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Poverty and Labour Market Institutions in Europe

Summary: The aim of this paper is to analyse the effects of flexibility in the labour market on workers' monetary poverty in 15 European countries in the time span 2005-2016. We estimate how the labour market regulation index (LMRI) affects workers' monetary poverty through two empirical exercises: in the first one, we use an autoregressive distributed lag model and, in the second one, the generalized method of moments model. The results suggest that greater flexibility of the labour market is positively correlated with greater monetary poverty among employed people. The result does not change significantly when introducing the effect of the economic crisis and the interaction effect between the economic crisis and the LMRI. Therefore, we conclude that the outcome should be considered to be noticeable whatever the macroeconomic conditions occurring in the labour market.

Key words: Labour market, Flexibility, Poverty, Dynamic panel data.

JEL: C20, I30, J50.

From the early 1990s, labour markets – especially in the European Union – have been characterized by continuous changes (Anton Hemerijck and Werner Eichorst 2009) with the aim of making them more efficient (Alessandro Turrini et al. 2015). These changes, based mainly on the introduction of higher flexibility into the labour market (Claudio Lucifora, Abigail McKnight, and Wiemer Salverda 2005; Thomas A. Di Prete et al. 2006; Giorgio Liotti, Marco Musella, and Federica D’Isanto 2018; Rosaria Rita Canale, Liotti, and Marani Ugo 2019), tried to respond to some important issues: (a) to guarantee a more efficient match between labour supply and labour demand in line with changes in the business cycle; (b) to make – through a reduction in production costs – national goods more competitive on international markets (Holger Zemanek 2010); (c) to reduce the high and persistent unemployment of Southern European countries (Lucifora, McKnight, and Salverda 2005; Zemanek 2010; Lorenzo E. Bernal-Verdugo, Davide Furceri, and Dominique Guillaume 2013); (d) to allow higher profits and, through the capital accumulation process, increase investment levels (Francesco Daveri and Guido Tabellini 2000).

The changes in labour market institutions aimed to remove the rigidity of the labour market through the reduction of hiring and firing cost, the use of atypical contracts (fixed and part-time contracts), and the lowering or elimination of the minimum wage. However, a possible negative consequence of these measures is a general reduction of workers' and unions' bargaining power (Olivier J. Blanchard and Francesco

Giavazzi 2003; Gabriele Ciminelli, Romain Duval, and Furceri 2018), and the birth of the so-called bad job (precarious and low-paid job) phenomenon.

The 2007 financial crisis, and the subsequent rise in unemployment across European countries, “accelerated” the liberalization and de-regulation process of the labour market (Jesús Ferreiro and Felipe Serrano 2013) in the attempt to minimize job losses (Misbah Tanveer Choudhry, Enrico Marelli, and Marcello Signorelli 2012; Niall O’Higgins 2012; Silvia Dal Bianco, Randolph L. Bruno, and Signorelli 2015). The necessity of reforming the whole structure of the European labour market was part of a set of public policies that national governments used to deal with unemployment during the recession period. Furthermore, some Eurozone countries (the so-called peripheral countries) were subject, under the supervision of European institutions, to structural reforms whose core was – besides higher flexibility in the labour market and cuts in public sector wages – public balance adjustments. The result was an increase of poverty and a general decline in macroeconomic conditions (for details about the effects on poverty of structural adjustment programmes in peripheral countries, see Canale, Liotti, and Ugo 2019).

However, many papers raise doubts about the real effectiveness of labour market deregulation on employment outcomes (see Ferreiro and Carmen Gómez Forthcoming). Paolo Barbieri and Stefani Scherer (2009), analysing the Italian case, conclude that there is no evidence that higher labour market flexibility improves youth employment performance. Rather, they found that Italian reforms have caused a substitution of typical employment with sub-protected and marginal jobs. Andrea Bassanini and Duval (2006) conclude that there is no statistical significance of an increase in union density degree on employment. Ferreiro and Gómez (2018), analysing the change in labour market institutions in 21 countries from 2008 to 2012, found that higher flexibility is not associated with better permanent employment outcomes and that lower flexibility is not associated with worse permanent employment outcomes.

On the contrary, flexibility seems to have positive effects on temporary employment creation. O’Higgins and Valentino Moscariello (2017) found that an increase in the minimum wage – in the presence of high employment protection legislation – does not lead to an increase in the unemployment rate. Liotti, Musella, and D’Isanto (2018) found an adverse effect of flexibility on youth unemployment in Italy. Finally, Ferrerio and Serrano (2013), studying the Spanish case, stated that labour market reforms have not solved the structural problem of high unemployment.

