Available online at www.sciencedirect.com
SCIENCE DIRECT®
Journal of Banking & Finance 30 (2006) 1393–1407
Journal of BANKING & FINANCE
www.elsevier.com/locate/jbf

Are labour markets in the new member states sufficiently flexible for EMU?

Tito Boeri [a,*], Pietro Garibaldi [b]

[a] *Università Bocconi, Fondazione Rodolfo Debenedetti, IGIER and CEPR, Via Salasco, 3/5, I-20136 Milan, Italy*
[b] *Università di Torino, Fondazione Rodolfo Debenedetti, IGIER and CEPR, C. so Unione Sovietica, 218 bis, I-10134 Turin, Italy*

Available online 19 August 2005

Abstract

New Member States (NMS) coming from central planning are often advised against early Euro adoption because of their rigid labour markets. But are labour markets so rigid in these countries? We argue in this paper that this is not the case. Labour market institutions are no more "rigid" than among current EMU Members whilst wage bargaining institutions are actually better equipped for microeconomic wage flexibility than in the EU-15. NMS also achieved substantial reallocation of jobs and workers in the transition to markets, display relatively large job turnover rates and are reducing their regional mismatch. The view that NMS have rigid labour markets is fuelled by the low job content of growth in the region. But there is evidence that the latter is related to productivity enhancing job destruction in the aftermath of prolonged labour hoarding. Reduced-form employment equations estimated in this paper also suggest that tight fiscal policies, rather than being harmful to job creation, may actually improve the employment performance of the region. Our interpretation of this result is that loose fiscal policies weaken the confidence of investors and crowd-out private employment growth through generous pay rises to civil servants.

* Corresponding author.
E-mail addresses: tito.boeri@unibocconi.it (T. Boeri), pietro.garibaldi@unito.it (P. Garibaldi).

0378-4266/$ - see front matter © 2005 Elsevier B.V. All rights reserved.
doi:10.1016/j.jbankfin.2005.07.005

JEL classification: F16; F33; J3

Keywords: Euro adoption; Wage flexibility; Jobless growth

1. Introduction

Formerly planned economies of Central and Eastern Europe entered the EU under rather critical labour market conditions: low employment to population ratios, high unemployment, involving long spells of joblessness, and a flourishing informal sector trapping many workers in low-productivity jobs. Economic recovery from the so-called "transitional recession" is having a low employment content, as paradoxically high rates of output growth generate far less jobs than stagnation elsewhere in the EU.

Against this background, the potential entry of New Member States (NMS) in the monetary union is often perceived as a devil rather than as an opportunity. The disappointing employment performance in the region is taken as evidence that labour markets in the NMS are not equipped to deal with the loss of exchange rate flexibility involved by participation in a monetary union. Moreover, fiscal consolidation required for EMU convergence is deemed to increase rigidities of labour markets. This is because raising taxes on a narrow tax base reduces labour supply incentives while cuts to public expenditure are likely to involve many infrastructural projects, which could enhance regional labour mobility in response to shocks hitting specific industries and regions. As NMS are small geographically, significant regional mobility can be achieved via commuting, without internal migration. This explains the importance of infrastructural projects for labour market adjustment.

In light of these problems and structural rigidities of labour markets in the NMS, *nominal* convergence to EMU is deemed to delay *real* convergence, the accomplishment of the Maastricht criteria is likely to come at high costs in terms of foregone output growth. The position of the European Central Bank is in line with this sentiment. The ECB (2004) calls for a "broader assessment" of the readiness of NMS to Euro adoption, arguing that Euro membership should not be based merely on nominal convergence to the Maastricht criteria. Such a broader assessment is consistent with the Maastricht Treaty, since the latter states that Euro membership is not granted just on the basis of nominal convergence, but should take into account "other factors" such as "the integration of markets, the situations and developments of the balance of payments and an examination of unit labour costs". The rationale for this "broader assessment" is provided by the theory of optimal currency areas. The textbook case for entry in a monetary union involves strong business cycle syncronization with respect to the other members of the union. As asymmetric shocks in an union cannot be ruled out even when markets are highly integrated, it is also important to make sure that factor markets are sufficiently flexible to absorb shocks occurring without exchange rate adjustment. Trade turnover between the NMS and the current members of the monetary union is sizeable, often larger than trade among current EMU members. Thus, the cautious approach advocated by the

ECB likely draws on considerations related to the capacity of labour markets in NMS to absorb asymmetric shocks.

