

# The Macroeconomic Impact of Euro Area Labor Market Reforms



By Gerhard Rünstler  
European Central Bank

*JEL codes: E32, J08, O43.*

*Keywords: Employment protection legislation, unemployment benefits, narrative identification.*

*Using new quarterly narrative evidence, this brief examines the macroeconomic impact of reforms of unemployment benefits (UB) and employment protection legislation (EPL) in the euro area from a narrative panel VAR. Liberalizing reforms result in temporary wage declines and highly persistent increases in real activity, employment, and the labor force. In contrast to UB reforms, the effects of EPL reforms on economic activity and employment emerge only gradually. Reforms after 2010 in countries that have been affected heavily by the financial crisis have boosted employment by in between 0.5% and 1.5%.*

## Introduction

Labor market reforms have been a central part of structural policies in euro area countries during episodes of economic stagnation. After 2010, for instance, significant reforms were implemented in economies heavily affected by the Financial Crisis. About a decade earlier, the Hartz reforms had aimed at the recovery of the German labor market.

The prominence of these reforms in policy debates is yet not fully supported by the academic literature. While the impact of unemployment benefit (UB) reforms is undisputed, the findings on employment protection legislation (EPL) remain inconclusive. Microeconomic studies do not find short-run effects of EPL on employment but provide some evidence for medium-term effects. Macroeconomic studies comparing labor market regulations and unemployment rates across countries yet do not find any evidence.<sup>1</sup>

An alternative way to assess the macroeconomic effects of labor market reforms is multivariate time series methods that exploit narrative information on the timing of individual reforms. Related methods have been successfully applied for the assessment of fiscal and monetary policies (Mertens and Montiel-Olea, 2018; Jarocinski and Karadi, 2020).

In a recent paper (Rünstler, 2021) I use this approach to explore the impact of labor market reforms in the euro area. I make use of a novel database by Aumond, Di Tommaso, and Rünstler (2021) that provides quarterly information on the timing of individual reform events. This information by itself suffices for identifying the dynamic effects of reforms from a so-called narrative VAR (Antolin-Diaz and Rubio-Ramirez, 2018; Budnik and Rünstler, 2020). The latter extracts the impact of reforms from the VAR forecast errors around the dates of reform events.

## Labor market reforms in the euro area

The database of Aumond et al. (2021) covers 60 major labor market reforms in 11 euro area economies in between 1995 and 2018. It builds heavily on an earlier annual database of Duval et al. (2018), which identifies important reform events from OECD country reports. Based on various legal sources, Aumond et al. (2021) augment these data with the quarterly timing of the reforms. They provide both the dates of the legal adoption of reforms (when laws passed parliament) and of their implementation (when laws entered into force).

The database covers three different categories of reforms. Reforms to employment protection legislation (EPL) on regular contracts address the conditions and procedures for individual or collective dismissals, such as severance payments, terms of notice, and rules for fair dismissal. Reforms related to EPL on temporary contracts outline the conditions under which workers can be hired under this type of contracts, including the type of jobs for which these contracts are allowed, their maximum duration, and conditions for their renewal. Finally, reforms of unemployment benefit schemes (UB) affect mostly replacement rates and benefit duration.

While reforms occur in almost every year of the sample, they are clustered in two specific periods. First, the years immediately before and after the formation of the euro area witnessed reforms easing constraints on temporary employment contracts and several reforms of unemployment benefit schemes. Second, reforms undertaken after 2010 in the economies that have been most hardly hit by the financial crisis targeted mostly EPL of regular contracts.

