

Globalization and Protection of Employment

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Abstract

Unionists, anti-globalization activists and politicians frequently claim that globalization lowers employment protection of workers. This paper tests this hypothesis in a panel of 28 OECD countries from 1985 to 2003, differentiating between protection of regular and temporary employment. While globalization is shown to loosen protection of regularly employed, we find that it tightens the labor laws protecting temporary workers.

JEL Codes: F16, J80

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Introduction and development of hypotheses

The question of a harmonization of labor standards is on the agenda of nearly all intergovernmental meetings on international trade, be it in the framework of the European Union, NAFTA or WTO. From a producer's point of view, such labor standards, comprising the right to form unions, fixing maximum working hours and protecting against dismissals, impose additional production costs and threaten the international competitiveness of their companies. Consequently, a race-to-the-bottom process may be induced by international competition among firms in countries of heterogeneous labor standards (Sinn, 2001). In response, politicians typically demand a harmonization of labor standards at some minimum level, or argue even against free trade.

This paper tests the claim that globalization leads to such a race-to-the-bottom process of eliminating worker's employment protection. While models of international trade by Bhagwati and Srinivasan (1995) and Stern (2003) predict such a relation between globalization and labor standards, empirical evidence is rather scarce and mixed.

Dreher and Gaston (2005) empirically find in a cross-section time-series for 17 OECD countries from 1980 to 1999 that globalization adversely affects density and attractiveness of unions, as a consequence of their lower (relative) bargaining power. Similarly, Busse (2004), among others, finds a positive effect of international trade on gender discrimination and child labor. In contrast, preceding empirical studies by e.g. Wallerstein and Western (2000) or Golden (2000) report contradictory findings.

Dimitrova and Tchipev (2004) report for a cross-section of developed countries in 2000 that more foreign direct investment (FDI) is associated with stricter workers' rights (establishment of unions, right to strike and to bargain collectively). However, most of these studies neglect the problem of potential endogeneity of international trade. Moreover, they do not account for the different dimensions globalization might consist of, focusing on trade and FDI and ignoring its social and political aspects.

An issue that has not yet been in the focus of empirical studies on the effects of international trade is legislation that aims at protecting workers' employment. To fill this gap, this paper addresses the question to what extent globalization affects workers' employment protection, not only looking at protection of regular employment, but equally for temporary employment. This paper also improves upon the aforementioned shortcomings of the literature. By using the subindices of the KOF Index of Globalization¹, we study whether the effects of globalization differ across its economic, social and political dimensions.

As argued above, strict employment protection legislation comes at a cost to domestic employers, possibly leading to a competitive disadvantage. Arguably, firms will lobby for a reduction of employment protection the stronger, the more intense international economic integration is. In combination with the weakening effect of economic globalization on union power (Dreher and Gaston, 2005), we expect *economic globalization* to weaken employment protection of workers through legislation. For *social* and *political globalization*, the effects on employment protection might not be the

¹ See Dreher (2006).

same, and our prediction is rather ambiguous. The diffusion of ideas and values across nations, be they leftist or market-oriented, might well influence a society's choice of the level of labor protection in either direction. The same holds for the propagation of political ideas. Furthermore, a key aspect of political globalization is membership in international organizations. Such organizations, however, might function as transmission channels of economic downward pressure.

In this paper, we find a substantial influence of globalization on employment protection. This influence differs both across the dimensions of globalization as well as the different sectors of the labor market. While economic and political globalization is shown to loosen protection of regularly employed, we find that political and social globalization tighten the labor laws protecting temporary workers.

Data

For our analysis, we employ the index of Employment Protection Legislation (EPL) provided by the OECD for 28 OECD countries covering the period 1985 to 2003.² For regularly employed workers, the relevant EPL index (EPL_reg) measures the overall strictness of protection mostly against (individual and mass) dismissals. In contrast, for workers with short-term contracts, the EPL (EPL_temp) captures overall strength of restrictions on establishing and maintaining temporary employment contracts. In general,

² The excluded countries are Iceland and Luxembourg with no observations of EPL. The included countries are: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Rep., Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States of America.

each EPL index is calculated as an average of points awarded to its specific sub-dimensions (see OECD Employment Outlook 2004 for more details). Each index ranges from 0 to 6 with continuous intervals, and higher values indicate a stronger protection of workers.

Globalization is measured by the annual KOF globalization index developed by Dreher (2006) from 1970 on, which measures the degree of globalization on a 0 to 100 scale. Its subindices cover a country's economic, political, and social dimensions of globalization, measured by, e.g., cross-national trade and investment flows, membership in international organizations, or fast food chain prevalence and cross-national trade in books and newspapers.³ In our sample of OECD countries, this index of economic globalization ranges from 37.8 to 96.0 and has mean 73.5 with a standard deviation of 12.5.

In this analysis, we also employ data on unemployment rate, unemployment benefit spending (as share of GDP), population size, and national income (GDP), its 5-year growth rate, all obtained from the World Bank's World Development Indicator (WDI) database (2007). Furthermore, we measure the political leaning of the government in two different ways. First, we use a dummy indicating a left-wing government, which has been constructed from data available in the updated version (2005) of Beck et al. (2001). Second, we use the index developed in Bjørnskov (2008), which is continuous between the values -1 and 1, where -1 indicates a fully left wing government, and 1 a right wing government. Although the maximum number of observations is 486 country-years, due to some missing values in the explanatory variables, we obtain an unbalanced panel in the

³ The index is now widely used, e.g. by

various regressions with a maximum of 480 observations. For further descriptive statistics, see Appendix Table A5.