In this paper we document that NMS display a fairly high degree of macroeconomic wage flexibility and proved capable of accommodating sizeable job reallocation rates in the last decade. How can this flexibility be reconciled with a low employment content of growth? Rather than being a by-product of structural rigidities, jobless growth in these countries is related to productivity enhancing job destruction in the aftermath of prolonged labour hoarding. Reduced-form employment equations estimated in this paper also suggest that tight fiscal policies, rather than being harmful to job creation, may actually improve the employment performance of the region. Our interpretation of this result is that loose fiscal policies weaken the confidence of investors and crowd-out private employment growth through generous pay rises to civil servants.

The remainder of this paper is organised as follows: Section 2 reviews labour market institutions comparing the ''rigidities'' of NMS with those of current EMU members. Section 3 dwells on outcomes, namely indicators of wage and employment responsiveness to shocks. Section 4 provides an interpretation of jobless growth different than the one implicitly provided by the ECB. Finally, Section 5 summarises the main policy implications of the paper.

2. Are labour market institutions too rigid?

Labour market institutions in the transition to a market economy have been assessed in details elsewhere (Boeri and Terrell, 2002). In this section we review the relevant institutional features of NMS on the eve of the Eastern Enlargement, by drawing on several indicators, such as the strictness of the employment protection legislation in place, the level of minimum wages, the coverage and centralisation of wage bargaining, the generosity of unemployment benefit systems, and the profile and incidence of labour taxation.

Employment protection legislations (EPL), imposing costs on employers reducing their workforce, are less restrictive in NMS than in a typical EMU country. Slovakia, the NMS with the strictest legislation has recently increased flexibility by expanding the scope of temporary (mainly fixed-term) contracts. The cross-sectional variation and evolution over time of EPL is depicted in Fig. 1, plotting an OECD index increasing in the strictness of these regulations (OECD, 2004b) for the countries where such data are available. Countries located at the North East of the diagram are the most rigid; those located above (below) the bisecting line through the origin increased (reduced) rigidity over time. Only Ireland is more flexible than the NMS in terms of this indicator and there has not been convergence to the legislations of EMU countries in the accession process.

Throughout the transition to a market economy, statutory *minimum wages* were kept at very low levels, with partial and lagged adjustment to inflation. They were not binding in wage setting and used mainly to index some cash transfers. More recently, minimum wages have been increased and indexed to the cost-of-living. Yet

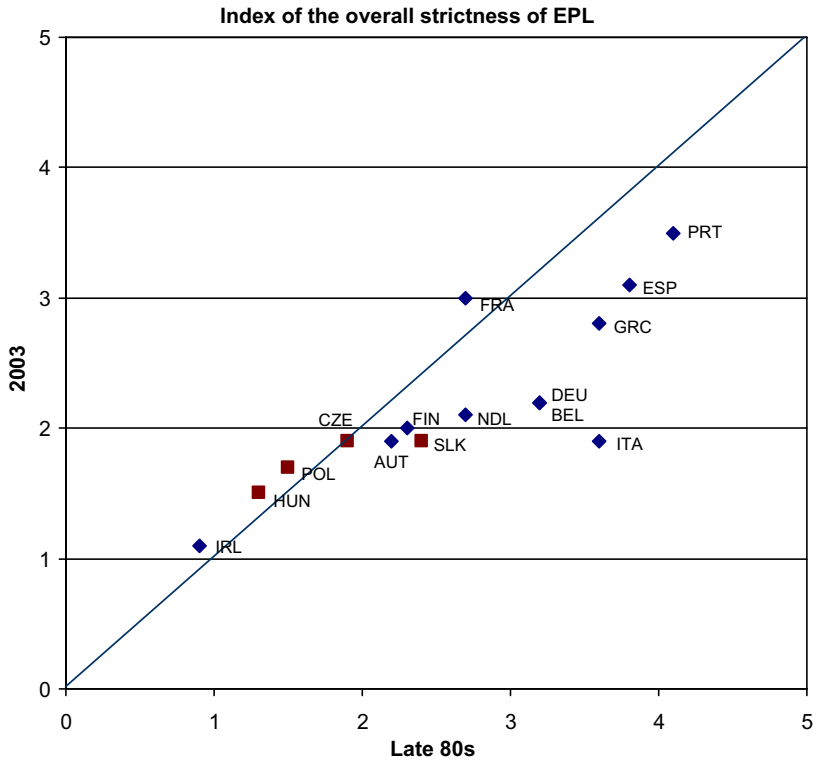

Fig. 1. Employment protection legislation (EPL) in NMS and EMU countries.

the Kaitz index (the ratio of the minimum wage to the average wage) is of the order of 30%, well below the 50% attained by an average EMU country (Table 1) and the 60–70% of an average OECD country (Dolado et al., 1996). In absolute terms, minimum wages are about one-fifth than in the EMU area. Only in Slovenia are minimum wages comparable to those at the lower end of the EMU distribution.

