

Do Labor Market Institutions Matter for Unemployment?

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Abstract: This paper examines the impact of labor market institutions on unemployment rates in OECD countries during the period 2000-2019. Using panel data and fixed effects estimation, we analyze how institutional variables such as minimum wage, union density, wage bargaining coordination, unemployment benefits, and active and passive labor market policies affect overall unemployment rate, long-term unemployment, and youth unemployment. Our findings challenge the traditional deregulation paradigm by showing that most institutional rigidities, when examined in isolation, do not exhibit significant effects on unemployment rates. The only consistently significant relationship was found between passive labor market policies and all types of unemployment, suggesting a positive correlation. These results contribute to the existing literature by demonstrating that the relationship between labor market institutions and unemployment is more complex than often assumed and depends on broader institutional context and interactions. Our findings support the argument that a "one size fits all" approach to labor market reform may not be appropriate and that institutional arrangements need to be analyzed holistically, taking into account country-specific contexts and potential complementarities between different institutions.

Keywords: labor market institutions, unemployment, OECD countries, panel data analysis, institutional complementarities

JEL Classification: J50, J64, C23

1 Introduction

Labor market institutional arrangements exhibit substantial heterogeneity across countries and over time. Previous research has identified several key institutional factors, including unemployment benefit systems, active labor market policies, wage-setting mechanisms (encompassing wage bargaining centralization, union density, and collective bargaining coverage), labor taxation including social security contributions, and employment protection legislation (Betcherman 2012, Flaig and Rottman 2012). The economic literature attributes these institutions a pivotal role in explaining divergent unemployment patterns across OECD countries since the 1970s, particularly the disparities between the United States and continental Europe.

During the 1990s, prominent international institutions (OECD and IMF) advocated extensive labor market deregulation as the primary instrument for addressing high unemployment (OECD 1994, IMF 2003). These recommendations were grounded in numerous empirical studies suggesting that institutional rigidities adversely affect labor market outcomes (Krugman 1994, Nickell 1997; Scharpf 2000, Nickell 2003). Consequently, countries experiencing high unemployment faced pressure to implement comprehensive structural labor market reforms to enhance flexibility, including working time flexibility, wage flexibility, reassessment of employment protection legislation, and unemployment benefit system reform (see e.g. Freeman 2005). This perspective is further supported by Lehman and Muravyev (2010), who, examining transition economies, conclude that labor market institutions significantly influence its outcomes and that deregulation can enhance economic performance, while emphasizing the importance of considering interactions between various institutions and policies.

However, the deregulation paradigm lacks consensus in empirical literature. The relationship between labor market institutions and unemployment may be considerably more complex than the simple proposition that rigidities automatically generate higher unemployment. Baccaro and Rei (2007), for instance, question the significance of institutional factors, arguing that monetary policy stance plays a more decisive role in unemployment outcomes. Other scholars, while acknowledging institutional factors' influence (Hall and Soskice 2001; Baker et al. 2003; Bassanini and Duval 2009), maintain that these cannot be examined in isolation. The effects of individual institutional variables must

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be analyzed not only in their mutual interactions but also within the broader institutional framework of each country (Flaig and Rottmann 2012; Ferragina and Filetti 2022). Additionally, Obadić et al. (2023) challenge the efficacy of a "one size fits all strategy," advocating for labor market policies tailored to individual EU member states' needs. Their findings indicate an absence of labor market convergence within the EU, even among geographically proximate countries. The authors identify convergence clubs, though these exhibit internal heterogeneity and resist characterization by traditional criteria.

This paper aims to investigate the impact of selected institutional variables on labor market outcomes in advanced OECD countries. Beyond the general unemployment rate, we examine long-term unemployment and youth unemployment rates (ages 15-24). Through panel regression analysis, we seek to examine whether the deregulation hypothesis holds or if the relationship between institutional variables and labor market outcomes is rather multifaceted.

2 Methods

Our analysis focuses on OECD countries during the period 2000-2019. The time frame of the paper is constrained by the availability of data. Institutional variables were chosen based on a thorough literature review. Given the substantial amount of missing data, the employment protection legislation variable had to be excluded from the model. Econometric model incorporates the following institutional variables:

- minimum wage relative to median wages of full-time workers ("Min. wage")
- trade union density as a percentage of employees ("Union density")
- level of coordination in wage bargaining ("Level of coordination")
- net replacement rate in unemployment in percentage ("Net replac. rate")
- active measures LMP as a percentage of GDP ("Active LMP")
- passive measures LMP as a percentage of GDP ("Passive LMP")

Each specification includes three control variables: labor productivity measured as output per hour worked ("Labor productivity"), economic performance over time ("GDP growth"), and the rate of price level growth measured by the consumer price index ("CPI"). The data are sourced from publicly available OECD and World Bank (inflation) databases. Supplementary data on wage bargaining coordination levels are drawn from the Visser database (2013). Due to additional missing observations, we are working with an unbalanced panel dataset. Table 1 presents the descriptive statistics characterizing our dataset.