Model

In our model we view employment protection legislation in country i at time t (EPL_{it}) as a function of globalization in the same country (GLOB), and a set of country-specific controlling factors (X) that might be correlated with both the focal variable and the dependent variable. Country (FE_i) and year (T_t) fixed effects account for unobserved country heterogeneity due to time-invariant national characteristics and year-specific (but country-unspecific) factors (such as world-wide shocks). A preliminary Hausman test rejected the random effects specification in favor of the fixed effects model, which we employ, while an F-test of joint significance indicates that the year effects should not be omitted from the equation. An error term completes the model.

Potential simultaneity might bias the estimated coefficient vector. We address this issue by employing country fixed effects and lagging the explanatory variables by two periods.⁴ We chose this lag structure on theoretical grounds, particularly because in most OECD countries the legislature period is four years, so that a 2-year lag might account for the duration of the legislating process and the response time of the politicians to changes in the economy. Furthermore, as robustness test we estimate a more parsimonious model that excludes some of the potentially endogenous determinants. The complete model looks as follows:

⁴ Lack of suitable instruments does not allow for testing the exogeneity assumption. Although the dependent variable may be viewed as truncated below 0 and above 5, a fixed effects estimation using unconditional tobit might yield biased estimates.

$$EPL_{it} = GLOB_{it-2} + X_{it-2} + FE_i + T_t + e_{it}$$

The vector X_{it-2} contains as controlling variables, first, the unemployment rate and unemployment spending (in log), as a pressure to loosen employment protection might not only emerge from international competition, but also from the situation in the domestic labor market and its impact on the government budget. We furthermore control for the 5-year GDP growth rate and national income, as both faster growing and richer countries are more likely to have strong unions leading to stricter employment protection (see Dreher and Gaston, 2005; Wallerstein and Western, 2000). Vector X_{it-2} also includes the logarithm of the population size accounting for the size the domestic market, with a larger domestic demand possibly leading to a lower ‘need’ for international integration and hence lower competitive pressure on labor standards. Based on the political economy model of Dimitrova and Tchipev (2004), the set of controlling factors is complemented by an ideology variable for a left-wing or right-wing governments, as we conjecture left wing governments to prefer protecting workers to a greater extent than center- or right-wing governments. For an exact definition of the variables, see Table A5.

Results

In general, the results of our estimations confirm our predictions made above. We find support for our hypothesis that globalization reduces employment protection. In particular, as Table 1 shows, this seems to be the case only for the protection of regular

employment, while Table 2 suggests that protection of the temporarily employed is improved.

In this labor market sector of regularly employed, we find that the protection-lowering effect of globalization (Table 1 column 1) to be driven by its political and economic dimensions, which exert a significant negative impact on employment protection - independently as well as when simultaneously included in the regressions (Table 1 columns 2, 3, and 4). Simultaneous inclusion lets us rule out the possibility that one dimension simply proxies another in the single dimension regressions (Table 1, column 2).⁵ In contrast, the social dimension of globalization, the world-wide dissemination of ideas through the media, does not appear to contribute to this phenomenon (Table 1 column 5). For the regular employment sector, a simple comparison of the estimated coefficients indicates that economic globalization has quantitatively the largest effect on employment protection. The size of the effect, however, is rather small: an increase in economic globalization by 10 score points lowers employment protection by roughly 0.1 points. Taken the results of Table 1 together, mainly economic, but to some extent also political, globalization lead to weaker laws protecting regular employment, suggesting that fiercer international market competition makes domestic firms lobby for more labor market flexibility.

In contrast, globalization, measured by the general index, enhances employment protection of temporarily employed workers (Table 2 column 1). However, it is not the economic dimension of globalization that gives rise to this finding, as its significant and

⁵ The similarity of coefficients on globalization measures across models 2, 3, 4, and 5 suggests that the three dimensions do not approximate each other in the single-dimension regressions, despite of their considerable correlation, particularly of the economic dimension with the political one ($\rho = 0.72$).

negative coefficient estimate suggests (Table 2 column 3). Instead, both social and political globalization appear to raise employment protection (Table 2, columns 4 and 5), outweighing the negative effect of economic globalization. However, the full model for temporary employment protection suggests that the positive effect of globalization is caused by the social dimension playing the dominant role. Columns 4 and 5 of Table 2 show that the estimated coefficient of the social dimension is twice as large as that of the political dimension (0.018 versus 0.009). Column 2 includes all three dimensions of globalization and confirms the single-dimension analyses. The result also suggests that the net effect of globalization on protection of temporary employment is positive, and driven entirely by its non-economic dimensions (social and political). Taken the results of Table 2 altogether, we find that globalization in the social dimension, namely the international exchange of ideas and people, puts an upward pressure on protection of temporarily employed workers. Comparing the findings across labor market sectors (Tables 1 and 2), we find the quantitative impact of overall globalization strongest for the more vulnerable workers, while that on the regularly employed is about two thirds of the size on the latter (0.015 versus 0.022, in absolute terms).