Wage floors in the NMS are often not binding also because they are rarely enforced in the private sector, notably in the flourishing small business segment, where unions are rather weak and rarely represented at the workplace. *Union density* rates of NMS are comparable to those observed in the EMU area but the *coverage of collective agreements* is not. While in a typical EMU country the influence of unions spans much beyond unions' presence, in the NMS there is low, if any, "excess coverage" of collective agreements: the workers who are not members of a trade union are unlikely to be covered by wages negotiated in collective agreements between unions and employer organisations (see the last two columns on the right-hand-side of Table 1).

Collective bargaining in the NMS also takes place mostly at the company level. Although many current members of the monetary union used centralised bargaining structures (Social Pacts implementing income policies) in their convergence to EMU, centralised bargaining structures may turn out to be ill-suited *after* membership of a

Table 1
Minimum wages and collective bargaining

	Minimum wage (Euro/month)	Minimum wage (% of average wage)	Collective bargaining	
			Union density	Union coverage
Czech Republic	198	34	27	25
Estonia	138	30	–	–
Hungary	202	42	20	30
Latvia	112	35	–	–
Poland	191	33	15	40
Slovakia	134	32	36	50
Slovenia	448	45	–	–
NMS average	203	30	25[a]	36[a]
Belgium	1175	46	*56*	90
France	1164	61[b]	10	90
Greece	605	51[b]	27	–
Ireland	1073	50	38	–
Luxembourg	1369	50	34	60
Netherlands	1257	49	23	80
Portugal	416	43	24	80
Spain	526	36	15	80
EMU average	948	48	29	80

Sources: Minimum wages: Eurostat (2003); Collective bargaining: OECD (2004c).
[a] Average of the four countries displayed (Czech Republic, Hungary, Poland, Slovakia).
[b] Data for France and Greece come from OECD (2004c).

monetary union.[1] The issue is that, once in the monetary union, it is difficult to define an appropriate warranted rate of wage increase, supposedly to be respected uniformly across the board, in the context of income policies. Especially in fast growing economies like the NMS, there is a risk that centralised wage negotiations in the monetary union could be based on the expectation of continued above-EMU average inflation, which may be very damaging for competitiveness. After EMU, nation-specific shocks are likely to have only a policy-based character, while other macro shocks will be more regional or sectoral in nature. Thus, centralised systems of

[1] The Irish case is particularly instructive in this respect, as Ireland experienced strong growth and diverging inflation rates in EMU (Honohan and Lane, 2003), a scenario likely to materialise in NMS. Interestingly, inflation in Ireland had been persistently under 2% in the five years prior to EMU membership and rose to 4–5% (with peaks of 7%) in the aftermath of EMU membership. Although generally considered as home grown, inflationary pressures were also associated with the devaluation of the Euro vis-à-vis the USD. The fact of being a small open economy is indeed another feature in common between Ireland and many NMS. Another factor leading to the inflationary surge in Ireland was the low nominal and real interest rates in the EMU. The jury is still out as to the effectiveness of the Irish Social Pacts in repressing inflationary pressures. Wage restraint was strong before EMU membership and less afterwards, but it likely was the depreciation of the Euro with respect to the USD to make room for wage increases in the industries exporting to the US.

industrial relations may not be adequate to address new demands for microeconomic adaptability.

In an environment characterised by low coverage and decentralisation of collective bargaining, it has been mainly unemployment benefits which have constrained downward wage flexibility, acting de-facto as a wage floor. The level of unemployment benefits as measured by the replacement rate (i.e., benefit over previous earned income) in the first month of joblessness is relatively modest in the Baltics, but more generous in Hungary, Slovenia and Slovakia (Table 2). However, unemployment benefits are offered in the NMS for shorter durations than in a typical EMU country (as revealed by the replacement rate five years after the beginning of an unemployment spell, in the second column of Table 2) in spite of the longer duration of unemployment in Central and Eastern Europe. Unemployment benefits are also less progressive in the NMS than in EMU countries (the replacement rate does not decline steeply moving from 67% to 130% of the average wage), being more neutral with respect to the underlying wage structure.