Doubts about the effectiveness of flexibility are raised also by Bassanini and Duval (2006), O’Higgins (2012), Blanchard, Florence Jaumotte, and Prakash Loungani (2014), Phillip Arestis and Ana Rosa González-Martínez (2015), Amitava Krishna Dutt, Sébastien Charles, and Dany Lang (2015), Emiliano Brancaccio, Nadia Garbellini, and Raffaele Giammetti (2017). Some authors (Eichorst et al. 2010) distinguish between external and internal flexibility. External flexibility is related to typical labour market institution changes, and they alone cannot explain the labour market adjustment in the case of an economic downturn. Internal flexibility concerns changes in labour intensity, i.e., adjustment of working time to satisfy a company’s current utilization rate (Eichorst et al. 2010). The change in the intensity of work – i.e., changes in working time – represents an important aspect of the working poor. Indeed, in the

case of a negative shock, given that firms have uncertain (at least initially) expectations about the magnitude and duration of the crisis, adjustment is made through the reduction of worked hours. Obviously, this has a double aspect: on one hand, it prevents an increase in the unemployment rate; on the other hand, it affects workers' wages and thus increases the number of working poor. Many other authors have highlighted the possible negative effects of these policies on workers' living conditions (Eric Crettaz 2011, 2015; Neil Fraser, Rodolfo Gutiérrez, and Ramón Peña-Casas 2011).

The introduction of measures which allow an excessive use of atypical contracts, which are not renewed in the case of economic downturn, worsens the working and living conditions of specific worker categories, such as young people and unskilled workers (Crettaz 2011; Choudhry, Marelli, and Signorelli 2012; Patrick Emmenegger et al. 2012). The use of non-standard contracts (fixed-term contracts) and an increase of atypical jobs (part-time jobs) favours the creation of low-wage jobs, increasing precariousness within the labour market (Lucifora, McKnight, and Salverda 2005; Catalina Amuedo-Dorantes and Ricardo Serrano-Padial 2010; Marco Giesselmann 2014). A relaxation of hiring and firing legislation can help employment outcomes only if the country provides generous social protection and active labour market policies (Hemerijck and Eichorst 2009).

However, the effects of changes in labour market institutions and workers' poverty have only received attention in recent times. Crettaz (2015), for example, finds a positive correlation between flexibility measures and monetary poverty by analysing data for five European countries in the period between 2008 and 2012. Ivo Marx and Brian Nolan (2012), through a microeconomic analysis, highlight that workers' monetary poverty can depend on various factors such as, for example, low work intensity at the household level, size of household, and the presence of a single wage. Giesselmann (2014) analyses the effect of bargaining systems on wage and concludes that centralized collective bargaining in the presence of high employment legislation protection reduces the low wage employment of outside workers.

Amuedo-Dorantes and Serrano-Padial (2010), studying the effect of precariousness in the labour market, conclude that the introduction of fixed-term contracts has increased the poverty risk for workers *via* limited job stabilization and low wages. However, it is important to point out that if, on the one hand, these authors focus on some specific features of labour market institutions, on the other hand, and they do not provide estimates about the long-run impact of labour market institutions on worker poverty.

To fill this gap, the aim of this paper is to estimate the effect of the changes in labour market institutions on monetary poverty in 15 European countries during the period 2005-2016. The main hypothesis of this paper is that the set institutional changes – i.e., an increase in the deregulation level of labour – have incentivized an increase in precarious jobs and the birth of a new poor: the so-called working poor. Indeed, the de-regulation of labour market reforms, on the one hand, allows firms to reduce labour costs and to be more competitive on international markets (Zemanek 2010); on the other hand, reducing the bargaining power of workers forces them to accept precarious jobs with low employment protection and with limited social assistance in the case of unemployment.

In our hypothesis, we propose that deregulation of the labour market contributes to the increase of workers' monetary poverty through a negative wage effect, generating an increase in low pay workers that feeds social conflict both within countries and at a supranational level. Higher labour market deregulation implies a reduction of costs for firms concerning hiring and firing, a reduction in dismissal costs, and a more decentralized bargaining contract. In turn, this process of deregulation leads to reductions in bargaining power of workers and unions and to a reduction in wages and an increase of poverty. If this hypothesis were true, it would underpin an important claim: having a job is not a sufficient means of escaping from poverty.

To verify our hypothesis, we focus on 15 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the UK in the time span 2005-2016. These countries can be considered rather homogeneous from an institutional point of view and from the level of the development of their market structures. The empirical results show a positive correlation between flexibility and monetary poverty, and they are also robust if the economic crisis is added to the econometric model.

The paper is organized as follows: Section 1 focuses on the problem of workers' monetary poverty; Section 2 contains the empirical estimates and is divided into two sub-sections (2.1 Empirical Model and Econometric Results, and 2.2 Robustness Check). Finally, in Section 3, we make our concluding remarks.

1. Workers' Monetary Poverty: A Dramatic New Phenomenon

Who are the working poor? The literature defines them as "the number of working men and women who live in a low-income household and that cannot afford certain goods and services considered essential for a decent life" (Crettaz 2015, p. 312).

It is well known that poverty has multidimensional aspects, each capturing different features of social hardship. There is much debate surrounding the definition of poverty, and different measurements of poverty have been considered to capture its alternative dimensions (Anthony Barnes Atkinson 1987). Despite the different perspectives adopted, there is a general agreement that poverty can be defined as the lack of resources necessary to conduct an acceptable way of living in a society (Peter Townsend 1971, 1985; Amartya Sen 1979, 1985).