Turning to our controlling variables, we observe some similarities and some dissimilarities in their effects across the two different labor market segments. For both segments, more populous countries tend to protect their workers better, while economic growth does not appear to play a decisive role. For regular employment, supporting our reasoning above, we also find that left-wing governments tend to support a higher level of employment protection (at least at the 5 percent level). In tendency, this effect is also

observable for temporary employment, albeit statistically much weaker. The same result is found when we employ a continuous variable measuring ideology instead of a dummy variable (Tables 1B and 2B). Table 1 shows that a larger burden of unemployment spending in the economy, measured as share of GDP, puts a downward pressure on labor market regulation for the regular employment sector, as predicted. In the temporary employment sector, unemployment spending does also have a significantly negative effect on employment protection (Table 2), though with a coefficient estimate twice as large as that for regular employment. Hence, it seems that politicians that want to reduce unemployment spending tend to introduce larger cuts in employment protection in the temporary employment sector. The negative correlation between generosity of unemployment benefits and employment protection was already reported in the OECD (2004) (reprinted as Table A6). Finally, we find that richer countries protect temporarily employed workers better, as predicted. In contrast, the protection of regularly employed laborers is lowered in richer countries, potentially because higher incomes serve as risk premium in a neo-classical sense.

In interpretation of our main result, apparently, economic forces of globalization and international competition lower both regular and temporary employment protection. In contrast, it is the social dimension of globalization that is most decisive for a stronger protection of temporarily employed. Political international integration affects both labor market segments likewise: it works in the same direction as economic globalization for regular employment, but strongly in the opposite direction for temporary employment, supported by social international connectedness. Hence, it seems like domestic politicians

and unions counteract the detrimental effects of globalization in one sector with stronger protection in the other sector, at least during the years 1985 to 2003. This is an extremely interesting result, as economic globalization itself has led to a rise in temporary employment, due to the increased need for labor market flexibility. Within, e.g., the EU, temporary employment has risen significantly between 1992 and 2002.⁶ Hence, it may be the case that policymakers and employers buy support for lower employment protection in the (traditional and economically more important) regular employment sector by granting stronger protection in the ‘younger’ temporary sector, which, given this sectors’ minor importance, still leads to a increase in overall labor market flexibility.

The results are qualitatively similar if a more parsimonious model is estimated that omits those variables that are potentially endogenous to employment protection, such as measures of unemployment rate, GDP growth and left-wing ideology of the government. Moreover, the findings are robust to estimation with a reduced sample that excludes the former communist countries Czech Republic, Poland, Hungary and Slovak Republic (see the respective tables in the Appendix). The results are also qualitatively unaltered when we take more explicitly into account autocorrelation of the residuals or when we use a continuous measure for political ideology (the Bjørnskov 2008 index) instead of a left-wing government dummy variable.

⁶ See Franco and Winqvist (2002).

The aggravating effect of globalization for employment protection

The impact exerted by globalization might not only be direct, but also indirect. More specifically, the effects of domestic macroeconomic and political factors that weaken employment protection might be aggravated through the pressures of e.g. the international market and international politics. Put differently, we can expect interplay of these domestic factors with the three dimensions of globalization. In the following we test this conjecture for unemployment spending and a right-wing ideology of the government both of which were previously found to lower employment protection, at least of the regularly employed.

Tables 3 through 6 show the results of this exercise. In order to allow for a statistically interpretable interaction effect between the measures of globalization and unemployment spending or government ideology, respectively, we center the variables in question. Moreover, we employ the continuous measure of right-wing government ideology by Bjørnskov (2008) instead of the previously employed dichotomous variable for left-wing governments. The models with the odd numbers (1, 3, and 5) report the findings for the baseline specification, while the models with the even numbers (2, 4, and 6) also include interaction terms.

In Table 3, in almost all models higher unemployment spending lowers protection of the regularly employed, as already observed in Table 1. Indeed, inclusion of the interaction term with globalization makes this finding even more statistically robust. Again, both political and economic globalization are negatively associated with employment

protection of regular workers (columns 1 to 4), while globalization in the social dimension exerts no significant influence (columns 5 and 6). In line with our hypothesis, we find that economic and political dimensions of globalization significantly interact with unemployment spending to lower the protection of the regularly employed (column 2 and 4). Thus, stronger linkages with international markets and political organizations aggravate the pressure exerted by domestic macroeconomic structures such as a generous and budget-burdening unemployment benefit system.⁷ Simultaneous inclusion of all measures of globalization and its interaction terms confirms the results for the per se effects of economic and political globalization as well as for the interaction with economic globalization. In contrast, no interaction with the political dimension appears to take place any more, suggesting that in column (4) it approximated the economic dimension effect. In this specification, we now observe a counteracting effect of the social dimension of globalization, which is not positively interacted with unemployment spending.⁸ Thus, in a globalized world economic linkages add to the pressure of a bad labor market performance to lower protection of workers, while the international information flow counteracts such development.

Table 4 analyzes the same question for workers with temporary contracts. Again it is political and social dimensions of globalization that are to the benefit of the temporarily employed (columns 3 to 6), while the economic dimension plays no role (columns 1 and 2). Unemployment spending is associated with lower employment protection in all

⁷ Notably, as we have controlled for the unemployment rate, unemployment spending is also interpretable as a measure of generosity rather than sheer size.

