job – at least in the formal sector. The incentives to work in the informal sector will increase in a system with generous benefits and high taxes.

##### (1) Net replacement ratios and incentives

Net replacement ratios compare the various (cash) benefits made available to those without work (net of taxes) with potential in-work income and hence are a good indicator for incentives to take up work that are embedded in tax-benefit systems. Net replacement ratios are currently only available for those countries which are members of the OECD – i.e. the Czech Republic, Hungary, Poland and the Slovak Republic.

**Table 11: Net replacement ratios** (in the 1<sup>st</sup> month of unempl., after a waiting period)

	APW wage level				66.7% of APW wage level			
	single	Married couple	Couple 2 kids	Lone parent 2 kids	single	Married couple	Couple 2 kids	Lone parent 2 kids
Czech Rep.	49	67	70	71	66	69	70	72
Hungary	48	48	60	61	65	65	75	76
Poland	36	43	46	47	53	62	58	67
Slovak Rep.	79	77	78	80	77	75	77	79
EU-15:								
Median	64	63	73	73	78	76	82	80
Maximum	82	89	89	87	89	89	95	96
	Lux, NL	NL	NL	Lux, Fin	Dk	Dk	Dk	Dk
Minimum	31	44	44	47	39	40	46	47
	Ire	Ire, Ita	Gre	Gre	Ita	Ita	Gre	Ita



Source: OECD, 2002a.

APW = average production worker

Example how to read the table: An unemployed single person in the Czech Republic receives benefits at the level of 49% of his in-work-income. When in work, this person earns 67% of the average wages of full-time production workers in manufacturing. If he or she earns two thirds of an APW wage, the benefits amount to 66%.

The variation in net replacement ratios is very high across the (old) EU with a spread of between 40 and more than 50%-points. As regards the CEECs, the lowest net replacement ratios are recorded in Poland and the highest in the Slovak Republic, where the ratios exceed the median value for the (old) EU countries for average wage earners. The additional benefits granted for an unemployed person's family tend to increase the net replacement ratios more than in EU-15 countries. The difference in net replacement ratios between single workers earning the average production worker wage and those earning only two thirds of the average wage seems to be greater in the new EU Member States and candidate countries than in the old EU Member States.

Table 12 shows the net replacement ratios for the same groups of countries and family types for long term benefit recipients.

**Table 12: Net replacement ratios for long term benefit recipients**

	APW wage level				66.7% of APW wage level			
	Single	Married couple	Couple 2 kids	Lone parent 2 kids	Single	Married couple	Couple 2 kids	Lone parent 2 kids
Czech Rep.	37	60	80	74	54	84	100	96
Hungary	28	28	38	40	28	28	39	41
Poland	33	50	74	56	48	72	93	81
Slovak Rep.	38	62	80	60	54	90	100	100
EU-15:								
Median	49	57	68	68	63	80	84	71
Maximum	60	71	89	79	85	102	110	97
	NL, Dk	Fin, Swe	Fin	Dk	Dk	Swe	Swe	Dk
Minimum	0	4	10	11	0	5	11	12
	Ita	Ita	Gre	Gre	Ita	Ita	Gre	Gre

Source: OECD, 2002a.

Net replacement ratios for those unemployed with children are higher for long term benefit recipients than for persons in the first month of unemployment in the Czech and the Slovak Republics and in Poland. This might be problematic in so far as incentives for long term unemployed to seek a job should be stronger, whereas at the start of an unemployment spell, benefits could be more generous. In order to increase the efficiency of the allocation of labour resources and to improve the match of labour demand and supply, some frictional unemployment may be deemed beneficial. Net replacement ratios are particularly high in some countries, in general the situation in the CEECs is not extraordinary.

## *(2) Design of tax-benefit systems*

At the start of transition when unemployment benefit systems were newly introduced, they were designed to be relatively generous both in terms of the amount paid and in terms of duration. As unemployment increased, the systems had to be revised in order to remain sustainable and to allow them to activate jobseekers (Boeri and Terrell, 2002).

Concerning the employment conditions governing eligibility for unemployment benefits, the requirement concerning previous employment duration varies a great

deal in both groups of countries. The conditionality in the Czech Republic is the same as that of Germany. The Slovak Republic seems to be more restrictive with a requirement of 24 months of employment in 3 years. A waiting period does not exist in half of the old EU Member States and, in the others, it ranges between 3 and 8 days, with the CEECs being in the same range.

The payment rate (% of previous gross/net income) in the old EU lies between 40 and 90% with a median value of 70%. Unemployment systems in the CEECs tend to be less generous on average than in the old EU. Poland is a particular case in point, having a flat rate, like Ireland and the UK. Finally, the unemployment benefit in the old EU is granted for periods between 6 months in the UK and Italy and 60 months in France, the Netherlands and Denmark. The median value of duration amounts to 12 months. The eastern countries tend to be much less generous than the old EU countries, where duration of benefits is concerned, with the shortest duration of 4 months in Bulgaria and the longest in Poland of 18 months.

Generally speaking, the unemployment benefit systems in the new EU Member States and candidate countries do not deviate too much from the old EU systems, bearing in mind the strong degree of heterogeneity in both groups of countries. As for other benefit systems, social assistance and/or unemployment assistance schemes exist in most countries. Mostly, unemployed persons are eligible to participate in such schemes after termination of unemployment benefits or in cases where they are not at all entitled to receive unemployment benefits. In most countries of both groups, unemployment assistance (paid when unemployment insurance is exhausted) and social assistance are given without a limit on duration. Exceptions to this trend include Hungary, the Netherlands, Portugal, Spain and Sweden. A subsistence allowance increases the disposable income to the "subsistence level" in Estonia, which under certain circumstances has led to an income level above the unemployment benefit, which has negative effects on the incentives to search for a job. The social assistance benefit for a single person in 1998 amounted to 10% of the average wage in Romania, about 15% in the Baltic countries, over 20% in Hungary, about 33% in the Czech and Slovak Republic. These ratios were exceeded by the values of Belgium and the UK (about 40%) and Finland, the Netherlands and Sweden (about 60%).

The new EU Member States and candidate countries devote more resources to non-employment benefits than the old EU countries. Generous non-employment benefits decrease the incentives for low productivity workers to search and accept a job by increasing their reservation wage. On the other hand, the relatively generous benefit systems helped to encourage structural change and to reduce income inequality (Boeri and Terrell, 2002).

Early retirement schemes are sometimes used as response to the decline in employment. This is particularly true for the Czech Republic. In Poland 12% of the registered unemployed receive pre-retirement benefits and the share is on an upward trend. The system was introduced in order to release jobs for young people and is rather generous, providing between 120 and 160% of the unemployment benefit. No early retirement system exists in the Slovak Republic. In some countries, e.g. the Czech Republic, disability benefits provide a more generous alternative to social allowance, particularly for older workers, and are used as an alternative to early

retirement. Early retirement schemes were reduced during the transition period as they overburdened public finances when unemployment and economic inactivity rose. Some countries, therefore, have made efforts to increase the retirement ages (Nesperova, 2002).

### (3) *Tax burden on labour*

The tax burden on labour and the general tax burden are rather high in most CEECs. Thus, they share one of the main problems with the old EU Member States. Tax rates on gross wage earnings (plus employee and employer social security contribution as a percentage of labour costs) for a low-wage earner show pronounced differences in this tax burden, ranging from a tax rate of 43.5% in Romania to 35.5% in Bulgaria in 2002. Only in two countries was the tax rate on low wage earners lower than the EU-15 average.