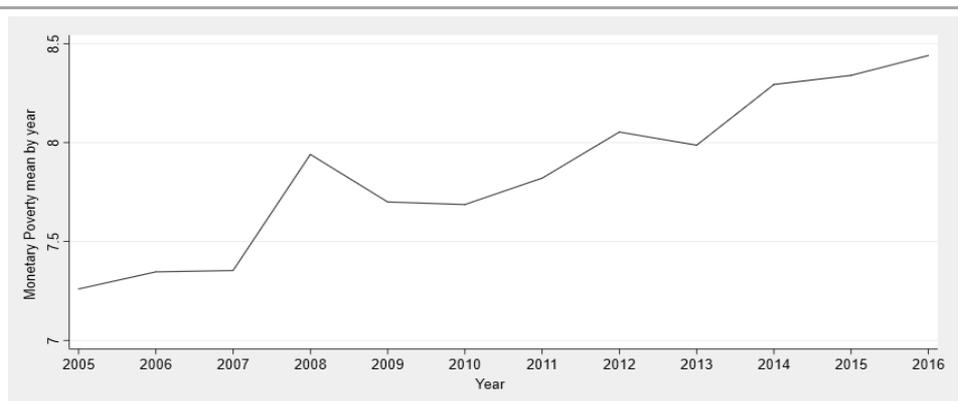
The mechanisms at the base of monetary poverty are the following: (1) low pay; (2) low work intensity (Crettaz 2011; Björn Halleröd, Hans Ekbrand, and Mattias Bengtsson 2015); (3) household needs. If the third mechanism is strictly related to the size of household and to the presence of children, the first two are related to the labour market institutions. It is expected that the worker's wage depends on:

- (a) the existence of a minimum wage;
- (b) the bargaining power of unions;
- (c) the low work intensity;
- (d) productivity per worker.

A huge amount of literature has investigated the link between wages and productivity – whatever the causality direction (from productivity to wages for the marginal theory of distribution or from wages to productivity according to the theory

of efficiency wages). However, it should be noted that the introduction of flexibility measures renders the connection very weak. The increase of labour market freedom assigns firms a higher bargaining power and, therefore, a wider autonomy in setting unit labour cost. In order to calculate the percentage of workers living in conditions of monetary poverty, the literature adopts the at-risk-poverty rate indicator for employed persons compiled by the Eurostat (2019)¹ website. According to this index, the poor are considered those workers who have an income below 60% of the national median equivalized disposable income (Laura Bardone and Anne-Catherine Guio 2005; Marx and Nolan 2012; Crettaz 2015). In other words, the “in-work at-risk-of-poverty rate” can be considered a monetary poverty index for workers. It takes into account the number of working individuals living at the bottom of the scale of the income distribution calculated as a percentage of the whole population. It can be interpreted also as an inequality index.

Figure 1 shows the trend in workers’ monetary poverty across European Union countries from 2005 to 2016. The countries considered are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the UK. From Figure 1, it is possible to observe that the percentage of workers’ monetary poverty rose during the considered period from 7.26 in 2005 to 8.44 in 2016, an increase equal to 16.23%.



Source: Authors' calculation based on Eurostat (2019) data.

Figure 1 Workers Monetary Poverty in European Union from 2005 to 2016 Average by Year

We can distinguish two country groups (see Table A, Column 4 in the Appendix): the first group includes countries in which workers’ monetary poverty declined from the beginning to the end of the period considered. This group includes Ireland (-0.8), the Netherlands (-0.2), Finland (-0.6), and Portugal (-0.7). The reduction of workers’ monetary poverty in Ireland and Portugal seems not to be coherent with the interpretative hypothesis of this paper. These countries were subject to structural adjustment programmes whose main content was to increase the flexibility of the labour market. However, besides the different institutional context, it has to be considered

¹ Eurostat. 2019. Database. <https://ec.europa.eu/eurostat/data/database> (accessed August 27, 2019).

that, from the beginning to the end of the period, unemployment increased by 3.7% in Ireland and by 2.4% in Portugal. Therefore, many workers were expelled from the labour market and are not anymore counted inside the number of those living in work poverty.

The second group includes the remaining eleven countries of our dataset. The increase of percentage of workers in monetary poverty ranges between +4.7 % for Germany – where the unemployment rate decreased by -7.1% – and + 0.5% for Denmark and the United Kingdom where the change in unemployment rate was +1.4% and 0%, respectively. The phenomenon of in-work poverty is particularly worrying for Germany where it is associated with a marked decrease in unemployment. In Greece, despite a marked increase in unemployment (+13.6%), a slight increase in the number of poor workers is present (+1.2%); this is comparable with the situation in Ireland and Portugal. To analyse the changes in labour market institutions, we use the Labour Market Regulation Index (LMRI). This index captures the degree of flexibility in the labour market and it is taken from the Fraser Institute - Economic Freedom (2019)².