---

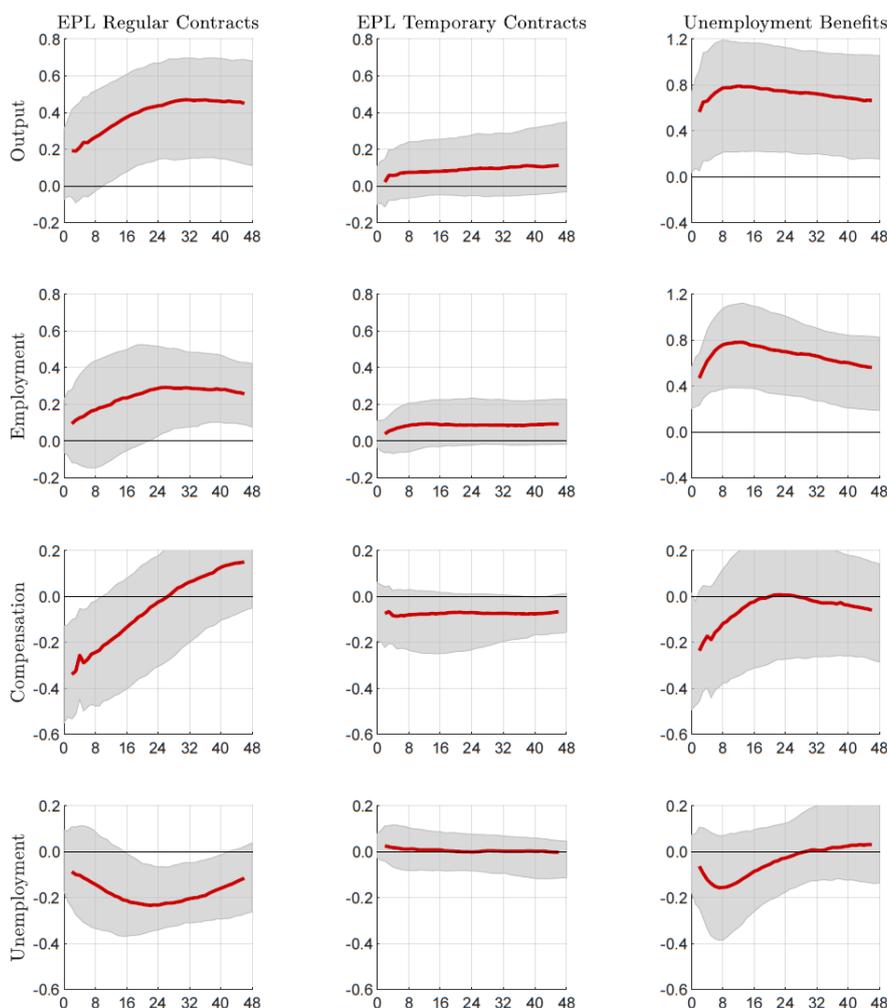
<sup>1</sup> See Boeri, Cahuc, and Zylberberg (2015) for an extensive review of the literature.

## Results

Figure 1 shows the average impact of these reforms for each reform category. The estimates find fairly large average effects of UB and regular contract EPL reforms, while those of temporary contract EPL are very small and only weakly significant. In all cases, output, employment, and the labor force permanently increase after a liberalization. The real wage initially declines but reverts to baseline in the medium term, while short-run declines in the unemployment rate dissipate as active population catches up with employment.

The effects of UB and regular contract EPL reforms differ in two important ways. First, the responses of GDP and employment build up only gradually for EPL reforms and reach their full scale only after about eight years. By contrast, UB reforms trigger an immediate response in the three series, including a large shift in labor supply, as tighter benefits foster job search. As a result, the decline in unemployment turns out larger for EPL reforms. Second, in contrast to UB reforms, regular contract EPL reforms also induce a shift in labor productivity, which accounts for about one third of the medium-term increase in GDP. The weak wage response to UB reforms may reflect composition effects as reforms affect mostly unskilled labor, while the decline of wages in this segment may be counterbalanced by wage increases for skilled labor due to complementarities and the increase in economic activity.<sup>2</sup>

**Figure 1: Macro-economic impact of average reform event**



*The graphs show the average dynamic response to a reform event in %. The horizontal axis denotes quarters. Shaded areas show [10%,90%] uncertainty bands.*

<sup>2</sup> The faster response to UB reforms is in line with micro-econometric evidence. Similarly, several studies suggest a productivity effect of EPL reforms due to improved skill allocation and higher innovative activity (Boeri et al., 2015).

The approach also provides estimates of the effects of individual reforms. Unsurprisingly, the 2006 German Hartz reform of unemployment benefits turns out as the single largest event with an impact on employment of 1.6% after 10 years. Among regular contract EPL reforms, the largest effects emerge for Portugal with two reforms in 2011 and 2013 raising employment by about 1.5%. For Spain and Italy reforms in between 2010 and 2012 have raised employment by is about 0.8% and 0.5%, respectively. Unfortunately, EPL reforms in Greece after 2010 had to be excluded from the study, as they coincided with cuts in public and minimum wages.<sup>3</sup>

**Table 1: Impact of selected major reforms**

<i>Country</i>	<i>Date</i>	<i>Type</i>	<i>GDP</i>	<i>Employment</i>	<i>Wage</i>
<i>Germany</i>	2006 Q1	UE Benefits	1.70	1.59	-0.79
<i>Netherlands</i>	2006 Q4	UE Benefits	0.89	0.73	-0.21
<i>Spain</i>	2010 Q3	EPL Regular	0.27	0.41	-0.41
<i>Spain</i>	2012 Q3	EPL Regular	0.21	0.35	-0.35
<i>Italy</i>	2012 Q4	EPL Regular	0.92	0.51	-0.61
<i>Portugal</i>	2011 Q4	EPL Regular	1.89	1.16	-1.41
<i>Portugal</i>	2013 Q4	EPL Regular	0.54	0.35	-0.41