Unemployment benefits are indexed in most NMS to the net wage rather than to pre-tax earnings. This reduces the effects of labour taxation on the employment/non-employment income relativities, hence taxes have milder effects on employment and

Table 2
Unemployment benefits and taxation

	Unemployment benefits (100% of APW)		Marginal effective tax rates (single without children)		
	First month	60th month	67% of APW	100% of APW	167% of APW
Czech Republic	50	31	44.9	48.1	51.4
Hungary	64	24	55.3	55.3	76.3
Poland	40	30	45.5	45.5	45.5
Slovak Republic	60	42	43.1	49.4	49.4
Slovenia	63	0	–	–	–
Estonia	50	0	–	–	–
Latvia	50	0	–	–	–
Lithuania	25	0	–	–	–
NMS average	50	16	47.2	49.6	55.7
Belgium	66	55	69.8	66.4	69.8
France	71	41	56.6	52.5	53.8
Greece	46	0	34.4	34.4	54.1
Germany	61	61	59.7	65.2	67.4
Ireland	29	51	30.0	33.2	50.0
Italy	52	0	52.7	58.0	66.8
Luxembourg	85	50	36.5	44.4	53.8
Netherlands	71	58	54.3	50.4	52.0
Portugal	78	24	37.8	39.4	47.5
Spain	70	27	49.4	45.5	48.4
EU average	63	37	48.1	48.9	56.4

Sources: OECD (2004a), Taxing wages 2003–2004; OECD (2004a), *Benefits and Wages: OECD.*

unemployment than in many EMU countries. Marginal effective tax rates (including social security contributions, income taxes and potential withdrawal of cash transfers) are displayed in the last three columns on the right-hand-side of Table 2. They are broadly comparable to those of an average EMU country. With the exception of Hungary, they are only mildly progressive, which reduces the risk of low-income traps.

Finally, in spite of their lower income per capita levels, NMS spend a significant portion of their labour market policy budget in active policies and activation measures (financial incentives and benefit sanctions) promoting the transition from welfare to work. The Czech Public Employment Service was taken as an example of an effective use of the interactions between active and passive policies in stimulating outflows from unemployment (Boeri and Burda, 1996). Overall, judging from the institutional features of NMS, the risk of unemployment traps does not seem to be more serious than in countries current belonging to EMU.

3. Job turnover and wage outcomes

The fact that institutions are not less rigid than in the EMU area does not necessarily imply that labour markets are sufficiently flexible for participation in a monetary union. The same institutional features may have much different effects in different environments and there is little doubt that NMS are still significantly different (at least judging on the basis of differences in incomes per capita) from a typical EMU country.

Which type of labour market flexibility is required for Euro adoption? According to the theory of optimal currency areas, the need for nominal exchange rate adjustments is lower the more prices and wages are flexible, particularly downwards, and the more production factors are mobile across regions. Adjustment of quantities, via factor mobility, is all the more important the less wages are responsive to shocks.

Wage growth in the NMS is strictly associated with productivity gains. This is important as a country lacking nominal exchange rate flexibility and experiencing over the cycle wage dynamics out-pacing productivity growth, hence a negative shock to foreign demand, may be forced to a painful adjustment via job destruction and unemployment. Fig. 2 plots labour productivity growth against wage growth (in manufacturing) in the period 1992–2002. Importantly, most observations fall in the second quadrant, where real wage growth is associated with productivity gains, and many lie above the bisecting line through the origin, denoting stronger productivity than wage growth. An argument often used against early euro adoption by NMS is that stronger economic integration with EMU countries may involve upward real wage pressures – as a result of catching-up in wage setting – potentially out-pacing productivity growth. However, in the five years prior to May 1st 2004, wages increased less than labour productivity in the NMS. Although EMU countries were characterised in this period by remarkable wage moderation, they nevertheless exhibited a cumulative growth of compensation per employees in the business sector in excess of labour productivity growth.