The LMRI index is an unweighted average of the following six measures which can be considered as exogenous because they are dependent on the institutional features of each country: (1) hiring regulations and minimum wage; (2) hiring and firing regulations; (3) centralized collective bargaining; (4) hours regulations; (5) mandated cost of worker dismissal; (6) conscription. Its value ranges from 1 to 10. The higher the value, the higher is the degree of flexibility in the labour market. The advantages in using this index derive from the fact that, with respect to the most used employment protection legislation, it captures the overall changes in the labour market institutions and not only the changes occurring in the employment protection of workers.

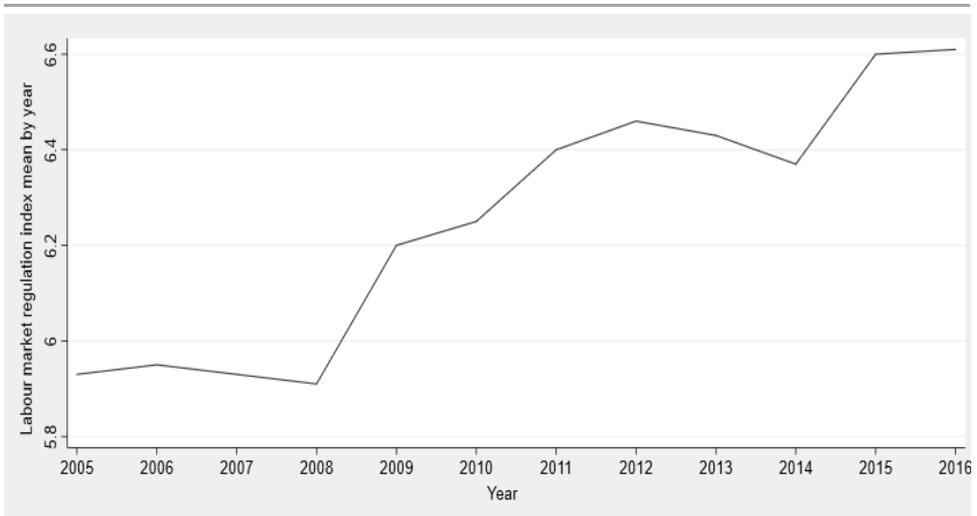
As described above, labour market institutions have been changing across the European Union in answer to the changes in the world economy structure and increasing globalization. Although the changes have not been homogeneous across European countries (due, for example, to differences in the level of employment protection between Northern and Southern European countries), Figure 2 shows that the flexibility of labour market institutions has increased in the last decade. The average by year of the LMRI has increased from 5.92 in 2005 to 6.61 in 2016, an increase equal to 0.69. Moreover, the LMRI increases especially after the first negative effect of the economic crisis in 2009.

Analysing the differences in the LMRI between 2005 and 2016³ at the country level (see Table A, Column 8 in the Appendix), we can distinguish two different groups: the first group includes countries where the LMRI has remained stable (changes are for Austria -0.34, Denmark -0.11, France 0.11, UK -0.07, and Italy 0.28). The second group concerns countries whose national governments have adopted reforms aimed at making the labour market more flexible. Surprisingly, in this group we find both richer (Belgium 0.68, Finland 0.36, Germany 3.5, Luxembourg 0.53, the

² **Fraser Institute - Economic Freedom.** 2019. Dataset. <https://www.fraserinstitute.org/economic-freedom/dataset?geozone=world&page=dataset&min-year=2&max-year=0&filter=0> (accessed August 27, 2019).

³ We calculated the differences according to the following formula: $\Delta LMRI_i = LMRI_{i,2016} - LMRI_{i,2005}$ where i represents the individual country included in our dataset.

Netherlands 0.67, and Sweden 1.84) and poorer European countries (Greece 0.97, Portugal 0.61, Spain 0.84, and Ireland 0.44). This shows that reform of the labour market according to the neoclassical view has dominated the policymakers' agenda.



Source: Authors' calculation on Fraiser Institute - Economic Freedom (2019) data.

Figure 2 Labour Market Institutions in European Union from 2005 to 2016 Average by Year

In the Appendix, in order to analyse the specific country situation, we have inserted a table (Table A) in which the min, mean, max value of monetary poverty, LMRI, and unemployment (UN) is calculated. Moreover, in Table A, we report the differences of the three variables between the last and the first year of observation for each country.

2. Empirical Estimates

2.1 Empirical Model and Econometric Results

In this section, we estimate – empirically – the relation between workers' monetary poverty and changes in the labour market institutions. The dependent variable is workers' monetary poverty, while the main explanatory variable is the LMRI.

In order to investigate whether a higher flexibility of the labour market has some effect on workers' monetary poverty, we adopted a panel dynamic technique, taking into account the heterogeneity existing between European Union countries. The empirical strategy, aimed at overcoming endogeneity issues, assumes that the levels of workers' monetary poverty depends on both their previous value and the LMRI at time $t-1$. Moreover, due to the outbreak of the economic crisis from 2009, in the model we include both the effect of recession and the interaction effect of crisis changes in the LMRI.