**Table 13: Tax rates on low wage earners 2002**

Bulgaria	35.2
Czech Republic	41.8
Estonia*	37.4
Hungary	46.0
Latvia	41.4
Lithuania	41.3
Poland	41.5
Romania	42.3
Slovak Republic	40.1
Slovenia	39.8
EU-25	38.3
EU-15	
Average	37.8
Maximum	48.5 Be
Minimum	16.7 Irl

Source: Eurostat, May 2004

Tax rates are calculated for a single person without children. When in work, this person earns 67% of the average wages of full-time production workers in manufacturing. The tax wedge on labour cost calculates the income tax on gross earnings plus the employee's & employer's social security contributions and then expresses this sum as a % of the total labour cost for this low-wage earner.

As described in chapter 3.1, taxes are an important component in explaining the shadow economy. This is true for both, labour demand and labour supply. In order to avoid the payment of taxes and social security contributions, workers have an incentive to supply their work in the informal rather than in the formal labour market. The most important factor in neoclassical models is the marginal tax rate. The higher the marginal tax rate, the greater is the substitution effect and the bigger the distortion of the labour-leisure decision. Especially when taking into account the income in the shadow economy, the substitution effect is definitely larger than the income effect<sup>15</sup> and, hence, the individual works less in the official sector. The overall efficiency of the economy is, therefore (*ceteris paribus*), lower and the distortion leads to a welfare loss (according to official GNP and taxation). But the welfare might also be viewed as increasing, if the welfare of those working in the shadow economy, were taken into account, too.<sup>16</sup>

<sup>15</sup> If leisure is assumed to be a normal good.

<sup>16</sup> See Thomas, 1992, p. 134-7.

### 3.2.2. Improving labour supply of unemployed persons

Activation plays a crucial role in order to motivate unemployed persons to improve their efforts to find another job. Active labour market policy comprises preventive and employability-oriented strategies (training, retraining, work practice, a job, guidance or counseling). In most countries of both regions, a shift from passive to active labour market policy can be observed during the last years. The shares of GDP spent on active labour market policies still tend to be rather low compared to the old EU countries, as can be seen in table 14.

**Table 14: Expenditures on active labour market policy (ALMP)**

	ALMP % of GDP	year
Bulgaria	0.35	2001
Czech Republic	0.17	2000
Estonia	0.08	1999
Hungary	0.47	2000
Latvia	0.16	2000
Lithuania	0.09	2000
Poland	0.20	2000
Romania	0.15	2001
Slovak Republic	0.18	2000
Slovenia	0.40	1998
	1.00	target for 2006
EU-15		
Median	1.15	2000
Maximum	1.74	2000
	UK	
Minimum	0.46	2000
	Gre	

Source: OECD (2002b) for old EU countries; OECD (2001) for CZ, Worldbank (2001) for PL; others: JAP.

As to the special programmes, active labour market policies include measures, such as temporary job schemes, recruitment subsidies, support for self and training and re-training, which are also used in the old EU countries. Each country has a particular focus. Disabled persons belong to special target groups in several countries. As women tend to suffer from longer unemployment spells than men, training programs for unemployed women and for women returning to the labour market after a long break are offered in most countries. Concerning the effectiveness of active labour market policies, the evidence is mixed for the different countries and programmes.

### 3.3. Matching demand and supply

Wage policy and human capital endowments are crucial components for matching demand and supply. The wage must equal marginal costs for employers and marginal utility for employees. The wage level may influence the distribution of the formal and informal sectors. If the official wage level is very low, people may decide to work in the informal sector purely for subsistence reasons. They will often work in the shadow in addition to a legal job, but may also choose to work only in the informal economy. Human capital endowments are an important component of labour

supply and demand, as the employees must have the requested skills in order to fulfil a job. Finally, regional aspects may play a crucial role in matching demand and supply.

### 3.3.1. Wages

#### (1) Wage bargaining

The discussion of how wage bargaining structures affect wage developments has to a large extent been shaped by the Calmfors and Driffill hypothesis. It predicts an 'inverted U' relationship between unemployment and the degree of centralisation of wage bargaining. Fully centralised and fully decentralised bargaining both favour the employment situation: the first, because it can better take into account the economy wide consequences of the wage bargaining; the latter, because it can better reflect the productivity in the firm.

Wage negotiations have gradually been developed in all former communist countries. There are, however, still important differences. In some countries (e.g. Czech Republic, Slovak Republic), work councils have to be established which have to be involved in important business decisions. In Latvia and Romania, agreements on the sectoral level or on the enterprise level are automatically binding for all workers, regardless whether they are members of a trade union or not. In the Czech and the Slovak Republics, the government may decide to extend the collective agreements to non-organised workers. Table 15 indicates the degree of centralisation of wage negotiations. The dominant level for wage bargaining seems to be the enterprise level.

**Table 15: Degree of (de)centralisation of wage negotiations**

	national	sectoral	enterprise
Bulgaria	x	x	x
Czech Rep.		x	x
Estonia			x
Hungary			x
Latvia		x	x
Lithuania			x
Poland			x
Romania			x
Slovak Rep.	x	x	
Slovenia		x	x

Sources: JAPs

Membership of trade unions plays a crucial role in most wage bargaining systems. It has obviously decreased from the 100% coverage of the work force registered at the beginning of economic transition. By the end of the year 2000, the degree of trade unionisation was below 30% of the labour force. The role played by trade unions has changed from an "ideological" one to active participation in wage bargaining. Employer organisations represent on average 30-40% of industrial enterprises, or between 2 and 5% of the total number of enterprises (see European Commission 2002). The strength of the trade unions varies a lot between different countries: from Poland at one end of a possible scale where firms are characterised by strong insider power of trade unions to Estonia at the other end of the scale, where employees have no right to demand negotiations.

#### (2) Minimum wages

Minimum wages can be seen from a social point of view of guaranteeing a certain minimum standard of living to the working population. From an economic point of view, minimum wages may guarantee a certain intensity of effort which workers are willing to undertake. On the other hand, the minimum wage may act as a barrier to the labour market entry of low-productivity workers whose productivity falls short of what would correspond to the minimum wage. Of course with the minimum wage, what matters is whether the level is prohibitively high in countries where the unemployment rate is high. Legally binding minimum wages exist in all CEECs. Their influence on the labour market varies however, as does the ratio of the minimum wage to the average wage. In Estonia, Hungary and Romania, the comparably low minimum wage, in combination with rather low unemployment benefits, does not appear to be a barrier for hiring additional employees. Involvement of the social partners in one way or another (be it consultation, a recommendation by the social partners or tripartite negotiations) is common in most countries. Several countries use an indexation system (e.g. the Slovak Republic and Slovenia) or base the increase of the minimum wage on forecasts of inflation and wage increases (e.g. Poland and the Slovak Republic). For the most part, no regional variation of the minimum wage is provided for, which seems to increase regional divergence in the labour market.

At the start of the transition, almost all countries introduced legally binding minimum wages at levels similar to this in western countries (about 45 to 50% of the average wage). As nominal minimum wages remained unchanged for several years despite high inflation, the ratio of the minimum wage to the average wage fell. Table 16 provides an overview of the latest available data on the minimum wage in relation to the average wage (Boeri and Terrell, 2002).