⁸ Results are available on request from the authors. The estimates for political and economic globalization are -0.007 and -0.011, respectively, both significant at the 1 percent level. The significant interaction terms are -0.005 for that with economic globalization and 0.003 for that with social globalization, respectively.

regressions. The estimates of the interaction terms show that both economic and political globalization in its interplay with unemployment spending lower the protection of the temporarily employed. In the case of social globalization, it appears that globalization reduces the otherwise positive effect of social globalization on employment protection. However, a model that includes all three measures of globalization and their interactions simultaneously reveals that it is the interaction with the political dimension that drives these results. The size of the coefficient on the interaction term, however, is negligibly small, so that the total effect of political globalization on the temporarily employed remains positive.⁹

Table 5 shows the results including interactions between globalization and government ideology. Again, we find negative and significant effects for economic and political globalization, and no significant effect for social globalization (columns 1, 3 and 5). Interestingly, we find that employment protection is reduced further with increasing economic globalization, the more right wing the government is. We find no such effect for the political and social dimensions of globalization (columns 2, 4 and 6). For the temporarily employed, again, only social and political globalization matter (columns 1, 3 and 5). Having a right-wing government is found to increase the positive effect of political globalization on the protection of the short-term-contract workers (column 4). This result may indicate that it is a strategy of particularly right-wing governments to appease the work force and unions by stronger protecting the (economically far less important) temporarily employed.

⁹ Results are available from the authors on request. The estimate on political glob* unemployment spending is -.007 (at the 10 percent level), while that on political globalization is .012 (at the 5 percent level) and that on social globalization is .0134 (at the 5 percent level).

Conclusion

This paper empirically investigates whether globalization puts a downward pressure on protection of workers' positions, differentiating between temporary and regular employment. Using a panel of 26 OECD countries from 1985 to 2003, we test for the impact of globalization in its economic, political and social dimension. We find that economic globalization lowers employment protection for regularly employed workers. Political globalization appears to add to this downward pressure. However, for temporarily employed workers, international political and social integration prevent such development, resulting in an overall stricter protection of such workers. This finding may indicate that stricter protection of the latter group of workers serves as symbolic political act to 'buy' voters' acceptance for labor market liberalization for the regularly employed. To address this question, further research is needed.

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Appendix

Table A1: Parsimonious model, regular employment

	(1)	(2)	(3)	(4)
<i>log GDP (-2)</i>	-0.529*** [4.26]	-0.448*** [3.50]	-0.464*** [3.64]	-0.489*** [3.94]
<i>log Population (-2)</i>	1.194*** [3.44]	1.549*** [4.43]	1.402*** [3.91]	1.083*** [3.08]
<i>Economic Glob. (-2)</i>	-0.012*** [5.45]			-0.012*** [5.28]
<i>Political Glob. (-2)</i>		-0.004** [2.33]		-0.004** [2.29]
<i>Social Glob. (-2)</i>			-0.004** [2.15]	-0.002 [1.23]
<i>Observations</i>	480	480	480	480
<i>Number of countries</i>	28	28	28	28
<i>R-squared (within)</i>	0.19	0.15	0.15	0.21

Notes: Dependent variable is the Employment Protection Index for regularly employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006). Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Table A2: Parsimonious model, temporary employment

	(1)	(2)	(3)	(4)
<i>log GDP (-2)</i>	1.018*** [3.19]	0.944*** [2.97]	0.961*** [3.06]	0.882*** [2.79]
<i>log Population (-2)</i>	6.522*** [7.29]	6.624*** [7.61]	7.279*** [8.22]	7.190*** [8.03]
<i>Economic Glob. (-2)</i>	-0.001 [0.20]			-0.004 [0.66]
<i>Political Glob. (-2)</i>		0.009** [2.37]		0.008** [2.00]
<i>Social Glob. (-2)</i>			0.016*** [3.64]	0.015*** [3.46]
<i>Observations</i>	480	480	480	480
<i>Number of countries</i>	28	28	28	28
<i>R-squared (within)</i>	0.33	0.33	0.35	0.35

Notes: Dependent variable is the Employment Protection Index for temporarily employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006). Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Table A3: OECD countries with no communist past, regular employment

	(1)	(2)	(3)	(4)
<i>log GDP (-2)</i>	-1.643*** [4.51]	-1.664*** [4.44]	-2.091*** [5.31]	-1.344*** [3.33]
<i>log Population (-2)</i>	2.244*** [5.70]	2.457*** [6.14]	2.388*** [5.82]	2.452*** [6.18]
<i>Unemployment (-2)</i>	0 [0.03]	-0.007 [1.04]	-0.007 [1.11]	0 [0.05]
<i>Unempl. Spending (-2)</i>	-0.070** [2.03]	-0.034 [0.97]	-0.05 [1.43]	-0.051 [1.48]
<i>GDP Deflator (-2)</i>	0.000*** [3.88]	0.000*** [3.85]	0.000*** [4.52]	0.000*** [3.03]
<i>Left-wing Govt. (-2)</i>	0.040** [2.02]	0.051** [2.53]	0.040** [2.00]	0.052*** [2.62]
<i>Economic Glob. (-2)</i>	-0.011*** [4.00]			-0.012*** [4.51]
<i>Political Glob. (-2)</i>		-0.006*** [2.88]		-0.007*** [3.56]
<i>Social Glob. (-2)</i>			0.002 [0.68]	0.002 [0.89]
<i>Observations</i>	370	370	370	370
<i>Number of id</i>	22	22	22	22
<i>R-squared (within)</i>	0.35	0.33	0.31	0.37