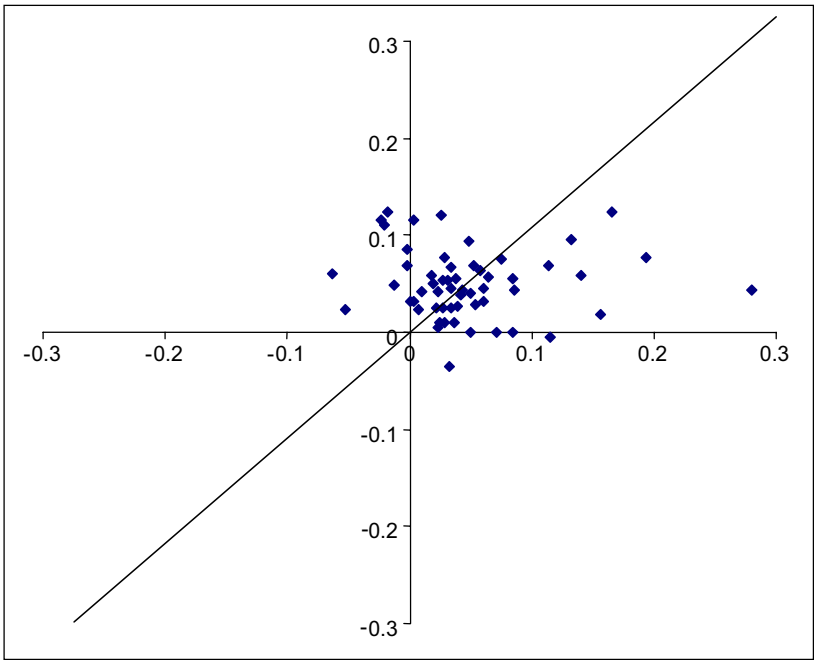

Fig. 2. Changes in real wage and productivity in manufacturing sector.

When wage setting mechanisms are not capable of transmitting productivity shocks into labour market changes, mobility of factors is required. Is there evidence of constraints to labour reallocation in NMS? Mobility across jobs and the creation of new jobs, can be measured by the job turnover (JT) rate, adding up plant-level job creation and destruction. Formally job turnover (JT) is defined as follows:

$$JT_t(E) = \frac{\sum_{i \in E} |x_{it} - x_{it-1}|}{\sum_{i \in E} x_{it-1}},$$

where E is an arbitrary set of establishments and x_{it} denotes the number of employees of any establishment and i at time t. Available JT statistics are drawn from Social Security Records.

Available data (Table 3) suggest that JT in NMS is as high as 20%, the same level registered in EMU countries. There is, however, less excess job reallocation, the difference between JT and net employment change, in these formerly planned economies than in the EMU area. At the same time, NMS are achieving a substantial degree of sectoral reallocation, as revealed by higher values in these countries of the Lilien index, measuring reallocation of jobs across broad sectors of the economy. Furthermore, workers in NMS remain on average a shorter time in their jobs compared to workers in the OECD countries. This is true even in those countries which display the largest shares of long-term unemployment, e.g., Czech Republic and Poland.

Table 3
Job reallocation in selected NMS and EMU countries

	Job turnover	Excess job reallocation	Lilien index
Bulgaria	25.77	30.56	–
Estonia	13.93	15.13	.04
Hungary	23.75	21.55	.02
Latvia	24.74	20.92	.07
Slovenia	19.60	18.16	.06
NMS average	21.56	21.26	.05
Belgium	15.2	20.4	.01
Germany	17	21.15	.01
France	24.5	30.8	.01
Ireland	21.7	41.95	.03
Italy	21.4	25.51	.01
Netherlands	15.5	23.2	.02
Finland	22.5	29.48	.02
EMU average	19.92	26.72	.01

Source: Bartelsman et al. (2004).
Note: Job turnover is the sum of job creation and destruction, excess job reallocation is the difference between job turnover and net employment change, the Lilien index measures reallocation of jobs across three broad sectors.

Table 4
Regional mismatch in selected NMS countries and years

Year	Czech Republic	Poland	Slovakia	Slovenia
1993	0.11	0.20	–	0.29
1996	0.08	0.03	–	0.22
1999	0.05	0.05	0.20	0.21
2002	0.06	0.06	0.07	0.16

Sources: Unemployment register data, various countries.
Note: The mismatch indicator (M2) is defined in the text.