**Table 16: Minimum wage**

	Minimum wage as % of average wage	year
Bulgaria	35.0	2001
Czech Republic	34.0	2001
Estonia	28.2	1999
Hungary	40.0	2001
Latvia	40.0	2000
Lithuania	40	2001
Poland	38.0	2000
Romania	34.0	2002
Slovak Republic	38.5	2000
Slovenia	58.0	target value
EU-15	45.0 – 50.0	

Sources: OECD (2001) for CZ; IMF (2001) for ES, OECD (2002b) for HUN, others: JAPs

### *(3) Wage dispersion*

Table 17 shows that wages cover a wide range both within and between the CEECs. This has implications not only on the acquisition of general and specific education and training by workers, but also for the efficient allocation of productive human resources.

**Table 17: Wage differences**

	Bulgaria	Czech Republic	Hungary	Latvia	Poland	Romania	Slovak Republic	Slovenia
Wage dispersion*	33.5	61.4	51.3	47.5	42.2	46.7	55.7	61.9
Sector with lowest wage	other services	agri-culture	Agri-culture	trade and catering	trade and catering	trade and catering	agri-culture	manufac-turing
Sector with highest wage	power and water	financial services and real estate	Financial services and real estate	transport and communica-tion	mining	mining	financial services and real estate	public ad-ministra-tion

\* Wage in sector with lowest wage as a % of wage in sector with highest wage

Source: own calculations using data from the OECD Data base

Returns to education were low under central planning but this situation has changed dramatically in the course of the transition period. Differences in educational attainment account for one third of the explained variation in earnings. Inter-industry wage differentials are the second most important factor explaining earnings inequality. Gender is the third important factor, contributing very little to the differences, although it seems that gender gaps have increased in recent years. In contrast to returns to education, returns to work experience have not increased during the transition period. Quite the reverse, in most countries work experience is now less rewarded than previously (see Rutkowski, 2001, and Boeri and Terrell, 2002). The decentralisation of the wage setting process has had a stronger impact on the wage structure than the speed of privatisation or other reforms.

### **3.3.2. Regional aspects**

Regional unemployment is rather high in most countries with Slovakia and Bulgaria showing the widest gap between regions. The lowest and highest unemployment rates in 2001 vary between 2.0 and 32.8%, a range quite similar to that concerning EU-15 NUTS level 2 regions. So far, labour mobility has not contributed to reducing this problem.

Mobility in central planned economies was restricted by the resident permit system and housing restrictions. Moreover, there was an attempt to stabilise the territorial distribution of the population by moving jobs to people (see Cazes, Nesperova, 2001 and Rashid, Rutkowski, 2001). In the course of the transition, the closing of large enterprises in “one company towns” and the decline in agriculture have led to high unemployment rates in some areas. Labour mobility seems generally to be low, caused partially by high prices for new housing and a low housing stock and turnover in urban areas. In several countries (esp. in the Czech republic and Romania), commuting is common; however, relocation is not. In others (Hungary, Poland) the poor roadway systems are found to hinder internal migration. The attitude during communism, under which people had a job for life, has also contributed to low movement across regions within a country, despite relatively large regional economic differences (see IMF, 2001). The low degree of wage dispersion in regional respects is another factor to explain the low labour mobility. Fostering mobility is not only important from the point of view of regional development, but also in order to reduce the mismatch in the labour market. Concerning labour mobility, it was found to be more pronounced in terms of occupational than in terms of regional change (Svejnar, 2002).

Policies in the new EU Members States and candidate countries try to cope with the impediments to mobility through mobility grants for unemployed or persons with low income (Bulgaria, Czech Republic, Hungary, Poland, Slovenia, Slovak Republic), regional employment (Bulgaria) and education (Latvia) programmes, training services for businesses in slowly developing areas (Hungary), support for SMEs (Slovakia), reimbursement of recruitment costs for firms recruiting labour in a region with high unemployment (Hungary), the improvement of the transport system (Hungary) and subsidies for the construction of houses (Hungary and Slovakia). These measures cover the main European approaches to enhance mobility and tackle the special problems (such as those incorporated in the transport system) of the new EU Member States and candidate countries.

### **3.3.3. Human capital**

Appropriate education and skills are a prerequisite for a competitive economy and there is a need to ensure that the skills acquired are suited to the needs of the economy. Job opportunities and wages tend to increase with skills. The virtue of lifelong learning is considered to go beyond economic competitiveness and job creation, by enabling people to cope with new challenges. One difficulty, especially faced in connection with education in the CEECs, is insufficient preparation for the transition from school to work. The hiring of school leavers often requires additional on-the-job training.

Public expenditures on education in the CEECs seem to be more or less within the range of the GDP shares in the old EU countries, as can be seen from the following table.

**Table 18: Public expenditure on education as % of GDP 2001**

Bulgaria	3.7
Czech Republic	4.4
Estonia	6.8
Hungary	5.2
Lithuania	6.0
Latvia	6.4
Poland	5.4
Romania	3.3
Slovak Republic	4.0
EU-15*	
Average	4.9
Max	8.4 Dk
Min	3.5 Gre

Source: Eurostat, May 2004; \*: 2000

As to indicators concerning school education, all countries with the exception of Slovenia achieve a higher score than the EU-15 average in terms of average years of education.<sup>17</sup>

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<sup>17</sup> See Gundlach, 2002 and Knogler, 2002.



Education seems to have concentrated too much on encyclopedic learning and less on the application of knowledge. Workers in centrally planned economies tended to have received extensive technical education, but foreign investors have perceived a lack of adaptability and flexibility. They have complained especially about deficiencies at the level of managerial and skilled employment. Skills – or production possibilities – are in a way complementary and substitutable with those in the old Member States. They are complementary, as the new Member States and candidate countries stand on a lower level of the "management ladder"<sup>18</sup>. Moreover, their relative competitive advantage lies in the lower-skilled production as labour is a relative cheap production factor. However, they are partly substitutable as part of the western productivity will be or has been outsourced.

Vocational training systems are now being developed and improved. They already existed in former times but were characterised by weak links between education and enterprises and in-depth specialisation. People in the CEECs do not yet perceive learning as lifelong process. Coherent strategies for lifelong learning are still lacking. Systems of continuing training are currently being set up.

#### **4. Challenges for the new EU Member States and the candidate countries**

While challenges in the labour market of the new EU Member States and candidate countries do not differ fundamentally in nature from those in the old EU Member States, the problems are often more severe.

As the restructuring will go on for several years, policy faces two challenges in order to absorb the transitional problems on the labour market: First, a well-functioning social security system, which should provide the "right" incentives, in order to care for those who are "victims" of the transition as they become unemployed. It seems that most countries have succeeded in building up a well-meshed social security net. At the beginning, in most countries it was even too generous and has early shown up that this cannot be financed. The main challenge for the new EU Member States and the candidate countries is to adapt the social security system in order to provide incentives for searching and taking up work. Second, policy should mitigate the consequences of labour shedding in industries and firms still in transition by setting incentives to attract firms and to set-up new firms. Together with growth- and stability-oriented macroeconomic policies, this would contribute to increase labour demand.