Absolute value of t statistics in brackets

** significant at 10%; ** significant at 5%; *** significant at 1% level*

Table A4: OECD countries with no communist past, temporary employment

	(1)	(2)	(3)	(4)
<i>log GDP (-2)</i>	5.170*** [5.12]	4.157*** [4.04]	3.114*** [2.97]	3.171*** [2.85]
<i>log Population (-2)</i>	9.447*** [8.65]	9.371*** [8.53]	10.383*** [9.49]	10.102*** [9.23]
<i>Unemployment (-2)</i>	0.032* [1.75]	0.022 [1.25]	0.013 [0.76]	0.022 [1.25]
<i>Unempl. Spending (-2)</i>	-0.170* [1.77]	-0.170* [1.76]	-0.13 [1.38]	-0.177* [1.86]
<i>GDP Deflator (-2)</i>	-0.000*** [3.10]	-0.000** [2.27]	0 [1.15]	0 [1.16]
<i>Left-wing Govt. (-2)</i>	0.074 [1.35]	0.058 [1.05]	0.068 [1.26]	0.053 [0.98]
<i>Economic Glob. (-2)</i>	-0.015** [2.05]			-0.014* [1.95]
<i>Political Glob. (-2)</i>		0.009* [1.71]		0.007 [1.36]
<i>Social Glob. (-2)</i>			0.023*** [3.80]	0.022*** [3.80]
<i>Observations</i>	370	370	370	370
<i>Number of id</i>	22	22	22	22
<i>R-squared (within)</i>	0.44	0.44	0.46	0.47

Absolute value of t statistics in brackets

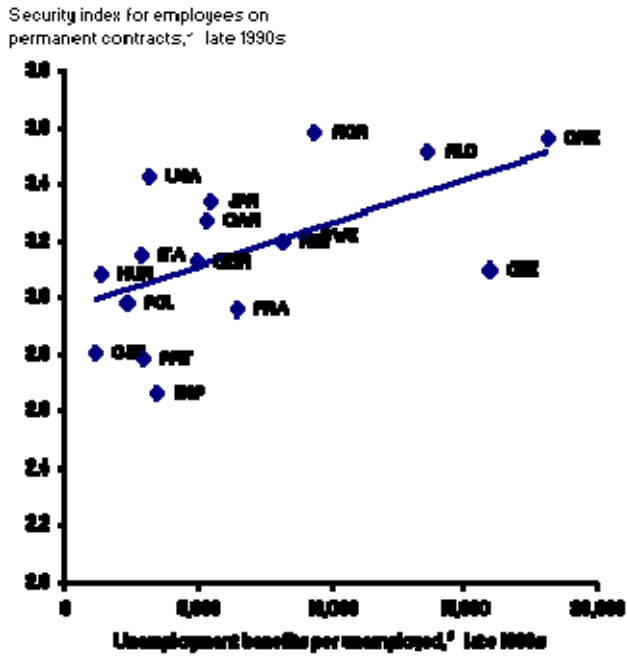
* significant at 10%; ** significant at 5%; *** significant at 1% level

Table A5: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max	Definition	Source
Employment protection regular	401	2.19	0.96	0.17	5	Index from (0) to (5)	OECD (2004)
Employment protection temporary	401	2.19	1.59	0.25	5.38	Index from (0) to (5)	OECD (2004)
Economic globalization (-2)	401	73.49	12.47	37.75	96.04	Indicator from (0) to (100)	Dreher (2006)
						Indicator from (0) to (100)	Dreher (2006)
Political globalization (-2)	401	79.93	12.95	39.41	99.00		
Social globalization (-2)	401	67.86	16.93	19.83	92.04	Indicator from (0) to (100)	Dreher (2006)
Log GDP (-2)	401	9.90	0.35	8.54	10.46	National income	WDI (2007)
Log Population (-2)	401	12.13	1.20	10.42	14.86	Population	WDI (2007)
Unemployment rate (-2)	401	8.43	4.08	1.60	23.90	Share of unemployed in active population	OECD Statistics
Log unemployment spending (-2)	401	0.11	0.80	-2.30	1.67	Unemployment spending as share of GDP	OECD Statistics
5-year GDP growth (-2)	401	0.11	0.09	-0.16	0.51	$(GDP - GDP(-5)) / GDP(-5)$	
Left-wing government_(-2)	401	0.45	0.50	0	1	Dummy variable.	Beck et al (2001)
Right-wing government_(-2)	401	0.26	0.36	-0.57	1	Continuous measure	Bjørnskov (2008)
Year	401	1994.98	5.30	1985	2003		

Notes: based on regression sample of Tables 1 and 2.

Table A6: Employment protection and generosity of unemployment benefits



Source: OECD Economic Outlook, 2004, chart 1.

Expenditure on unemployment defined as compensation divided by LFS unemployment. For the unemployment benefits per unemployed, Pearson correlation coefficient is 0.58** for permanent contracts and 0.59** for temporary contracts.
 *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Tables

Table 1: Globalization and protection of regularly employed 1985-2003

	(1)	(2)	(3)	(4)	(5)
<i>log GDP (-2)</i>	-0.838** [2.54]	-0.711** [2.18]	-1.112*** [3.65]	-1.127*** [3.60]	-1.402*** [4.48]
<i>log Population (-2)</i>	2.121*** [5.55]	2.283*** [5.99]	2.158*** [5.67]	2.387*** [6.19]	2.238*** [5.68]
<i>Unemployment (-2)</i>	0.003 [0.58]	0.006 [1.15]	0.006 [1.03]	-0.001 [0.12]	0 [0.09]
<i>Log Unemployment spending (-2)</i>	-0.068** [2.24]	-0.076** [2.51]	-0.095*** [3.14]	-0.058* [1.89]	-0.075** [2.44]
<i>GDP growth (-2)</i>	0.000** [2.04]	0.000* [1.87]	0.000*** [2.98]	0.000*** [3.02]	0.000*** [3.62]
<i>Left-wing government (-2)</i>	0.054*** [2.89]	0.059*** [3.21]	0.047** [2.56]	0.059*** [3.11]	0.048** [2.55]
<i>Globalization (-2)</i>	-0.015*** [4.03]				
<i>Economic Glob. (-2)</i>		-0.011*** [4.57]	-0.010*** [4.12]		
<i>Political Glob. (-2)</i>		-0.007*** [3.71]		-0.006*** [3.15]	
<i>Social Glob. (-2)</i>		0 [0.18]			-0.001 [0.38]
<i>Observations</i>	401	401	401	401	401
<i>Number of countries</i>	26	26	26	26	26
<i>R-squared (within)</i>	0.3227	0.3498	0.3239	0.3107	0.2914
<i>R-squared (overall)</i>	0.32	0.35	0.32	0.31	0.29