Table 1 Descriptive statistics

Variable	No. of observations	Mean	Std. dev.	Min	Max
Unemployment rate	724	7.754972	4.040458	1.9	27.8
long-term un. rate	721	31.52672	16.92008	0.223714	73.49994
Youth un. rate	707	17.36957	8.869543	3.658333	59.36666
Labour productivity	638	1.6151	2.401112	-8.51568	19.88084
GDP growth	740	2.630331	3.109792	-14.8386	25.17625
CPI	760	2.840754	4.013938	-4.44755	54.91537
Min.wage	569	0.495054	0.113083	0.287	0.921
Union density	682	27.63827	20.47336	4.5	93.3
Level of coordination	678	2.356932	1.335584	1	5
Net replac. Rate	624	83.86058	7.586301	61	99
Active LMP	506	0.518439	0.377653	0.01	2.04
Passive LMP	520	0.807231	0.625477	0.05	3.15

Source: Own processing

To achieve our research objective, we employ Ordinary Least Squares (OLS) with country-fixed effects. The choice of OLS with fixed effects is intuitive given that the number of countries exceeds the time dimension of our dataset.

Moreover, it allows us to control for and absorb unobserved heterogeneity that is time-invariant. The resulting regression model takes the following form:

$$\text{Unemployment rate} = \beta_0 + \beta_1 \text{Labour productivity}_{it} + \beta_2 \text{GDP growth}_{it} + \beta_3 \text{CPI}_{it} + \beta_4 \sum \text{institutions}_{it} + \omega_i + \varepsilon_{it},$$

where the dependent variable is the respective unemployment rate (general, long-term, and youth), labour productivity, GDP growth, and CPI are control variables. Institutions_{it} encompass the individual institutional variables under investigation, ω_i represents country-fixed effects, and ε_{it} is the unobserved error term. To improve the robustness of our results, all models are estimated with standard errors robust to heteroskedasticity and autocorrelation.

3 Research results

The results for all countries are presented in Table 2 below. The table is divided into three panels: PANEL A, PANEL B, and PANEL C. Each panel captures a different dependent variable, with the overall unemployment rate being explained first (PANEL A), followed by the long-term unemployment rate (PANEL B), and finally the youth unemployment rate (PANEL C). A consistent finding across all three unemployment concepts is the robust positive association with the passive LMP variable. This implies that more expansive social welfare systems and increased passive benefits may extend job search periods, and contribute to elevated levels of long-term unemployment.

Table 2 Regression results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
PANEL A: Dependent variable: unemployment rate							
Labour productivity	0.335*** (3.08)	0.245** (2.67)	0.328*** (4.19)	0.328*** (3.44)	0.317*** (4.15)	-0.0206 (-0.23)	-0.0514 (-0.50)
GDP growth	-0.442*** (-5.51)	-0.329*** (-5.25)	-0.399*** (-6.75)	-0.412*** (-6.56)	-0.328*** (-5.01)	-0.0148 (-0.17)	0.0547 (0.50)
CPI	-0.314 (-1.40)	-0.322*** (-2.75)	-0.209 (-1.40)	-0.328* (-1.73)	-0.176 (-1.64)	-0.277 (-1.52)	-0.210* (-1.85)
Min.wage	-10.42 (-1.35)						5.749 (0.91)
Union density		0.167* (1.82)					0.0866 (0.69)
Level of coordination			-0.891 (-1.28)				0.242 (0.58)
Net replac. Rate				-0.0236 (-0.35)			-0.0406 (-0.72)
Active LMP					1.731 (0.99)		-1.861 (-0.65)
Passive LMP						5.223*** (5.77)	6.171*** (5.36)
Constant	14.32*** (3.71)	3.392 (1.19)	10.79*** (5.88)	10.75* (1.80)	7.167*** (6.26)	3.938*** (4.05)	2.633 (0.47)
Observations	450	538	587	559	456	466	256
F	7.991	8.898	12.01	11.36	8.935	26.05	33.68
r ²	0.159	0.181	0.178	0.160	0.152	0.380	0.521
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
PANEL B: Dependent variable: long-term unemployment rate							
Labour productivity	-0.138 (-0.91)	-0.213 (-1.39)	-0.108 (-0.97)	-0.204 (-1.47)	-0.131 (-0.82)	-0.813*** (-3.09)	-0.909** (-2.73)
GDP growth	0.685*** (5.52)	0.725*** (4.74)	0.645*** (5.70)	0.657*** (4.64)	0.725*** (5.75)	1.448*** (6.47)	1.561*** (5.71)
CPI	-0.963** (-2.74)	-0.771** (-2.58)	-0.592* (-1.89)	-0.949** (-2.73)	-0.728** (-2.09)	-0.830* (-1.98)	-0.699 (-1.65)
Min.wage	-2.329 (-0.15)						36.68 (1.49)
Union density		0.143 (1.02)					-0.125 (-0.50)
Level of coordination			-2.128 (-1.16)				-0.433 (-0.35)
Net replac. Rate				-0.0925 (-0.42)			-0.235 (-0.71)
Active LMP					0.802 (0.13)		-10.45 (-1.42)
Passive LMP						10.48***	12.50***