Most new Member States and candidate countries tend to prioritise unemployment over inactivity. Low wages and the current situation on the labour market induce many unemployed to completely leave the labour force once their unemployment benefit entitlement is exhausted. Strategies how to bring people back to the labour market must therefore be developed. A long duration of unemployment implies a high risk of poverty, which is a completely new challenge in the CEECs. But also in-work poverty is a severe problem in many Eastern countries (European Commission 2003b). Income distribution has grown more unequal during transition, although it is

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<sup>18</sup> The "technology ladder" is a well-known terminus technicus in economics. In the CEECs, not technology but management skills are less developed than in the West.

still comparable to the situation in the EU-15. The income position of low wage earners has deteriorated, while that of highly paid workers has improved. The new EU Member States and the candidate countries face the (relatively new) challenge to design distributional and social policies.

In contrast to the regular economy, the informal sector has, been booming during the transition period. Here again, incentives are the key to cope with this challenge. Policy has to decrease tax rates and to ease the regulatory burden on enterprises in order to bring the informal activities to the regular market. A higher share of regular activities would raise the tax base, which would partly compensate for the tax losses due to the decreased tax rates.

Self-employment and entrepreneurship are important for creating employment, but cannot be directly influenced. Incentives must be set to make self-employment easier, but also awareness must be raised so that people face the opportunity of becoming an entrepreneur.

Concerning working law, further adaptations to a more flexible labour market seem necessary. The regulations in several cases mimic perfectly the (previous) Western law (especially in Germany and Austria) which has, however, been reformed markedly in recent years. The old EU Member States are more or less one step ahead in making the labour market more flexible. Bearing in mind, however, the starting point of the new and future Member States, progress in respect of labour law has been remarkable.

The same can be said about wage setting processes. Here, matching demand and supply seems easier than in the old EU Member States. However, further reforms are deemed necessary especially in Slovenia concerning the minimum wages and in the candidate countries concerning the determination of wage levels.

Finally, three issues will remain on the agenda for a very long time in the central and eastern European countries: First, increasing regional mobility is a long-term challenge as attitudes of people have to be changed and a very broad range of policies have to be addressed. Second, the adaption of human capital endowments, which may not only cover the reform of the educational system, must be mentioned. It is, indeed, important that the "right" contents are taught in schools, but learning must become a lifelong task in peoples attitude, from the cradle to the grave. Third, like almost all industrialised countries, the ageing of the society is a challenge which has to be taken up immediately, but problems can only be solved in the long-run. Especially the low employment rate of older people is a cause of concern. Therefore, incentives for older people to stay in the labour market must be set, as well as incentives for firms to keep older people in the labour market.

Last but not least, labour market policy has to be accompanied by sound macro-economic policy. A sustainable macro-economic framework is a necessary condition for growth and employment creation.

## **5. Effects of Enlargement on labour markets in East and West<sup>19</sup>**

### **5.1 Enlargement and the European Employment Strategy**

Since the Amsterdam Treaty, which came into force on May 1 1999, incorporates an employment Title which outlines co-ordination of the European employment policy in the framework of the so-called "Luxembourg process". The European co-ordination on employment is part of the *acquis communautaire* which has to be transposed into national employment policies by the new Member States and candidate countries. Several countries have already before their accession to the EU developed employment strategy plans organised along the guidelines of the Luxembourg strategy which should be a good preparation for their future incorporation in the employment process. As the European employment strategy follows a very broad approach, the special problems of all countries – in the West and East – can be tackled in its framework. EU guidelines and directives with respect to labour law, which have a focus on equal opportunities for men and women, co-ordination of social security schemes, health and safety at work and labour law and working conditions, must be implemented as soon as a country becomes a member.

Many elements of employment policies, which are common in the West, had to be introduced from scratch in the Eastern countries. These are, amongst others, Public Employment Services, social assistance, unemployment insurance and activation programmes. Working law had to be adapted to the needs of a market economy. Partly, these policies are very similar to the employment policy in the old EU Member States as they have been developed in co-operation with the old Member States in the framework of the so-called "twinning programme". As all Member States (have to) co-ordinate their employment policies, the co-operation has proved a good way to proceed. However, in an enlarged EU, it seems even more unrealistic that the employment targets set at European Council meetings will be reached. This fact should not be judged as a political failure, but as a consequence of external (however not unforeseen) developments. Politicians should face it as a challenge to even increase efforts.

### **5.2 Free movement of workers**

Free movement of workers is a principle of the single market. However, long transition periods have been imposed in the negotiations with the new Member States. The free movement of workers is completely suspended for the first two years after accession in many old EU Member States, especially those along the border to the accession countries. Thereafter, one of the old Member States can request an extension of this transition period for its territory, if this is deemed necessary, for three years initially and subsequently for two further years.

The principle underlying the labour market reforms in the pre-accession periods is that labour markets in the new EU Member States have to be flexible and solve the problems on their own, as the role of mobility to ease these problems (especially concerning unemployment) can be restricted. Nevertheless, migration from East to West is one of the most important fear of the population in the old Member States.

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<sup>19</sup> A comprehensive treatment of the effects of enlargement on the labour markets in the old Member States is beyond the scope of this paper.

Mobility seems to be influenced by the high income differences between the new and future EU Member States and the old EU Member States. There are, however, several barriers to mobility which are more relevant for the mobility of people from the eastern countries than for the mobility of EU-15 nationals, such as difficulties in accessing the social security systems. Moreover, attitudes towards mobility seem to diverge among the CEECs. Czech workers are less mobile than Polish, for instance. Men, the young and the skilled workers are those most likely to change jobs, employers or countries. Economically disadvantaged regions may lose highly productive human resources which leads to a further increase of the disadvantages. The brain drain from the East was already visible before enlargement. The possibility of acquiring new qualifications may induce temporary migration, a phenomenon which is particularly observed for people with higher qualification. In sum, the effects of migration are far from being clear-cut: The effect on domestic demand in the CEECs depends on direct remittances sent to the home country. Moreover, the acquisition of better skills abroad raises the production potential when returning back home. The effects on the destination region are clearly positive, if there are labour shortages. If not, the wage level may face downward pressure. (Papapanagos – Vickerman, w.y.). As the development since the opening of the East, and in particular the creation of a free trade association of reforming countries with the EU, has shown, do most of these possible effects not materialise immediately. They emerge rather slowly and can thus be influenced to some extent by economic and social policies.

A study by DIW (2000) concludes that accession to the EU will not lead to massive migration from the East. Already before EU accession a continuous stream of migration to the west has emerged which is seen abating as a result of capital inflows and the ensuing rise in wage levels in the transition economies. Including the additional migration following from full freedom of personal movement of some 336.000 persons the total stream may culminate at some 1,1 million persons. The additional flow of persons is seen to come down to some 42.000 persons by the year 2020 (Breuss, 2000). A more recent study estimates a net increase in migration of residents from the CEEC-10 by 286.000 persons and a long-run stock of 3.7 million persons. The long-run potential is estimated to be between 2 and 4% of the population (Alvarez et al., 2003).

However, migration may be of minor importance compared with the commuter problem. A number of people from the East will tend to move (at least periodically or on a daily or weekly basis) to the west in order to optimize their earnings opportunities. In border regions, a great part of migration is temporary and not permanent. The readiness of people from a nation to migrate internationally, seems to be negatively correlated with inter-regional cross-border movements. In border areas, this may temporarily disturb western labour markets and create adverse feelings of the working population against foreign workers. Restrictive policies in the west against the influx of foreigners will, however, impede the restructuring process on both sides of the border. Moreover, postponing the free movement does not decrease the migration potential if policy does not try to make use of the transition period.

## **6. Summary**

During the transition period, job shedding took place in the public sector and in state-owned enterprises. Employment creation in the private sector has clearly been lagging behind. Unemployment and economic inactivity are both important problems in the labour market.