Notes: Dependent variable is the Employment Protection Index for regularly employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006), political orientation of the government is measured by a dummy for left-wing governments. Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Table 1 B: Globalization and protection of regularly employed 1985-2003

	(1)	(2)	(3)	(4)	(5)
<i>log GDP (-2)</i>	-0.537 [1.43]	-0.415 [1.11]	-0.944*** [2.74]	-0.871** [2.41]	-1.194*** [3.32]
<i>log Population (-2)</i>	2.376*** [5.42]	2.484*** [5.64]	2.279*** [5.17]	2.735*** [6.10]	2.480*** [5.48]
<i>Unemployment (-2)</i>	0.002 [0.39]	0.005 [0.98]	0.005 [0.92]	-0.003 [0.63]	-0.003 [0.46]
<i>Log Unemployment spending (-2)</i>	-0.055* [1.84]	-0.062** [2.05]	-0.087*** [2.89]	-0.042 [1.37]	-0.063** [2.07]
<i>GDP growth (-2)</i>	0 [1.03]	0 [0.85]	0.000** [2.19]	0.000* [1.76]	0.000** [2.52]
<i>Rightwing government (continuous) (-2)</i>	-0.088*** [2.93]	-0.095*** [3.22]	-0.074** [2.50]	-0.078*** [2.59]	-0.064** [2.11]
<i>Globalization (-2)</i>	-0.016*** [4.32]				
<i>Economic Glob. (-2)</i>		-0.012*** [4.78]	-0.011*** [4.30]		
<i>Political Glob. (-2)</i>		-0.007*** [3.81]		-0.006*** [3.21]	
<i>Social Glob. (-2)</i>		-0.001 [0.58]			-0.001 [0.61]
<i>Observations</i>	396	396	396	396	396
<i>Number of countries</i>	25	25	25	25	25
<i>R-squared (within)</i>	0.3244	0.3523	0.3242	0.3085	0.2888
<i>R-squared (overall)</i>	0.32	0.35	0.32	0.31	0.29

Notes: Dependent variable is the Employment Protection Index for regularly employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006), political orientation of the government is measured by the continuous ideology index developed by Björnskov (2008). Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Table 2: Globalization and protection of temporarily employed 1985-2003

	(1)	(2)	(3)	(4)	(5)
<i>log GDP (-2)</i>	3.769*** [4.13]	3.932*** [4.35]	5.083*** [6.03]	4.165*** [4.85]	3.883*** [4.63]
<i>log Population (-2)</i>	9.447*** [8.94]	9.492*** [8.99]	9.100*** [8.63]	9.049*** [8.54]	9.787*** [9.28]
<i>Unemployment (-2)</i>	0.011 [0.69]	0.023 [1.48]	0.025 [1.59]	0.016 [1.07]	0.014 [0.96]
<i>Log Unemployment spending (-2)</i>	-0.142* [1.71]	-0.199** [2.37]	-0.156* [1.86]	-0.157* [1.86]	-0.153* [1.85]
<i>GDP growth (-2)</i>	-0.000** [2.28]	-0.000** [2.40]	-0.000*** [3.74]	-0.000*** [2.85]	-0.000** [2.43]
<i>Left-wing government (-2)</i>	0.079 [1.54]	0.075 [1.48]	0.085* [1.67]	0.07 [1.35]	0.090* [1.77]
<i>Globalization (-2)</i>	0.022** [2.13]				
<i>Economic Glob. (-2)</i>		-0.013* [1.95]	-0.014** [2.05]		
<i>Political Glob. (-2)</i>		0.007 [1.42]		0.009* [1.77]	
<i>Social Glob. (-2)</i>		0.018*** [3.31]			0.018*** [3.33]
<i>Observations</i>	401	401	401	401	401
<i>Number of countries</i>	26	26	26	26	26
<i>R-squared (within)</i>	0.4305	0.4511	0.4299	0.4282	0.4408
<i>R-squared (overall)</i>	0.43	0.45	0.43	0.43	0.44

Notes: Dependent variable is the Employment Protection Index for temporarily employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006). Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Table 2B: Globalization and protection of temporarily employed 1985-2003