Constant	35.17*** (4.67)	27.01*** (6.23)	37.24*** (8.36)	41.31** (2.23)	31.77*** (9.00)	(4.99) 24.32*** (10.80)	(4.00) 33.42 (1.44)
Observations	447	547	596	566	459	469	256
F	14.98	10.45	12.96	8.778	17.59	24.31	16.81
r2	0.129	0.118	0.137	0.118	0.121	0.306	0.403
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
PANEL C: Dependent variable: youth unemployment rate							
Labour produc-	0.598*** (2.86)	0.512*** (2.83)	0.600*** (3.87)	0.593*** (3.27)	0.614*** (4.21)	-0.0298 (-0.17)	-0.0247 (-0.13)
tivity							
GDP growth	-0.934*** (-5.26)	-0.732*** (-5.54)	-0.873*** (-6.64)	-0.877*** (-6.31)	-0.732*** (-5.81)	-0.141 (-0.79)	-0.0130 (-0.07)
CPI	-0.697* (-1.93)	-0.672*** (-2.84)	-0.536* (-1.98)	-0.749** (-2.35)	-0.502** (-2.39)	-0.595* (-2.04)	-0.463* (-1.97)
Min.wage	-12.58 (-0.87)						12.60 (1.17)
Union density		0.191 (1.22)					0.0338 (0.18)
Level of coordi-			-1.254 (-0.91)				0.634 (0.72)
nation							
Net replac. Rate				0.00820 (0.05)			-0.0789 (-0.60)
Active LMP					0.985 (0.32)		-5.232 (-0.81)
Passive LMP						9.936*** (4.93)	11.70*** (4.81)
Constant	27.10*** (3.79)	13.40*** (2.78)	23.00*** (6.69)	19.54 (1.37)	18.36*** (8.67)	11.04*** (5.60)	10.67 (0.90)
Observations	450	529	575	553	452	463	256
F	7.354	8.436	11.42	11.11	14.77	25.77	41.87
r2	0.186	0.178	0.199	0.191	0.167	0.371	0.481

Source: Own processing

Other institutional variables that could potentially limit labor market flexibility are not significant in explaining unemployment. The minimum wage does not have a statistically significant impact on any type of unemployment. This may suggest that concerns about the negative impact of the minimum wage on employment may not be justified, at least at the aggregate level. On the other hand, there is no consensus in both theoretical and empirical literature regarding the impacts of minimum wages on unemployment (see e.g. Boeri and van Ours 2021 or Holmlund 2014).

While the net replacement rate might be expected to influence unemployment outcomes, our analysis reveals a surprising lack of a statistically significant relationship. This contrasts sharply with the strong influence of passive labor market policies. This finding suggests that the overall design and implementation of the unemployment benefit system, including factors such as eligibility criteria, duration, and conditionality, may be more critical than the level of benefits in shaping labor market outcomes.

The union density indicator shows only a weak positive relationship with overall unemployment in Model 3 when excluding other institutional variables. This may be because they do not capture the actual extent of collective bargaining, legislative support for collective bargaining, and thus may underestimate the real economic impact of trade unions.

The level of coordination of bargaining does not have a statistically significant impact on any type of unemployment. Although the coefficients are negative, which would suggest that higher coordination may reduce unemployment, this conclusion cannot be confirmed due to the lack of statistical significance. Theoretically, higher coordination could lead to the internalization of wage bargaining externalities and thus to better labor market outcomes, but the data do not clearly support this assumption.

Active labor market policy also does not have a statistically significant impact. Although the coefficients are mostly positive, they are statistically insignificant. A possible explanation may be the delayed effect of these measures or their varying effectiveness in different contexts.