In the new and future EU Member States, challenges in the labour market do not differ too much from those in the old Member States. Problems are, however often more severe. Low employment rates and high unemployment rates remain serious problems. This poor labour market performance may be attributed for the most part to the break down in economic activity and the restructuring of the economy. The types of labour market policies used do, however, not deviate much from those in the EU-15. Each of the new EU Member States and candidate countries has its own special problems (e.g. high net replacement ratio in the tax benefit system or strict employment protection legislation), but the same can be said from the EU-15 countries as well. Some problems, such as a high tax burden (and its implications for the formal and informal labour market) and the labour market implications of an ageing society, are shared between old and new/future EU members.

Restrictions of labour mobility by the old EU members seemed to be politically necessary in order to make enlargement acceptable for the populations. From an economic point of view, these are, however, more of a hindrance than a help as they impede the restructuring process on both sides of the border. Bearing this in mind, politicians must indispensably use the transition period for an active and substantial adaption of the labour markets.

## **7. References**

- Alexeev, Michael and William Pyle, "A note on measuring the inofficial economy in the Former Soviet Republics", *Economic of Transitions* 11/1, pp.1-23, 2003.
- Alvarez-Plata, Patricia, Brücker, Herbert and Boriss Siliverstovs, "Potential Migration from Central and Eastern Europe into the EU-15 – An Update", Berlin, 2003.
- Arro, Reelika, Eamets, Raul, Järve, Janno, Kallaste, Epp, and Kaia Philips, "Labour Market Flexibility and Employment Security – Estonia", ILO, Employment Paper, 25/2001.
- Belena, Iskra and Vasil Tzanov, "Labour Market Flexibility and Employment Security – Bulgaria", ILO, Employment Paper, 30/2001.
- Boeri, Tito and Katherine Terrell, "Institutional Determinants of Labour Reallocation in Transition", *Journal of Economic Perspectives – Volume 16, Number 1 Winter 2002*, p. 51-76.
- Brehm, J.W., "Responses to loss of freedom. A theory of psychological reactance", Morristown (General Learning Press), 1972.
- Breuss, Fritz, "The Role of Time in EU Enlargement", in: Sven, Arndt, Handler, Heinz and Dominick Salvatore (eds.), "Eastern Enlargement: The Sooner, the Better?", Austrian Ministry for Economic Affairs and Labour, Economic Policy Section, Vienna, July 2000.
- Burger, Christina, "Labour Markets, Labour Market Policies and Challenges in the Candidate Countries", in: Handler, Heinz (ed.), "Structural Reforms in the Candidate Countries and the EU", Austrian Ministry for Economic Affairs and Labour, Economic Policy Center, Vienna, July 2003.
- Cazes, Sandrine and Alena Nesporova, "Towards excessive job insecurity in transition economies?" ILO, Employment Paper, 23/2001.
- Deutsches Institut für Wirtschaftsforschung (DIW), "EU-Osterweiterung: Keine massive Zuwanderung zu erwarten", *Wochenbericht* 67(21), 25. Mai 2000, pp. 315-326.
- Employment Service of Slovenia (ESS), "Annual Report 2001".
- European Bank for Reconstruction and Development (EBRD), "Transition Report", 2001.
- European Commission, "Industrial Relations in Europe 2002", Directorate General for Employment & Social Affairs, 2002.

European Commission, "Employment in Europe", Directorate General for Employment & Social Affairs, 2003a.

European Commission, "Social protection in the 13 candidate countries — a comparative analysis", 2003b.

Eurostat, "Labour Costs Survey 2000" 18/2003.

Eurostat, "Structural Indicators", May 2004.

Friedman, E., Johnson, S., Kaufmann, D. and Zoido-Labton, P., "Dodging the grabbing hand: The determinants of unofficial activity in 69 countries", Discussion paper, Washington D.C: World Bank, 1999.

Gesellschaft für Versicherungswissenschaft und -gestaltung e.v. (GVG), "Study on the Social Protection Systems in the 13 Accession Countries", Study financed by the European Commission - Employment and Social Affairs DG, January 2003.

Giles, David, E.A., "Measuring the hidden economy: Implications for econometric modelling", *The Economic Journal*, 109/456, pp.370-380, 1999.

Gundlach, Erich: "Human Capital Formation: What Pre-Accession Countries Can Learn from the EU Experience", *The IPTS Report*, No. 65, June 2002.

IMF, "Labour Markets in Hard-Peg Accession Countries: The Baltics and Bulgaria", *IMF Country Report No. 01/100*, 2001.

Joint Assessment of Employment Priorities (JAPs): Poland (Jan 2001), Czech Republic (May 2000), Slovenia (July 2000), Estonia (March 2001), Hungary (November 2001), Slovak Republic (November 2001), Lithuania (February 2002).

Johnson, Simon; Kaufmann, Daniel and Andrei Shleifer, "The unofficial economy in transition, *Brookings Papers on Economic Activity*, Fall, Washington D.C., 1997.

Johnson, Simon; Kaufmann, Daniel and Pablo Zoido-Lobaton, "Regulatory discretion and the unofficial economy", *The American Economic Review*, 88/ 2, pp. 387-392, 1998a.

Johnson, Simon; Kaufmann, Daniel and Pablo Zoido-Lobaton, "Corruption, public finances and the unofficial economy", Washington, D.C.: The World Bank, discussion paper, 1998b.

Johnson, Simon and Daniel Kaufmann, "Institutions and the Underground Economy, in O. Havrylyshyn and S. Nsouli (eds.), *A decade of transition: Achievements and challenges*", IMF, Washington D.C., 2001.

Knogler, Michael, "Arbeitsmarktpolitische Herausforderungen in den Ländern der EU-Beitrittskandidaten", Working Paper Nr. 235, Osteuropa-Institut München, Februar 2002.

Kunz, Jan, "Labour Mobility and Enlargement – A Review of Current Trends and Debates", DWP 2002.02.01

Kwiatkowski, Eugeniusz, Socha, Mieczyslaw, W., Szanderska, Urszula, "Labour Market Flexibility and Employment Security – Poland", ILO, Employment Paper, 28/2001.

Lackó, Maria, "Hidden Economy - An unknown quantity: Comparative analyses of hidden economies in transition countries", *Economics of Transition* 8/1, pp.117-149, 2002.

Lippert, Owen and Michael Walker (eds.), "The underground economy: Global evidences of its size and impact", Vancouver, B.C.: The Frazer Institute, 1997.

Nesporova, Alena, "Unemployment in the transition economies", Paper prepared for the ECE Spring Seminar 2002; Employment Strategy Department, ILO.

OECD, "Labour Market and Social Policies in Romania", 2000.

OECD, "Economic Surveys", Czech Republic (2001), Hungary (2002b), Poland (2002c), Slovak Republic (2002d).

OECD, "Benefits and Wages – OECD Indicators", 2002a.

OECD, "Employment Outlook", July 2002.

Östling, Lars, "Assessment of the Product Markets in the Candidate Countries", in: Handler, Heinz (ed.), "Structural Reforms in the Candidate Countries and the EU", Austrian Ministry for Economic Affairs and Labour, Economic Policy Center, Vienna, July 2003.

Papapanagos – Vickerman, "Borders, Migrations and Labour Market Dynamics in a Changing Europe", Department of Economics, University of Kent, without year.