Labour markets in NMS suffer from regional mismatch in the allocation of vacancies and unemployment, which may indicate strong barriers to regional labour mobility. While regional mismatch is certainly sizeable, its importance is diminishing over time. Table 4 displays estimates of a popular index of regional mismatch proposed by the literature (Jackman and Roper, 1987) capturing the fraction of unemployment due to mis-allocation of jobs and workers.[2] Under plausible assumptions, the index (bounded between 0 and 1) measures the proportion by which aggregate unemployment could be reduced if vacancies and jobseekers could be reallocated across regions so as to equate unemployment and vacancy rates in all regions. The

[2] M2 measures the contribution of structural imbalances to overall unemployment, and it is given by $M2 = 1 - \Sigma_i (u_i v_i)^{1/2}$ where u_i and v_i are respectively the unemployment and vacancy rate in region i.

values of the index are not lower than those that can be computed for EMU countries, such Germany, Italy and Spain (Padoa-Schioppa, 1991) and is declining over time. As there are no comparable data on interregional labour mobility in these countries, it is impossible to ascertain whether the reduction of regional mismatch is due to labour (including immigration from other, non-EU, countries of the former Soviet bloc) or to capital mobility.

Overall, wage setting in the New Members is responsive to productivity developments and there is no evidence that barriers to labour mobility are stronger in NMS than in EMU countries. The other side of the coin of these wage and productivity developments is a low job content of growth, whose determinants deserve to be analysed in some detail. This is the task set out for the next section.

4. Labour hoarding and the employment content of growth

If labour market institutions are no more "rigid" than in EMU countries and outcomes in terms of job turnover and unit labour costs denote a substantial degree of flexibility in NMS labour markets, then the issue arises as to why unemployment is so high and persistent in the region and the recovery from the transitional recession has so far delivered a few jobs.

Albeit cross-country differences in the NMS group are not of second-order, unemployment rates in the New Members are high and rising, the share of long-term unemployment is substantial, and the employment rate is stable at levels well below the EMU average. While the increase in non-employment may be attributed to structural change associated with the completion of the transition to a market economy, the persistence of unemployment points to structural rigidities in the labour market. This diagnosis is confirmed by the relatively high incidence of long-term unemployment in the region. In most NMS, the share of those who have been unemployed for more than a year in the total number of jobseekers is not only higher than in a typical EU-15 country, but has also been increasing in recent years, in contrast with the experience elsewhere in the EU. In Czech Republic and Poland, in particular, one unemployed out of two has been on the dole for more than 12 months compared with about one out of three in the EU-15.

Since the late 1990s, in the aftermath of the large transitional recession, NMS are experiencing sustained output growth with modest employment gains. The average NMS apparent elasticity of employment with respect to GDP growth never exceeded 0.1 in this period, just while in the EMU area the ratio of the employment to the GDP growth rates was reaching unprecedented high levels (e.g., 0.8 in 2001).

A plausible explanation for the low employment content of growth in NMS is that it is the by-product of rigid institutions. Understanding the nature of the low employment content of growth is therefore crucial in assessing readiness for EMU membership. But another equally plausible explanation is that, rather than being linked to structural rigidities, the low employment content of growth in NMS is the result of productivity enhancing job destruction. The situation in formerly planned economies is indeed much different from that of EU countries as the large

scale restructuring necessary to complete the transition from central planning to market requires sizeable job destruction and employment losses during recessions. Several authors argued (e.g., Boeri, 2000; Svejnar, 1999) that labour hoarding at early stages of the transition prevented sizeable and widespread restructuring to take place.

In order to evaluate the empirical relevance of the labour hoarding hypothesis, it is instructive to investigate the employment gains in periods of GDP expansion and GDP contraction. We are particularly interested in understanding what happens to employment growth during periods of output contraction, since labour hoarding typically implies job preservation during recessions.

Table 5 displays results obtained by running the following regression:

$$\Delta \ln e_{it} = \alpha_i + \beta_1 \Delta \ln y_{it}^{+} + \beta_2 \ln y_{it}^{-} + \gamma X_{it} + \varepsilon_{it}, \quad (1)$$

where the left-hand-side $\Delta \ln e_{it}$ is employment growth in country i between time t and time $t-1$, $\Delta \ln y_{it}^{+}$ is GDP growth during expansions and $\Delta \ln y_{it}^{-}$ is GDP growth during aggregate contractions. The vector X_i denotes the primary budget surplus, a key indicator of the stance of fiscal policy. The country specific institutions are captured

Table 5
Employment and output growth during contractions and expansions (panel regressions)