Therefore, to investigate the impact of LMRI workers' monetary poverty, we estimate the following two equations:

$$MP_{i,t} = \alpha_i + \beta MP_{i,t-1} + \gamma LMRI_{i,t-1} + \varepsilon_{ij}, \quad (1)$$

$$MP_{i,t} = \alpha_i + \beta MP_{i,t-1} + \gamma LMRI_{i,t-1} + \delta Eco.Crisis + \varphi Eco.Crisis * LMRI_t + \varepsilon_{ij}, \quad (2)$$

where *MP* is the workers' monetary poverty and *Eco.Crisis* is calculated using national data on the real growth rate. This represents the dummy variable that allows us capture the effect of the crisis nationally on the working poor; it takes the value of 1 if at time *t* the national real growth rate is negative and, otherwise, its value is 0.

*Eco.Crisis * LMRI* is the interaction effect composed by the economic crisis dummy and changes in LMRI. This term should provide the impact of the changes in LMRI on monetary poverty during the crisis period, *i* are the entities, and *t* represents the time. β , γ , δ and φ are the coefficients of our explanatory variables and these capture the country effect. Equation (1) allows us to analyse the "pure" impact of higher labour market flexibility on workers' monetary poverty. It represents our baseline model, in which we hypothesize that workers' monetary poverty at time *t* depends only on its previous level *t* – 1 and labour market regulation lagged by one year. We consider the results of the baseline model to be our benchmark. In Equation (2) we control for the effect of LMRI on workers' monetary poverty, adding to the baseline model both the effect of economic crisis and the effect of the interaction term. We chose to use the variable LMRI at time *t* in order to capture the eventual presence of an amplified effect of present institutional factors in crisis times. All the results are corrected for possible autocorrelation. Table 1 shows the empirical results.

Table 1 Effect of Changes in Labour Market Regulation Index on Monetary Poverty in 15 European Countries: ARDL Model

Independent variables	(1)	(2)	(3)
Monetary poverty _{t-1}	0.399*** (0.077)	0.340*** (0.078)	0.336*** (0.078)
LMRI _{t-1}	0.367*** (0.130)	0.338** (0.133)	0.294** (0.136)
Dummy crisis		0.389** (0.187)	
Dummy crisis*LMR			0.068** (0.029)
Observations	150	150	150
R-squared	0.8074	0.7635	0.7451

Notes: *, **, ***, reject the null hypothesis at 1, 5 and 10%. Standard errors in parenthesis.

Source: Authors' calculation.

From the econometric results (Columns 1-3), we can see that the workers' monetary poverty is positively correlated both to its past value and labour market flexibility. In other words, increases in workers' monetary poverty correspond to a higher flexibility in the labour market. The coefficient of LMRI reduces slightly when we add to the baseline model a dummy variable of economic crisis (0.338) and the interaction term (0.294). Finally, we note that the "accelerated" reform of the labour market during a recession phase also produces an increase in workers' poverty (0.068). However, because is to verify summing up the coefficients of the main explanatory variable and interaction dummy, the crisis amplifies the effect on poverty of the LMRI index.

2.2 Robustness Check

One of the major limits of the model (1) is the presence of endogeneity, which can produce bias in the coefficient of the lagged dependent variable that could be correlated with error terms (Ariel BenYishay and Roger Betancourt 2014). Therefore, in order to deal with the endogeneity problem and to check the robustness of previous results, we re-estimated Equation (1) using the generalized method of moments (GMM) model (Manuel Arellano and Stephen Bond 1991). Moreover, because the estimator must be free of autocorrelations in the idiosyncratic errors, the Arellano-Bond test for first- and second-order autocorrelation (Arellano and Bond 1991) in the first-differenced errors was performed after the estimation. The Sargan (John Denis Sargan 1975) test of overidentifying was also added. Table 2 seems to confirm the main conclusions presented in Table 1. Indeed, Table 2 confirms that workers' monetary poverty depends on its previous value and positive correlation with higher LMRI. Moreover, we note also a positive coefficient concerning both dummy variables of economic crisis and for the interaction term.

Table 2 Effect of Changes in Labour Market Regulation Index on Monetary Poverty in 15 European Countries: GMM Model

Independent variables	(1)	(2)	(3)
Monetary poverty _{t-1}	0.852*** (0.132)	0.675*** (0.157)	0.587*** (0.119)
LMRI _{t-1}	0.276* (0.148)	0.309** (0.125)	0.344*** (0.084)
Dummy crisis		0.239*** (0.063)	
Dummy crisis*LMR			0.041*** (0.011)
Observations	150	150	150
N. of groups	15	15	15
N. of instruments	12	13	13
Observations	150	150	150
Arellano-Bond test for autocorrelation AR(1)	-2.105**	-1.928*	-1.935*
Arellano-Bond test for autocorrelation AR(2)	0.809	0.757	0.721
Sargan test	7.675	8.430	9.106

Notes: *, **, ***, reject the null hypothesis at 1, 5 and 10%. Standard errors in parenthesis. In Arellano-Bond test for autocorrelation, the null hypothesis is H_0 : no autocorrelation. In Sargan test of overidentifying restrictions, the null hypothesis is H_0 : overidentifying restrictions are valid.