Rashid, Mansoor and Jan J. Rutkowski, "Labour Markets in Transition Economies: Recent Developments and Future Challenges", SP Discussion Paper No. 0111, Social Protection, World Bank, April 2001.

Rutkowski, Jan J., "Earnings Inequality in Transition Economies of Central Europe – Trends and Patterns During the 1990s", SP Discussion Paper No. 0117, Social Protection, World Bank, July 2001.

Schneider, Friedrich, "Measuring the size and development of the shadow economy. Can the causes be found and the obstacles be overcome?" in: Brandstaetter, Hermann, and Güth, Werner (eds.),

- "Essays on Economic Psychology", Berlin, Heidelberg, Springer Publishing Company, pp. 193-212, 1994a.
- Schneider, Friedrich, "Can the shadow economy be reduced through major tax reforms? An empirical investigation for Austria", *Supplement to Public Finance/ Finances Publiques*, 49, pp. 137-152, 1994b.
- Schneider, Friedrich, "The shadow economies of Western Europe", *Journal of the Institute of Economic Affairs*, 17/3, pp. 42-48, 1997.
- Schneider, Friedrich, "Further empirical results of the size of the shadow economy of 17 OECD-countries over time", Paper to be presented at the 54. Congress of the IIPF Cordoba, Argentina and discussion paper, Department of Economics, University of Linz, Linz, Austria, 1998a.
- Schneider, Friedrich, "Stellt das Anwachsen der Schwarzarbeit eine wirtschaftspolitische Herausforderung dar? Einige Gedanken aus volkswirtschaftlicher Sicht", *Linz, Mitteilungen des Instituts für angewandte Wirtschaftsforschung (IAW)*, 1/98, S. 4-13, 1998b.
- Schneider, Friedrich, "The Increase of the Size of the Shadow Economy of 18 OECD-Countries: Some Preliminary Explanations", Paper presented at the Annual Public Choice Meeting, March 10-12, 2000, Charleston, S.C. 2000.
- Schneider, Friedrich, "The Size and Development of the Shadow Economies of 22 Transition and 21 OECD Countries", IZA, Discussion Paper No. 514, June 2002.
- Schneider, Friedrich, "The Shadow Economy", in: Charles K. Rowley and Friedrich Schneider (eds.), *Encyclopedia of Public Choice*, Kluwer Academic Publishers, Dordrecht, 2003a.
- Schneider, Friedrich, "The Size and Development of the Shadow Economies and Shadow Economy Labor Force of 22 Transition and 21 OECD Countries: What do we really know?", in: Bojan Belev (ed.), *The informal economy in the EU accession countries*, Center for the Study of Democracy, Sofia, 2003b.
- Schneider, Friedrich and Dominik Enste, "Shadow Economies: Size, Causes, and Consequences", *Journal of Economic Literature*, 38/1, pp. 77-114, March 2000.
- Schneider, Friedrich and Dominik Enste, "The Shadow Economy: Theoretical Approaches, Empirical Studies, and Political Implications", Cambridge (UK): Cambridge University Press, 2002.
- Schneider, Friedrich and Robert Klinglmaier, "Shadow Economies around the World: What do we know?", CES-ifo Working Paper No.1167, April 2004, CESifo, Munich.
- Svejnar, Jan, "Transition Economies: Performance and Challenges", *Journal of Economic Perspectives – Volume 16, Number 1 Winter 2002*, p. 3-28.
- Tanzi, Vito, "Uses and Abuses of Estimates of the Underground Economy", *The Economic Journal* 109/456, pp.338-340, 1999.
- Thomas, Jim J., "Informal economic activity", LSE, *Handbooks in Economics*, London: Harvester Wheatsheaf, 1992.
- Vecernik, Jiri, "Labour Market Flexibility and Employment Security – Czech Republic", ILO, *Employment Paper*, 27/2001.
- Worldbank, "Poland's Labour Market – The Challenge of Job Creation", *A World Bank Country Study*, October 2001.
- Worldbank, "Slovak Republic – Living Standards, Employment, and Labour Market Study", *A World Bank Country Study*, February 2002.