	I	II	III	IV
(Positive) GDP growth	0.31**	0.35***	–	–
	0.14	*0.15*		
(Negative) GDP growth	0.10	0.04	–	–
	0.67	0.08		
(Positive) GDP growth after 1996	–	0.02	–	–
		0.13		
		–		
(Negative) GDP growth after 1996	–	0.69***	–	–
		0.20		
Fitted (positive) GDP growth\1	–	–	*0.19**	*0.11*
			0.11	*0.19*
Fitted (negative) GDP growth\1	–	–	*0.07*	*0.68***
			0.10	*0.34*
Fitted (positive) GDP growth after 1996\1	–	–	–	*0.07*
				0.16
				–
Fitted (negative) GDP growth after 1996\1	–	–	–	*1.01****
				0.37
Primary surplus	0.19**	0.11	0.27**	*0.21***
	0.11	*0.10*	*0.11*	*0.11*
Observations	89	89	89	89
R^2				
Fixed effect	Yes	Yes	Yes	Yes
Years	92–02	92–02	92–02	92–02

Note: See the text for details on the specification and on the estimation method.

by the fixed effect term α_i.[3] The equation was estimated over a panel covering the CEE-10 in the period 1990–2002. Due to missing observations in some countries and time-periods, the total number of observations is 89.

The regressions are potentially difficult to interpret, since it is clear that output and employment, in a general equilibrium framework, are jointly determined endogenous variables. Just as employment demand is a function of the demand for output, output is in turn a function of factor (including employment) inputs. In some estimates (those displayed in the third and fourth column of Table 5), we attempt to reduce the resulting bias by using the distance-weighted output growth rate of each country's EU trading partners as an instrument for domestic output growth. That is, we run first stage regressions for domestic output growth as

$$\Delta y_{i,t} = \sum_{k \neq i}^{K} \alpha_i \Delta y_{k,t} + u_{i,t},$$

where $k = 1, \ldots, K$ are i's trading partners, and each growth rate is weighted by the distance between the capital in country k and the capital in country i. These first stage regressions have high R^2 coefficients for most countries. This approach assumes that the only way in which the trading partners' output growth affects domestic employment growth is through the domestic output growth rate, as captured by the first stage regression. This may be reasonable for small countries, although it might be argued that supply-side/productivity effects could be highly correlated across countries. Finally we allow the intercept and the relevant elasticity terms to vary across the two sub-periods 1992–1996 and 1997–2002 as 1996 was the first year in which most countries exited from the transitional recession.

The results suggest that labour hoarding has been important in the transitional recession, but it faded away after 1996. Whereas up to the mid-1990s output contractions were associated with stable employment, large employment losses during recessions took place in the aftermath of 1996. The first column of Table 5 reports the baseline regression of Eq. (1), and shows that only the coefficient on the positive growth variable (β_1) is significant. This is consistent with labour hoarding. Yet, when we look at the additional effect in the aftermath of 1996, we find that output contractions are associated to sizeable employment losses. This result confirms the view that labour markets are now destroying jobs during recession, partly reversing the large labour hoarding observed earlier on. When we instrument output growth with the two stage procedure outlined above, we find that the GDP contraction coefficient in the aftermath of 1996 is still negative and significant (column 3 in Table 5). The coefficient on expansion is instead no longer significant at conventional levels, suggesting that firms are indeed quite reluctant to hire.

The regressions also suggest that an accommodating fiscal policy contributes to restrain employment: the coefficient for the primary surplus is positive and significant. Two possible channels which can generate a positive link between fiscal tight-

[3] Available indicators of labour market institutions are, for the most, time invariant and are thus captured by the fixed effect term.

Table 6
Fiscal policies and public sector wages *(contemporaneous correlation coefficients)*

Correlation between public sector wages and....	Real wage growth in manufacturing	Primary surplus
Czech Republic	*0.54*	*−0.82*
Estonia	*0.55*	*−0.64*
Hungary	*0.44*	*−0.90*
Latvia	*0.53*	*0.42*
Lithuania	*0.53*	−0.31
Poland	*0.45*	0.15
Slovak Republic	n.a.	−0.05
Slovenia	*0.92*	0.36

Note: Italic characters denote coefficients which are significant at 5% significance.

ening and employment growth are as follows. The first occurs when fiscal deficits are associated with relatively large wage rises in the public sector, crowding out private job creation. The second channel is via credibility effects. A loose fiscal policy may discourage investors. Quantitative evidence on the first channel, namely the crowding out effect of public sector wages is presented in Table 6. The first column, in particular, reports a marked simultaneous correlation between changes in public sector wages and real wage growth in manufacturing. Thus, despite the strong reduction in corporate state ownership, public sector wages still play a pivotal role in determining the wage norm across the board. The second column shows also that larger primary deficits are associated with stronger growth of public sector wages in Czech Republic, Estonia and Hungary, while it does not appear to be significant in other countries, except Latvia where the correlation is positive.