	(1)	(2)	(3)	(4)	(5)
<i>log GDP (-2)</i>	4.608*** [4.47]	4.579*** [4.45]	5.991*** [6.31]	4.982*** [5.07]	4.895*** [5.11]
<i>log Population (-2)</i>	11.158*** [9.26]	10.802*** [8.87]	10.708*** [8.81]	10.563*** [8.67]	11.379*** [9.45]
<i>Unemployment (-2)</i>	-0.004 [0.30]	0.008 [0.53]	0.011 [0.72]	0.004 [0.27]	0 [0.03]
<i>Log Unemployment spending (-2)</i>	-0.123 [1.51]	-0.182** [2.17]	-0.133 [1.60]	-0.149* [1.78]	-0.125 [1.54]
<i>GDP growth (-2)</i>	-0.000*** [3.52]	-0.000*** [3.41]	-0.000*** [4.86]	-0.000*** [3.91]	-0.000*** [3.90]
<i>Rightwing government (continuous) (-2)</i>	0.096 [1.17]	0.096 [1.18]	0.046 [0.56]	0.087 [1.06]	0.081 [1.01]
<i>Globalization (-2)</i>	0.024** [2.31]				
<i>Economic Glob. (-2)</i>		-0.011 [1.47]	-0.012* [1.67]		
<i>Political Glob. (-2)</i>		0.010* [1.90]		0.011** [2.09]	
<i>Social Glob. (-2)</i>		0.016*** [2.93]			0.016*** [2.93]
<i>Observations</i>	396	396	396	396	396
<i>Number of countries</i>	25	25	25	25	25
<i>R-squared (within)</i>	0.4305	0.4511	0.4299	0.4282	0.4408
<i>R-squared (overall)</i>	0.4413	0.4567	0.4373	0.4398	0.4465

Notes: Dependent variable is the Employment Protection Index for temporarily employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006), political orientation of the government is measured by the continuous ideology index developed by Björnskov (2008). Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Table 3: Interaction between globalization and unemployment spending for regular employment

	(1)	(2)	(3)	(4)	(5)	(6)
<i>log GDP (-2)</i>	-0.545 [1.43]	-0.619 [1.63]	-0.948*** [2.71]	-1.096*** [3.07]	-0.873** [2.37]	-0.837** [2.28]
<i>log Population (-2)</i>	2.354*** [5.29]	2.201*** [4.93]	2.251*** [5.03]	2.133*** [4.74]	2.717*** [5.97]	2.749*** [6.06]
<i>Unemployment (-2)</i>	0.002 [0.43]	0.004 [0.72]	0.006 [1.02]	0.004 [0.67]	-0.003 [0.52]	-0.003 [0.56]
<i>Log Unemployment spending (-2) (centered)</i>	-0.060* [1.92]	-0.077** [2.42]	-0.095*** [3.02]	-0.094*** [3.00]	-0.049 [1.51]	-0.053* [1.66]
<i>GDP growth (-2)</i>	0 [0.97]	0 [1.17]	0.000** [2.14]	0.000** [2.27]	0.000* [1.74]	0.000* [1.71]
<i>Rightwing government (continuous) (-2)</i>	-0.086*** [2.84]	-0.075** [2.47]	-0.072** [2.42]	-0.059* [1.94]	-0.077** [2.53]	-0.068** [2.21]
<i>Economic Glob. (-2) (centered)</i>	-0.011*** [4.30]	-0.009*** [2.89]				
<i>Political Glob. (-2) (centered)</i>			-0.006*** [3.17]	-0.008*** [3.63]		
<i>Social Glob. (-2) (centered)</i>					-0.001 [0.58]	-0.002 [0.91]
<i>globalization * log unemployment spending</i>		-0.004** [1.97]		-0.002* [1.94]		-0.001 [1.02]
<i>Observations</i>	385	385	385	385	385	385
<i>Number of countries</i>	24	24	24	24	24	24
<i>R-squared (within)</i>	0.3267	0.3344	0.3102	0.3178	0.2903	0.2926
<i>R-squared (overall)</i>	0.33	0.33	0.31	0.32	0.29	0.29

Notes: Dependent variable is the Employment Protection Index for regularly employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006), political orientation of the government is measured by the continuous ideology index developed by Björnskov (2008). Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Table 4: Interaction between globalization and unemployment spending for temporary employment

	(1)	(2)	(3)	(4)	(5)	(6)
<i>log GDP (-2)</i>	6.151*** [6.40]	5.842*** [5.96]	5.176*** [5.20]	5.333*** [5.43]	4.976*** [5.17]	4.784*** [4.95]
<i>log Population (-2)</i>	10.736*** [8.75]	10.489*** [8.49]	10.605*** [8.63]	10.747*** [8.85]	11.475*** [9.48]	11.088*** [9.03]
<i>Unemployment (-2)</i>	0.015 [0.92]	0.011 [0.65]	0.007 [0.49]	0.006 [0.42]	0.004 [0.25]	0.009 [0.58]
<i>Log Unemployment spending (-2) (centered)</i>	-0.148* [1.71]	-0.146* [1.69]	-0.161* [1.85]	-0.182** [2.11]	-0.148* [1.75]	-0.189** [2.16]
<i>GDP growth (-2)</i>	-0.000*** [4.75]	-0.000*** [4.66]	-0.000*** [3.85]	-0.000*** [3.97]	-0.000*** [3.67]	-0.000*** [3.39]
<i>Rightwing government (continuous) (-2)</i>	0.035 [0.42]	0.062 [0.74]	0.074 [0.90]	0.115 [1.39]	0.071 [0.88]	0.087 [1.07]
<i>Economic Glob. (-2) (centered)</i>	-0.012 [1.61]	-0.006 [0.72]				
<i>Political Glob. (-2) (centered)</i>			0.011** [1.99]	0.005 [0.90]		
<i>Social Glob. (-2) (centered)</i>					0.019*** [3.36]	0.015** [2.51]
<i>globalization * log unemployment spending</i>		-0.007 [1.50]		-0.010*** [3.18]		-0.004* [1.73]
<i>Observations</i>	385	385	385	385	385	385
<i>Number of countries</i>	24	24	24	24	24	24
<i>R-squared (within)</i>	0.445	0.4486	0.4472	0.4633	0.4589	0.4636
<i>R-squared (overall)</i>	0.44	0.45	0.45	0.46	0.46	0.46