# ARBEITSPAPIERE 1991-2004

## des Instituts für Volkswirtschaftslehre, Johannes Kepler Universität Linz

- 9101 WEISS, Christoph: Price inertia and market structure under incomplete information. Jänner 1991. in: *Applied Economics*, 1992.
- 9102 BARTEL, Rainer: Grundlagen der Wirtschaftspolitik und ihre Problematik. Ein einführender Leitfaden zur Theorie der Wirtschaftspolitik. Jänner 1991; Kurzfassung erschienen unter: Wirtschaftspolitik in der Marktwirtschaft, in: *Wirtschaft und Gesellschaft*, 17. 1991,2, S. 229-249
- 9103 FALKINGER, Josef: External effects of information. Jänner 1991
- 9104 SCHNEIDER, Friedrich: Mechanik und Ökonomie: Keplers Traum und die Zukunft. Jänner 1991, in: R. Sandgruber und F. Schneider (Hrsg.), *"Interdisziplinarität Heute"*, Linz, Trauner, 1991
- 9105 ZWEIMÜLLER, Josef, WINTER-EBMER, Rudolf: Manpower training programs and employment stability, in: *Economica*, 63. 1995, S. 128-130
- 9106 ZWEIMÜLLER, Josef: Partial retirement and the earnings test. Februar 1991, in: *Zeitschrift für Nationalökonomie / Journal of Economics*, 57. 1993,3, S. 295-303
- 9107 FALKINGER, Josef: The impacts of policy on quality and price in a vertically integrated sector. März 1991. Revidierte Fassung: On the effects of price or quality regulations in a monopoly market, in: *Jahrbuch für Sozialwissenschaft*.
- 9108 PFAFFERMAYER, Michael, WEISS, Christoph R., ZWEIMÜLLER, Josef: Farm income, market wages, and off-farm labour supply, in: *Empirica*, 18, 2, 1991, S. 221-235
- 9109 BARTEL, Rainer, van RIETSCHOTEN, Kees: A perspective of modern public auditing. Pleading for more science and less pressure-group policy in public sector policies. Juni 1991, dt. Fassung: Eine Vision von moderner öffentlicher Finanzkontrolle, in: *Das öffentliche Haushaltswesen in Österreich*, 32. 1991,3-4, S. 151-187
- 9110 SCHNEIDER, Friedrich und LENZELBAUER, Werner: An inverse relationship between efficiency and profitability according to the size of Upper-Austrian firms? Some further tentative results, in: *Small Business Economics*, 5. 1993,1, S. 1-22
- 9111 SCHNEIDER, Friedrich: Wirtschaftspolitische Maßnahmen zur Steigerung der Effizienz der österreichischen Gemeinwirtschaft: Ein Plädoyer für eine aktivere Industrie- und Wettbewerbspolitik. Juli 1991, in: *Öffentliche Wirtschaft und Gemeinwirtschaft in Österreich*, Wien, Manz, 1992, S. 90-114
- 9112 WINTER-EBMER, Rudolf, ZWEIMÜLLER, Josef: Unequal promotion on job ladders, in: *Journal of Labor Economics*, 15. 1997,1,1, S. 70-71
- 9113 BRUNNER, Johann K.: Bargaining with reasonable aspirations. Oktober 1991, in: *Theory and Decision*, 37, 1994, S. 311-321.
- 9114 ZWEIMÜLLER, Josef, WINTER-EBMER, Rudolf: Gender wage differentials and private and public sector jobs. Oktober 1991, in: *Journal of Population Economics*, 7. 1994, S. 271-285
- 9115 BRUNNER, Johann K., WICKSTRÖM, Bengt-Arne: Politically stable pay-as-you-go pension systems: Why the social-insurance budget is too small in a democracy. November 1991, in: *Zeitschrift für Nationalökonomie = Journal of Economics*, 7. 1993, S. 177-190.
- 9116 WINTER-EBMER, Rudolf, ZWEIMÜLLER, Josef: Occupational segregation and career advancement. Dezember 1991, in: *Economics Letters*, 39. 1992, S. 229-234
- 9201 SCHNEIDER, Friedrich: Ecological objectives in a market economy: Three simple questions, but no simple answers? Jänner 1992, in: Giersch, H. (Hrsg.), *Environmental economics*, Heidelberg, Springer-Verl., 1993
- 9202 SCHNEIDER, Friedrich: The federal and fiscal structures of representative and direct democracies as models for a European federal union: Some preliminary ideas using the public-choice approach, in: *Journal des Economistes et des Etudes Humaines*, 3. 1993,2
- 9203 SCHNEIDER, Friedrich: The development of the shadow economy under changing economic conditions: Some tentative empirical results for Austria. Revised version. März 1992.
- 9204 HACKL, Franz, SCHNEIDER, Friedrich, WITHERS, Glenn: The public sector in Australia: A quantitative analysis. März 1992, in: Gemmell, N. (ed.), *The growth of the public sector*, Aldershot, Elgar, 1993, S. 212-231
- 9205 SCHNEIDER, Friedrich: The federal and fiscal structures of western democracies as models for a federal union in former communist countries? Some thoughts using the public-choice approach. April 1992, in: Wagner, H.-J. (ed.), *On the theory and policy of systematic change*, Heidelberg, Springer-Verl., 1993, S. 135-154
- 9206 WINTER-EBMER, Rudolf: Endogenous growth, human capital, and industry wages. in: *Bulletin of Economic Research*, 4/1994, 289-314.
- 9207 BARTEL, Rainer: Gleichgewicht, Ungleichgewicht und Anpassung in der komparativen Statik. August 1992; 1. Teil erschienen unter: Auf welchen Grundlagen beruhen unsere ökonomischen Aussagen? in: *Wirtschaft und Gesellschaft*, 19, 2, 1993, S. 153-170; 2. Teil erschienen unter: Neoklassische Rationierung, in: *WiSt*, 23, 3, 1993, S. 151-154
- 9208 WEISS, Christoph R.: Market structure and pricing behaviour in Austrian manufacturing. August 1992. in: *Empirica*, 21. 1994, S. 115-131.
- 9209 WINTER-EBMER, Rudolf: Unemployment and individual pay: Wage curve or compensating differentials? erscheint u.d.T.: Wage Curve, Unemployment Duration and Compensating Differentials, in: *Labour Economics*, 3/1996,4, S. 425-434
- 9210 SCHUSTER, Helmut: Chaostheorie und Verkehrswissenschaft? September 1992, in: *Österreichische Zeitschrift für Verkehrswissenschaft*, 1-2, 38. 1992, S. 48-51
- 9211 BARTEL, Rainer, PRUCKNER, Gerald: Strukturelle und konjunkturelle Charakteristika der Budgetpolitik von Bund und Gesamtstaat in Österreich. Oktober 1992, in: *Wirtschaftspolitische Blätter*, 40. 1993,2, S. 134-154
- 9212 PFAFFERMAYER, Michael: Foreign direct investment and exports: A time series approach. Oktober 1992
- 9213 HACKL, Franz, SCHNEIDER, Friedrich: Austrian economic policy since 1945: An exploratory analysis. Oktober 1992, in: Paldam, M. (ed.), *Economic development of small open economies in Europe and South America*, Basingstoke, Macmillan, forthcoming 1994
- 9214 SCHNEIDER, Friedrich: Die Kunst als Wirtschaftsfaktor - vernachlässigbar oder beachtenswert? Oktober 1992, in: *Musicologica Austriaca*, 11. 1993,1, S. 19-29
- 9215 SCHNEIDER, Friedrich: Measuring the size and the development of the shadow economy: Can the causes be found and the obstacles be overcome? November 1992, in: Brandstätter, Hermann and Güth, W. (eds.), *Essays on Economic Psychology*, Heidelberg, Springer-Verl., 1994, S. 208-211
- 9216 SCHNEIDER, Friedrich: Public choice - economic theory of politics: A survey in selected areas. Dezember 1992, in: Brandstätter, Hermann and Güth, W. (eds.), *Essays on*

\*\*\*



*Economic Psychology*, Heidelberg, Springer-Verl., 1994, S. 188-192

\*\*\*

- 9301 SCHUSTER, Helmut: Energiepolitik im Spannungsfeld zwischen Wirtschaft und Umwelt. Jänner 1993, in: Friedrich Schneider (Hrsg.), *Energiepolitik in Österreich*, Linz, Trauner, 1993
- 9302 WINTER-EBMER, Rudolf: Motivation to migrate and economic success. März 1993, erscheint u.d.T.: Motivation for Migration and Economic Success, in: *Journal of Economic Psychology*, 15. 1994, S. 282-284
- 9303 LANDESMANN, Michael and GOODWIN, Richard: Productivity growth, structural change and macroeconomic stability. März 1993
- 9304 PFAFFERMAYER, Michael: Foreign outward direct investment and exports in Austrian manufacturing. März 1993
- 9305 BARTEL, Rainer: Zur Ökonomie der öffentlichen Finanzkontrolle. April 1993, erschienen unter: Öffentliche Finanzkontrolle als politische Machtkontrolle. Eine ökonomische Fundierung, in: *Politische Vierteljahresschrift*, 34. 1993,4, S. 613-639
- 9306 HACKL, Franz: Die Internalisierung von überbetrieblichen Leistungen der Landwirtschaft aus allokatorentheoretischer Sicht. April 1993.
- 9307 ZWEIMÜLLER, Josef, WINTER-EBMER, Rudolf, FALKINGER, Josef: Retirement of spouses and social security reform, in: *European Economic Review*, 40/1996, S. 471-472
- 9308 BRUNNER, Johann K.: Abilities, needs, and the size of the cake: an axiomatic bargaining approach to redistributive taxation. Juli 1993.
- 9309 HACKL, Franz, PRUCKNER, Gerald: Touristische Präferenzen für den ländlichen Raum: Die Problematik ihrer empirischen Erfassung und Internalisierung. Juli 1993. Ersch. in: Gesellschaftliche Forderungen an die Landwirtschaft / Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaues (GEWISOLA), hrsg. von Konrad Hagedorn ... 1994, Schriften der GEWISOLA, Bd. 30
- 9310 NECK, Reinhard, SCHNEIDER, Friedrich: Steuersystem und Schattenwirtschaft. Juli 1993.
- 9311 POINTNER, Johannes und SCHNEIDER, Friedrich: Österreich im internationalen Wirtschaftssystem, August 1993, in: Ewald Nowotny und Günther Winckler (Hrsg.), *Grundzüge der Wirtschaftspolitik Österreichs*, 1994.
- 9312 SCHNEIDER, Friedrich: The Relationship between efficiency and profitability with respect to the size of firms: an empirical investigation for Austria. September 1993.
- 9313 ÖTSCH, Walter: Die mechanistische Metapher in der Theoriengeschichte der Nationalökonomie. September 1993.
- 9314 BARTEL, Rainer: Wirtschaftspolitische Kontrolle und Beratung: Grundlagen, Probleme, Erfordernisse. September 1993, erschienen als: Kontrolle und Beratung in der Wirtschaftspolitik, in: *Wirtschaftspolitische Blätter*, 41. 1994,4, S. 442-462
- 9315 BARTH, Erling and ZWEIMÜLLER, Josef: Relative wages under decentralized and under corporatist bargaining systems, in: *Scandinavian Journal of Economics*, 97. 1995,3, S. 369-384
- 9316 FALKINGER, Josef and ZWEIMÜLLER, Josef: The impact of income inequality on product diversity and economic growth. Oktober 1993.
- 9317 SCHNEIDER, Friedrich: Anreizorientierte Systeme im Gesundheitswesen unter besonderer Berücksichtigung des stationären Sektors. Oktober 1993.
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- 9319 BARTEL, Rainer: Egoismus, Altruismus, Ineffizienz und Kontrolle im öffentlichen Bereich: Ein kurzer Blick auf die Argumente und ihre Implikationen. November 1993, in: *Wirtschaft und Gesellschaft*, 20. 1994,2, S. 231-246
- 9320 BURGER, Christina: Theorien der Koalitionsbildung und ihre Anwendbarkeit auf österreichische Regierungen. November 1993.