*The table shows the responses of GDP and employment after 40 quarters and of wages after 4 quarters.*

It has been argued that the effects of EPL reforms are smaller and subject to longer delays during periods of low growth, as weak demand keeps firms from reaping the cost benefits (Boeri and Garibaldi, 2007; Cacciatoe et al., 2016). I assess such effect by estimating the model separately for reforms that took place in either low or high states of euro area economic growth. I do find evidence for longer delays in the impact of reforms during recessions, but their medium-term impact remains unaffected by the state of the economy.

## Conclusions

While the time series perspective has so far been underutilized in studying the effects of labor market reforms, it complements micro-econometric evidence by aligning estimates of short-run and medium-term effects and permitting the exploration of state dependencies. Moreover, micro-econometric studies allow only for indirect conclusions on the aggregate effects of reforms.

The results underline the importance of distinguishing between different types of reforms. After the mixed experiences with reforms of temporary contract EPL in the early years of the euro area, reforms undertaken since 2010 with a focus on regular contracts appear to have been more successful in improving labor market performance. However, the long delays in achieving their full effect render EPL reforms rather ineffective as a counter-cyclical policy tool. ■

<sup>3</sup> I find fairly high correspondence between these estimates and the change in OECD indicators on the strictness of employment protection legislation around reform events.

## References

- Antolin-Diaz, J. and Rubio-Ramirez, J. 2016. Narrative sign restrictions for VARs. *American Economic Review* 108 (10): 2802-29.
- Aumond, R., Di Tommaso, V., and G. Rünstler. 2021. A quarterly narrative database of labor market reforms in euro area economies. European Central Bank mimeo.
- Boeri T., Cahuc, P., and Zylberberg, A. 2015. The cost of flexibility-enhancing structural reforms: a literature review. OECD Economics Department working paper 1246.
- Boeri, T. and Garibaldi, P. 2007. Two tier reforms of employment protection: a honeymoon effect? *The Economic Journal* 117: F357-F385.
- Budnik, K. and Rünstler, G. 2020. Identifying SVARs from sparse narrative instruments. European Central Bank working paper 2353.
- Cacciatore, M., Duval, R. Fiori G., and Ghironi, F. 2016. Market reforms in the time of imbalance. *Journal of Economic Dynamics and Control* 72: 66-93.
- Jarocinski, M. and Karadi, P. 2020. Deconstructing monetary policy surprises: the role of information shocks. *American Economic Journal: Macroeconomics* 12(2): 1-43.
- Mertens, K. and Montiel Olea, J. 2018. Marginal tax rates and income: new time series evidence. *Quarterly Journal of Economics* 133(4): 1803-1884.
- Rünstler, G. 2021. [The macroeconomic impact of euro area labor market reforms: evidence from a narrative panel VAR](#). European Central Bank working paper 2592.

## About the author

**Gerhard Rünstler** is Senior Lead Economist in the Monetary Policy Research Division at the ECB. His work focuses on multivariate time series analysis related to forecasting, business cycles, and economic policy analysis with various publications in these fields. He holds academic degrees in mathematics and psychology and a post-graduate degree in economics from the Institute for Advanced Studies in Vienna.

## SUERF Publications

Find more **SUERF Policy Briefs** and **Policy Notes** at [www.suerf.org/policynotes](http://www.suerf.org/policynotes)



**SUERF** is a network association of central bankers and regulators, academics, and practitioners in the financial sector. The focus of the association is on the analysis, discussion and understanding of financial markets and institutions, the monetary economy, the conduct of regulation, supervision and monetary policy.

SUERF's events and publications provide a unique European network for the analysis and discussion of these and related issues.

**SUERF Policy Briefs (SPBs)** serve to promote SUERF Members' economic views and research findings as well as economic policy-oriented analyses. They address topical issues and propose solutions to current economic and financial challenges. SPBs serve to increase the international visibility of SUERF Members' analyses and research.

The views expressed are those of the author(s) and not necessarily those of the institution(s) the author(s) is/are affiliated with.

All rights reserved.

### **Editorial Board**

Ernest Gnan  
Frank Lierman  
David T. Llewellyn  
Donato Masciandaro  
Natacha Valla

SUERF Secretariat  
c/o OeNB  
Otto-Wagner-Platz 3  
A-1090 Vienna, Austria  
Phone: +43-1-40420-7206  
[www.suerf.org](http://www.suerf.org) • [suerf@oenb.at](mailto:suerf@oenb.at)