Source: Authors' calculation.

To verify whether the empirical model satisfies the necessary conditions for implementing the GMM methodology, after the estimates we verified the presence of second order serial correlation in the dependent variable and the test for overidentifying restrictions.

The Arellano-Bond test, as shown in Table 2, rejects the hypothesis of the existence of a second order serial correlation, and the Sargan (1975) test of overidentifying restrictions confirms the validity of the model at 10%.

3. Concluding Remarks

Since the early 1990s, flexibility in the labour market represents one of the main pillars of European policymakers' agenda to deal with the persistence of unemployment and to guarantee a greater competitiveness of firms in international markets. However, a likely consequence of these policies – which aim to introduce higher flexibility in the labour market – is the birth of so-called bad jobs (precarious and low-wage jobs) and the increase of monetary poverty among workers.

In this paper, the relation between workers' monetary poverty and labour market regulation, with the intention of finding a correlation between the two variables, is estimated. The empirical estimates – by first using an autoregressive distributed lag model and then GMM estimation – conducted on 15 European countries during the period 2005-2016 seems to support the hypothesis that an increase in the LMRI index increases workers' monetary poverty. The results were also confirmed when a dummy variable for economic crisis and a crisis-LMRI interaction term are added to the empirical model. In conclusion, the paper seems to confirm that a higher flexibility is not a “panacea” that solves each problem related to labour market institutions. On the contrary, higher flexibility can increase poverty among workers. This highlights the necessity of recreating a new labour market institutional scheme, which is able to promote both higher production efficiency for firms and higher protection for workers.

References

- Amuedo-Dorantes, Catalina, and Ricardo Serrano-Padial.** 2010. "Labor Market Flexibility and Poverty Dynamics." *Labour Economics*, 17(4): 632-642. <http://dx.doi.org/10.1016/j.labeco.2010.01.004>
- Arellano, Manuel, and Stephen Bond.** 1991. "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations." *Review of Economic Studies*, 58(2): 277-297. <http://dx.doi.org/10.2307/2297968>
- Arestis, Phillip, and Ana Rosa González-Martínez.** 2015. "Is Job Insecurity a Driver of the Housing Cycle? Some Evidence in the Spanish Case." *Panoeconomicus*, 62(1): 1-14. <http://dx.doi.org/10.2298/PAN1501001A>
- Atkinson, Anthony Barnes.** 1987. "On the Measurement of Poverty." *Econometrica*, 55(4): 749-764. <http://dx.doi.org/10.2307/1911028>
- Barbieri, Paolo, and Stefani Scherer.** 2009. "Labour Market Flexibilization and Its Consequences in Italy." *European Sociological Review*, 25(6): 677-692. <http://dx.doi.org/10.1093/esr/jcp009>
- Bardone, Laura, and Anne-Catherine Guio.** 2005. "In-Work Poverty. New Commonly Agreed Indicators at the EU Level." Statistics in Focus - Population and Social Conditions Working Paper 5.
- Bassanini, Andrea, and Romain Duval.** 2006. "The Determinants of Unemployment across OECD Countries: Reassessing the Role of Policies and Institutions." *OECD Economic Studies*, 42(1): 7-86. <http://dx.doi.org/10.1787/16097491>
- BenYishay, Ariel, and Roger Betancourt.** 2014. "Unbundling Democracy: Political Rights and Civil Liberties." *Journal of Comparative Economics*, 42(3): 552-568. <http://dx.doi.org/10.1016/j.jce.2014.06.001>
- Bernal-Verdugo, Lorenzo E., Davide Furceri, and Dominique Guillaume.** 2013. "Banking Crises, Labor Reforms, and Unemployment." *Journal of Comparative Economics*, 41(4): 1202-1219. <http://dx.doi.org/10.1016/j.jce.2013.03.001>
- Bianco, Silvia Dal, Randolph L. Bruno, and Marcello Signorelli.** 2015. "The Joint Impact of Labour Policies and the 'Great Recession' on Unemployment in Europe." *Economic Systems*, 39(1): 3-26. <http://dx.doi.org/10.1016/j.ecosys.2014.06.002>
- Blanchard, Olivier J., and Francesco Giavazzi.** 2003. "Macroeconomic Effects of Regulation and Deregulation in Goods and Labor Markets." *The Quarterly Journal of Economics*, 118(3): 879-907. <http://dx.doi.org/10.3386/w8120>
- Blanchard, Olivier J., Florence Jaumotte, and Prakash Loungani.** 2014. "Labor Market Policies and IMF Advice in Advanced Economies during the Great Recession." *IZA Journal of Labor Policy*, 3(1): 2-31. <http://dx.doi.org/10.1186/2193-9004-3-2>
- Brancaccio, Emiliano, Nadia Garbellini, and Raffaele Giammetti.** 2017. "Structural Labour Market Reforms, GDP Growth and the Functional Distribution of Income." *Structural Change and Economic Dynamics*, 44(C): 34-45. <http://dx.doi.org/10.1016/j.strueco.2017.09.001>
- Canale, Rosaria Rita, Giorgio Liotti, and Marani Ugo.** 2019. "Structural Public Balance Adjustment and Poverty in Europe." *Structural Change and Economic Dynamics*, 50(C): 227-236. <http://dx.doi.org/10.1016/j.strueco.2019.07.002>
- Choudhry, Misbah Tanveer, Enrico Marelli, and Marcello Signorelli.** 2012. "Youth Unemployment and the Impact of Financial Crises." *International Journal of Manpower*, 33(1): 76-95. <http://dx.doi.org/10.1108/01437721211212538>