5. Final remarks

Euro membership will prominently depend on the NMS satisfying some "broader criteria", including the flexibility of labour markets. NMS indeed already comply numerically with several Maastricht criteria (with the only exception of the two-years ERM II participation). Out of the four key convergence criteria, three were in most countries already satisfied in 2004. If one compares the position of the NMS three years before Euro membership with the position of the current Euro members, it appears that acceding countries are much closer to nominal convergence than the current members back in the mid-1990s. The main problems with nominal convergence rest with the fiscal criterion which has however been substantially weakened by the reform of the Stability and Growth Pact. Moreover, the criterion will be assessed in 2007, and countries have some time to adjust their fiscal position. Thus, as far as the Maastricht convergence criteria are concerned, NMS are likely to qualify for full membership in 2007.

In this paper we assessed readiness for membership in terms of the "broader criteria" envisaged by the European Central Bank, referring in particular to labour market institutions and outcomes. We documented that NMS display a fair degree

of wage and employment flexibility, in many dimensions larger than in the EMU area and there is no indication that closer integration would spur real wage dynamics out-pacing labour productivity growth. Our empirical results indicate that the low employment content of growth has to do with the reduction of labour hoarding inherited from the central planning and the early phases of transition. As to the absorption of unemployment, the stricter budget discipline required for the convergence to EMU will force Governments to internalise parts of the externalities on wage setting exerted by public sector pay, that continue to play a pivotal role in wage setting. Thus, rather than making things worse on the labour market side, early Euro adoption in the NMS may actually contribute to increase job creation.

Overall, even though labour markets in NMS have some structural problems, highlighted by large and stagnant pools of unemployment, they do not seem to work any worse than the labour markets in many current EMU countries. And the fiscal consolidation process, necessary for Euro membership, should not be harmful to the job generation process. Thus, the conditions of labour markets in the NMS do not provide a justification for postponing Euro adoption.

Acknowledgements

The authors wish to thank the editor, Paul Wachtel and an anonymous referee for helpful comments. A previous draft of the paper benefited from comments of Vedran Sosic and participants to the Tenth Dubrovnik conference. Statistical assistance from Paola Monti is gratefully acknowledged.

References

Bartelsman, E.J., Haltiwanger, J., Scarpetta, S., 2004. Microeconomic evidence of creative destruction in industrial and developing countries. Tinbergen Institute Discussion Papers 04-114/3, Tinbergen Institute.

Boeri, T., 2000. Structural Change, Welfare Systems and Labour reallocation. Oxford University Press, Oxford.

Boeri, T., Burda, M., 1996. Active labour market policies, job matching and the Czech miracle. European Economic Review, 805–817.

Boeri, T., Terrell, K., 2002. Institutional determinants of labor reallocation in transition. Journal of Economic Perspectives 16 (2), 51–76.

Dolado, J., Kramarz, F., Machin, S., Manning, A., Margolis, A., Teulings, C., 1996. The economic impact of minimum wages in Europe. Economic Policy, 317–372.

European Central Bank, 2004. The Acceding Countries' strategies towards ERM II and the adoption of the Euro: An analytical review. Occasional Paper No. 10, February.

Eurostat, 2003. Minimum wages: EU member states and candidate countries. Statistics in Focus (10 January).

Honohan, P., Lane, P.R., 2003. Divergency inflation in EMU. Economic Policy 37, 357–394.

Jackman, R., Roper, S., 1987. Structural unemployment. Oxford Bulletin of Economics and Statistics 49, 9–37.

OECD, 2004a. Employment Outlook, Paris, OECD.

OECD, 2004b. Employment Outlook, Chapter Two, Paris, OECD.

OECD, 2004c. Employment Outlook, Chapter Three, Paris, OECD.
Padoa-Schioppa, F. (Ed.), 1991. Mismatch and Labour Mobility. Cambridge University Press.
Svejnar, J., 1999. Labour markets in the transitional central and eastern European economies. In: Orley, Ashenfeld, Card, D. (Eds.), Handbook for Labour Economics, vol. 3–4. Elsevier Science, North-Holland, Amsterdam; New York and Oxford, pp. 2809–2857.