- 9321 BARTEL, Rainer: Konjunkturelle Selbststabilisierung oder kompensatorische Nachfragepolitik? Ein Leitfaden für Studenten. Dezember 1993, tw. erschienen unter: Konjunkturprobleme - Selbstheilung oder Staatseingriffe?, in: *WISO*, 17. 1994,4, S. 111-39, erscheint tw. unter: Lohnindexierung - Effiziente Institution zur Stabilisierung der Wirtschaft?, in: *WiSt*, 26. 1997,3, S. 154-156

\*\*\*

- 9401 WINTER-EBMER, Rudolf, ZWEIMÜLLER, Josef: Immigration and the Earnings of Young Native Workers. Jänner 1994, in: *Oxford Economic Papers*, 48. 1996, S. 473-491
- 9402 KUNST, Robert, HAUSER, Michael: Fractionally Integrated Models With ARCH Errors. Jänner 1994.
- 9403 ZWEIMÜLLER, Josef, WINTER-EBMER, Rudolf: Internal Markets and Firm-Specific Determination of Earnings in the Presence of Immigrant Labor, in: *Economics Letters*, 48. 1995, S. 185-191
- 9404 SCHUSTER, Helmut: Energie und Umwelt. März 1994.
- 9405 PFAFFERMAYER, Michael: Testing for Ownership Advantages of Direct Investing Firms. März 1994.
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- 9407 FALKINGER, Josef: Social Stability and the Equity-Efficiency Trade-off. April 1994.
- 9408 WINTER-EBMER, Rudolf, ZWEIMÜLLER, Josef: Do Immigrants Displace Native Workers? Mai 1994, erscheint in: *Journal of Population Economics*, 1998.
- 9409 FALKINGER, Josef: How to overcome free-riding: Rewarding deviations from average. Mai 1994. Revidierte Fassung: Efficient Private Provision of Public Goods by Rewarding Deviations from Average, in: *Journal of Public Economics*, 62. 1996,3, S. 413-422
- 9410 ZWEIMÜLLER, Josef: Wealth distribution, innovations, and economic growth. Mai 1994.
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- 9414 WINTER-EBMER, Rudolf: Sex discrimination and competition in product and labour markets, in: *Applied Economics*, 27. 1995,9, S. 849-857
- 9415 FALKINGER, Josef, ZWEIMÜLLER, Josef: The cross-country Engel curve for product diversification, August 1994, in: *Structural Change and Economic Dynamics*, 7. 1996,1, S. 79-97
- 9416 FALKINGER, Josef: Tax evasion, consumption of public goods and fairness, August 1994, in: *Journal of Economic Psychology*, 16, 1995, S. 63 - 72.
- 9417 SCHNEIDER, Friedrich: Einige Gedanken zur Harmonisierung indirekter Steuern in der Europäischen Union, September 1994.
- 9418 WINTER-EBMER, Rudolf: Firm size, earnings and displacement risk, Oktober 1994, erscheint in: *Economic Inquiry*, 2000.
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\*\*\*

- 9501 BARTEL, Rainer: Reform des öffentlichen Sektors - Grundlagen und Grundsätze. Jänner 1995.
- 9502 RIESE, Martin: The GINI-index as a measure of the goodness of prediction, Jänner 1995, in: *Bulletin of Economic Research*, 49. 1997,2, S. 127-135.

- 9503 AIGINGER, Karl, WINTER-EBMER, Rudolf und ZWEIMÜLLER, Josef: Eastern European Trade and the Austrian Labour Market, in: *Weltwirtschaftliches Archiv*, 132. 1996,3, S. 476-500
- 9504 WEISS, Christoph: Size, Growth, and Survival of Upper Austrian Farms in the 1980s, Februar 1995. in: Sotte, F. and Zanolì, R.: "The Regional Dimension of Agricultural Economics and Politics", forthcoming (1995).
- 9505 BARTEL, Rainer: Umweltpolitik in den Reformländern Europas. Voraussetzungen und Erfordernisse, Februar 1995.
- 9506 PFAFFERMAYR, Michael: Foreign Outward Direct Investment and Exports in Austrian Manufacturing: Substitutes or Complements?, March 1995.
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- 9512 ÖTSCH, Walter: Kreativität und Logik im ökonomischen Handlungsmodell, Mai 1995.
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- \*\*\*
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- 9610 BARTEL, Rainer, POINTNER, Johannes, SCHNEIDER, Friedrich: Österreich im internationalen Wirtschaftssystem, Juli 1996, erschienen in: E.Nowotny und G. Winckler (Hg.), Grundzüge der Wirtschaftspolitik Österreichs, 2. Aufl., Manz-Verlag, Wien 1997, S. 49-98.
- 9611 SCHNEIDER, Friedrich, VOLKERT, Jürgen: Die Realisierung ökologisch-orientierter Wirtschaftspolitik - eine Unmöglichkeit? Überlegungen aus Sicht der Neuen Politischen Ökonomie, Juli 1996.
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- 9615 WINTER-EBMER, Rudolf: Benefit Duration and Unemployment Entry: Quasi-Experimental Evidence for Austria, Oktober 1996.
- 9616 WINTER-EBMER, Rudolf: Potential Unemployment Benefit Duration and Spell Length: Lessons from a Quasi-Experiment in Austria, in: *Oxford Bulletin of Economics and Statistics*, 60. 1998,1, S. 33-45
- 9617 SCHNEIDER, Friedrich, FREY, Bruno S.: Warum wird die Umweltökonomik kaum angewendet?, November 1996.
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- \*\*\*
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- \*\*\*
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- 9828 ÖTSCH, Walter: Konstruktivismus und ökonomische Theorie, November 1999, erscheint in: Lehmann und Pillath: Handbuch der Evolutischen Ökonomik, Springer Verlag, 1999.
- \*\*\*
- 9901 WINTER-EBMER, Rudolf and ZWEIMÜLLER, Josef: Firm Size Wage Differentials in Switzerland: Evidence from Job Changers, Jänner 1999, erscheint in: *American Economic Review, Papers & Proceedings*, 1999.

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- \*\*\*
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\*\*\*

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