Notes: Dependent variable is the Employment Protection Index for temporarily employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006), political orientation of the government is measured by the continuous ideology index developed by Björnskov (2008). Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Table 5: Interaction between globalization and government ideology for regular employment

	(1)	(2)	(3)	(4)	(5)	(6)
<i>log GDP (-2)</i>	-0.948*** [2.71]	-1.053*** [2.99]	-0.873** [2.37]	-0.858** [2.32]	-1.203*** [3.30]	-1.185*** [3.22]
<i>log Population (-2)</i>	2.251*** [5.03]	2.436*** [5.36]	2.717*** [5.97]	2.715*** [5.96]	2.461*** [5.36]	2.442*** [5.29]
<i>Unemployment (-2)</i>	0.006 [1.02]	0.005 [0.92]	-0.003 [0.52]	-0.003 [0.50]	-0.002 [0.37]	-0.002 [0.35]
<i>Log Unemployment spending (-2) (centered)</i>	-0.095*** [3.02]	-0.091*** [2.89]	-0.049 [1.51]	-0.051 [1.56]	-0.069** [2.17]	-0.070** [2.18]
<i>GDP growth (-2)</i>	0.000** [2.14]	0.000** [2.47]	0.000* [1.74]	0.000* [1.68]	0.000** [2.47]	0.000** [2.38]
<i>Rightwing government (continuous) (-2)</i>	-0.072** [2.42]	-0.063** [2.07]	-0.077** [2.53]	-0.078** [2.53]	-0.063** [2.04]	-0.064** [2.08]
<i>Economic Glob. (-2) (centered)</i>	-0.011*** [4.30]	-0.012*** [4.34]				
<i>Political Glob. (-2) (centered)</i>			-0.006*** [3.17]	-0.006*** [3.18]		
<i>Social Glob. (-2) (centered)</i>					-0.001 [0.58]	-0.001 [0.63]
<i>globalization * rightwing government</i>		-0.007** [2.08]		0.001 [0.42]		0.001 [0.50]
<i>Observations</i>	385	385	385	385	385	385
<i>Number of countries</i>	24	24	24	24	24	24
<i>R-squared (within)</i>	0.3267	0.3352	0.3102	0.3106	0.2903	0.2909
<i>R-squared (overall)</i>	0.33	0.34	0.31	0.31	0.29	0.29

Notes: Dependent variable is the Employment Protection Index for regularly employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006), political orientation of the government is measured by the continuous ideology index developed by Björnskov (2008). Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.

Table 6: Interaction between globalization and government ideology for temporary employment

	(1)	(2)	(3)	(4)	(5)	(6)
<i>log GDP (-2)</i>	6.151*** [6.40]	6.157*** [6.33]	5.176*** [5.20]	5.395*** [5.43]	4.976*** [5.17]	4.995*** [5.16]
<i>log Population (-2)</i>	10.736*** [8.75]	10.725*** [8.56]	10.605*** [8.63]	10.571*** [8.65]	11.475*** [9.48]	11.455*** [9.42]
<i>Unemployment (-2)</i>	0.015 [0.92]	0.015 [0.92]	0.007 [0.49]	0.009 [0.59]	0.004 [0.25]	0.004 [0.26]
<i>Log Unemployment spending (-2) (centered)</i>	-0.148* [1.71]	-0.148* [1.70]	-0.161* [1.85]	-0.197** [2.23]	-0.148* [1.75]	-0.149* [1.76]
<i>GDP growth (-2)</i>	-0.000*** [4.75]	-0.000*** [4.69]	-0.000*** [3.85]	-0.000*** [4.12]	-0.000*** [3.67]	-0.000*** [3.66]
<i>Rightwing government (continuous) (-2)</i>	0.035 [0.42]	0.034 [0.41]	0.074 [0.90]	0.072 [0.88]	0.071 [0.88]	0.069 [0.85]
<i>Economic Glob. (-2) (centered)</i>	-0.012 [1.61]	-0.012 [1.61]				
<i>Political Glob. (-2) (centered)</i>			0.011** [1.99]	0.010* [1.85]		
<i>Social Glob. (-2) (centered)</i>					0.019*** [3.36]	0.019*** [3.31]
<i>globalization * rightwing government</i>		0 [0.04]		0.012** [2.28]		0.001 [0.20]
<i>Observations</i>	385	385	385	385	385	385
<i>Number of countries</i>	24	24	24	24	24	24
<i>R-squared (within)</i>	0.445	0.445	0.4472	0.4556	0.4589	0.4589
<i>R-squared (overall)</i>	0.44	0.44	0.45	0.46	0.46	0.46

Notes: Dependent variable is the Employment Protection Index for temporarily employed workers (OECD, 2004), ranging from 0 to 6. Estimation with country and year fixed effects (not reported). Globalization is measured on a scale ranging from 0 to 100 (Dreher, 2006), political orientation of the government is measured by the continuous ideology index developed by Björnskov (2008). Absolute value of t statistics in brackets. *, **, *** means statistically significant at 10%, 5% and 1% levels respectively.