The results may suggest that the significance of some institutional rigidities of the labor market, when examined in isolation, may be overestimated, which is in line with the findings of Baker et al. (2003) and Bassanini and Duval (2006). Their impact may manifest itself rather in interaction with other factors or their impact may depend on a broader

institutional context. The length of the time period, during which the influence of the macroeconomic environment may prevail, also plays a role.

4 Conclusions

The presented analysis, examining the impact of institutional factors on diverse unemployment rates in OECD countries between 2000 and 2019, yields several significant findings that contribute to the ongoing discourse on the role of labor market institutions. The results suggest that the relationship between labor market institutions and unemployment is more complex than assumed by the traditional deregulation paradigm. While passive labor market policy shows a consistently strong positive relationship with all examined types of unemployment, other institutional variables did not demonstrate statistically significant effects.

This finding challenges the simplistic notion that institutional rigidities inevitably lead to higher unemployment rates. The absence of statistically significant effects for minimum wage, union density, and the level of bargaining coordination may indicate that these factors operate in conjunction with broader institutional contexts rather than in isolation. Our findings thus corroborate the arguments of scholars who advocate for a holistic approach to analyzing labor market institutions and question the efficacy of universal deregulation policies. Furthermore, our results suggest that a comprehensive understanding of the relationship between institutions and labor market outcomes necessitates consideration of not only the interplay among institutions but also the specific country context.

References

- Alessandrini, P., Presbitero, A. F., & Zazzaro, A. (2009). Banks, Distances and Firms' Financing Constraints. *Review of Finance*, 13(2), 261-307. doi: 10.1093/rof/rfn010
- Baccaro, L., Rei, D. (2007). Institutional Determinants of Unemployment in OECD Countries: Does the Deregulatory View Hold Matter? *International Organization*. 61, 527-569.
- Baker, D., Glyn, A., Howell, D. & Schmitt, J. (2003). Labor Market Institutions and Unemployment: A Critical Assessment of the Cross-Country Evidence, *CES Working Paper*, no. 98
- Bassanini, A., Duval, R. (2006). Employment Patterns in OECD Countries: Reassessing the Role of Policies and Institutions. *OECD Economics Department Working Papers No. 486*
- Betcherman, G. (2012). Labour Market Institutions: A Review of Literature. *World Bank Policy Research Working Paper No. 6276*, <http://hdl.handle.net/10986/16382>
- Boeri, T., van Ours, J. (2021). *The Economics of Imperfect Labor Markets*. Princeton University Press
- Flaig, G., Rottmann, H. (2012). Labour Market Institutions and Unemployment: An international panel data analysis. *Empirica*. 40, 635-654.
- Ferragina, E., Filetti, F. (2022). Labour Market Protection Across Space and Time: A Revised Typology and a Taxonomy of Countries' Trajectories of Change. *Journal of European Social Policy*. 0, 1-18
- Freeman, R. (2005). Labour Market Institutions Without Blinders: The Debate Over Flexibility and Labour Market Performance. National Bureau of Economic Research, Inc, *NBER Working Papers*.
- Hall, P. A., Soskice, D., eds. (2001). *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*, Oxford University Press
- IMF (2003) *World Economic Outlook*. Washington, D.C.: International Monetary Fund.
- Krugman, P. (1994). Past and Prospective Causes of High Unemployment, *Economic Review*, 79, 23-43
- Holmlund, B. (2014). What Do Labor Market Institutions Do? *Labour Economics*, 30, 62-69
- Lehman, H., Muravyev, A. (2010). Labor Market Institutions and Labor Market Performance: *What Can We Learn From Transition Countries? Working Papers* 714, Dipartimento Scienze Economiche, Universita' di Bologna.
- Nickell, S. (1997). Unemployment and Labor Market Rigidities: Europe versus North America. *Journal of Economic Perspectives*, 11, 55-74.
- Nickell, S. (2003). Employment and Taxes. *CESifo Working Paper No. 1109*
- Obadić, A., Arčabić, V., Dumančić, L. (2023). Labor Market Institutions Convergence in the European Union. *Economic Analysis and Policy*. Elsevier, vol. 77(C), 876-896.
- OECD (1994) *OECD Job Study: Facts, Analysis, Strategies*. OECD, Paris.
- Scharpf, F. W. (2000). Institutions in Comparative Policy Research. *Comparative Political Studies*. 33, 762-790.
- Visser, J. (2019). *ICTWSS Database*, version 6.1. Amsterdam Institute for Advanced Labour Studies.