- Ciminelli, Gabriele, Romain Duval, and Davide Furceri.** 2018. "Employment Protection Deregulation and Labor Shares in Advanced Economies." International Monetary Fund Working Paper 186. <http://dx.doi.org/10.5089/9781484370087.001>
- Crettaz, Eric.** 2011. *Fighting Working Poverty in Post-Industrial Economies. Causes, Trade-Offs and Policy Solutions.* Aldershot: Edward Elgar Publishing.
- Crettaz, Eric.** 2015. "Poverty and Material Deprivation among European Workers in Times of Crisis." *International Journal of Social Welfare*, 24(4): 312-323. <http://dx.doi.org/10.1111/ijsw.12132>
- Daveri, Francesco, and Guido Tabellini.** 2000. "Unemployment, Growth and Taxation in Industrial Countries." *Economic Policy*, 15(30): 47-104. <http://dx.doi.org/10.1111/1468-0327.00057>
- Di Prete, Thomas A., Dominique Goux, Eric Maurin, and Amelie Quesnel-Vallee.** 2006. "Work and Pay in Flexible and Regulated Labor Markets: A Generalized Perspective on Institutional Evolution and Inequality Trends in Europe and the U.S." *Research in Social Stratification and Mobility*, 24(3): 311-332. <http://dx.doi.org/10.1016/j.rssm.2006.04.001>
- Dutt, Amitava Krishna, Sébastien Charles, and Dany Lang.** 2015. "Employment Flexibility, Dual Labour Markets, Growth, and Distribution." *Metroeconomica*, 66(4): 771-807. <http://dx.doi.org/10.1111/meca.12093>
- Eichhorst, Werner, Veronica Escudero, Paul Marx, and Steven Tobin.** 2010. "The Impact of the Crisis on Employment and the Role of Labour Market Institutions." Institute for the Study of Labor Discussion Paper 5320.
- Emmenegger, Patrick, Silja Häusermann, Bruno Palier, and Martin Seeleib-Kaiser.** 2012. *The Age of Dualization: The Changing Face of Inequality in Deindustrializing Societies.* Oxford: Oxford University Press.
- Ferreiro, Jesús, and Felipe Serrano.** 2013. "Labor Flexibility, Inequality, and Financial Crisis." *Journal of Economic Issues*, 47(2): 567-574. <http://dx.doi.org/10.2753/JEI0021-3624470231>
- Ferreiro, Jesús, and Carmen Gómez.** 2018. "Employment Protection and Labour Market Performance in European Union Countries during the Great Recession." Forum for Macroeconomics and Macroeconomic Policies Working Paper 31.
- Ferreiro, Jesús, and Carmen Gómez.** Forthcoming. "Employment Protection and Labor Market Results in Europe." *Journal of Evolutionary Economics*. <http://dx.doi.org/10.1007/s00191-019-00656-5>
- Fraser, Neil, Rodolfo Gutiérrez, and Ramón Peña-Casas.** 2011. *Working Poverty in Europe: A Comparative Approach.* Basingstoke: Palgrave Macmillan.
- Giesselmann, Marco.** 2014. "The Impact of Labour Market Reform Policies on Insiders' and Outsiders' Low-Wage Risk." *European Sociological Review*, 30(5): 549-561. <http://dx.doi.org/10.1093/esr/jcu053>
- Halleröd, Björn, Hans Ekbrand, and Mattias Bengtsson.** 2015. "In-Work Poverty and Labour Market Trajectories: Poverty Risks among the Working Population in 22 European Countries." *Journal of European Social Policy*, 25(5): 473-488.
- Hemerijck, Anton, and Werner Eichhorst.** 2009. "Whatever Happened to the Bismarckian Welfare State? From Labor Shedding to Employment-Friendly Reforms." Institute for the Study of Labor Discussion Paper 4085.

- Liotti, Giorgio, Marco Musella, and Federica D’Isanto.** 2018. “Does Labour Market Flexibility Reduce Youth Unemployment in Time of Crisis? Evidence from Italian Case.” *The Empirical Economics Letters*, 17(10): 1219-1126.
- Lucifora, Claudio, Abigail McKnight, and Wiemer Salverda.** 2005. “Low-Wage Employment in Europe: A Review of the Evidence.” *Socio-Economic Review*, 3(2): 259-292. <http://dx.doi.org/10.1093/SER/mwi011>
- Marx, Ive, and Brian Nolan.** 2012. “In-Work Poverty.” Gini Discussion Paper 51.
- O’Higgins, Niall.** 2012. “This Time It’s Different? Youth Labour Markets during ‘The Great Recession’.” *Comparative Economic Studies*, 54(2): 395-412. <http://dx.doi.org/10.1057/ces.2012.15>
- O’Higgins, Niall, and Valentino Moscariello.** 2017. “Labour Market Institutions and Youth Labour Markets: Minimum Wages and Youth Employment Revisited.” International Labour Organization, Research Department Working Paper 223.
- Sargan, John Denis.** 1975. *Testing for Misspecification after Estimating Using Instrumental Variables*. New York: Mimeo.
- Sen, Amartya.** 1979. “Issues in the Measurement of Poverty.” *The Scandinavian Journal of Economics*, 81(2): 285-307. <http://dx.doi.org/10.2307/3439966>
- Sen, Amartya.** 1985. “A Sociological Approach to the Measurement of Poverty: A Reply to Professor Peter Townsend.” *Oxford Economic Papers*, 37(4): 669-676. <http://dx.doi.org/10.1093/oxfordjournals.oep.a041716>
- Townsend, Peter.** 1971. “Measures and Explanation of Poverty in High Income and Low Income Countries.” In *The Concept of Poverty*, ed. Alan Walker, David Gordon, Ruth Levitas, Peter Phillipore, Chris Phillipson, Margot E. Salomon, and Nicola Yeates, 1-45. UK: Policy Press. <http://dx.doi.org/10.2307/j.ctt1t89jmr>
- Townsend, Peter.** 1985. “A Sociological Approach to the Measurement of Poverty - A Rejoinder to Professor Amartya Sen.” *Oxford Economic Papers*, 37(4): 659-668. <http://dx.doi.org/10.1093/oxfordjournals.oep.a041715>
- Turrini, Alessandro, Gabor Koltay, Fabiana Pierini, Clarisse Goffard, and Aron Kiss.** 2015. “A Decade of Labour Market Reforms in the EU: Insights from the LABREF Database.” *IZA Journal of Labor Policy*, 4(1): 12-45. <http://dx.doi.org/10.1186/s40173-015-0038-5>
- Zemanek, Holger.** 2010. “Competitiveness within the Euro Area: The Problem that still Needs to Be Solved.” *Economic Affairs*, 30(3): 42-47. <http://dx.doi.org/10.1111/j.1468-0270.2010.02020.x>

Appendix

Table A Monetary Poverty and LMRI in EU-15: County Analysis

Country	Variable											
	Monetary poverty				LMRI				Unemployment			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Min.	Mean	Max.	Diff. (2016-2005)	Min.	Mean	Max.	Diff. (2016-2005)	Min.	Mean	Max.	Diff. (2016-2005)
Austria	6.1	7.55	8.6	1.5	5.55	6	6.32	-0.34	4.1	5.18	6	0.4
Belgium	3.9	4.42	4.8	0.8	6.5	7.11	7.41	0.68	7	7.95	8.5	-0.8
Denmark	4.2	5.3	6.5	0.5	7.31	7.41	7.47	-0.11	3.4	5.87	7.6	1.4
Finland	3.1	3.95	5.1	-0.6	4.8	5.26	5.62	0.36	6.4	8.05	9.4	0.4
France	6	7.1	8	1.8	5.33	5.66	5.93	0.11	7.4	9.3	10.4	1.2
Germany	4.8	7.65	9.9	4.7	3.8	5.5	7.43	3.5	4.1	6.82	11.2	-7.1
Greece	11.9	13.6	15.1	1.2	4.01	4.52	4.97	0.96	7.8	16.8	27.5	13.6
Ireland	4.8	5.44	6.3	-0.8	7.25	7.75	8.13	0.44	4.6	10.2	15.5	3.7
Italy	8.8	10.35	11.8	3	6.17	6.59	6.97	0.28	6.1	9.24	12.7	4
Luxembourg	9.3	10.45	12	2.2	5.28	5.78	6.34	0.53	4.2	5.21	6.5	1.7
Netherlands	4.4	5	5.8	-0.2	6.61	6.90	7.44	-0.5	3.7	5.55	7.4	0.1
Portugal	9.3	10.45	11.5	-0.7	4.76	5.49	6.45	0.61	8.8	11.7	16.4	2.4
Spain	10.1	11.32	13.2	2.5	4.69	5.41	6.25	0.84	8.2	17.8	26.1	10.4
Sweden	5.5	7.28	8.1	1.3	5.06	6.07	6.86	1.8	6.1	7.5	8.6	-0.8
UK	6.3	7.90	8.8	0.5	7.92	8.23	8.46	-0.07	4.8	6.35	8.1	0

Source: Authors' calculation.