What Causes Labor Unrest under IMF Programs?
Labor Conditions, Mobility, and Unrest

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Abstract

Why do we see large-scale labor protests and strikes under some IMF programs such as in Greece in 2010 and not in others such as in Ireland in the same year? This paper argues that extensive labor conditions in an immobile labor market generate strong opposition to IMF programs. Labor conditions that decentralize and open up an immobile labor market cause workers either to lose in terms of rights and benefits, while being stuck in the same job, or to fall into a less protected sector with fewer benefits. Conversely, in more mobile markets, wage and benefit differentials are low, and the movement across sectors is easier. In such markets, labor groups do not mobilize to the same extent to block programs. I test this theory in a global sample of 117 countries between the years 1992 and 2013 and explore mobility, conditionality, and unrest in four case studies on Greece, Ireland, Latvia and Portugal under their respective IMF programs after the 2008 financial crisis.

> "Since there is imperfect mobility of labor, and wages do not tend to an exact equality of net advantage in different occupations, any individual or group of individuals, who consent to a reduction of money-wages relatively to others, will suffer a relative reduction, which is a sufficient justification for them to resist it." (John Maynard Keynes 1936)

In some countries, we observe a strong labor reaction to IMF programs. Labor groups mobilize to stage protests and strikes to block the programs. Greece in 2010 is one such example, where labor groups organized to protest program measures. In other cases, on the other hand, we see the implementation of the program without such strong labor opposition or collective mobilizations. Ireland, for example,

implemented its IMF program without much labor unrest in the same year. Why do we see labor unrest in some cases and not in others? What explains the variation between Ireland and Greece under their respective IMF programs?

This paper argues that IMF labor conditions in immobile labor markets would generate large-scale grievances and opposition. IMF labor conditions are geared towards bringing greater flexibility and decentralizing labor markets in order to foster efficient reallocation of workers and to promote greater economic productivity.[1] To this end, they often make hiring and firing easier; decentralize collective bargaining institutions; in some cases reduce the minimum wage; and ease the restrictive conditions on temporary and part-time employment in labor law. In immobile labor markets, this translates either into an immediate job loss for immobile workers due to reduced costs of firing, and the prospect of long-term unemployment or to lessened job security and reduced benefits while staying in the same job. Moving to a new job or a sector is discouragingly hard for those workers, as there are extensive wage differentials or differentiated benefits in immobile labor markets. [2] In such immobile markets, labor groups mobilize to block the implementation of a program that would put them at a distinct disadvantage. In mobile labor markets, on the other hand, wage differentials (and hence risks) are lower, and movement is easier. Moreover, there is less of a decrease in income and benefits when workers do move to a different sector and shorter prospect of unemployment. They therefore have less of a reaction to the programs, and we observe less labor unrest in such cases.

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[1] IMF 2013a, 19.
[2] Hiscox 2001, 9.

I test this theory using a mixed methodology. I, firstly, explore the broad association between labor mobility, conditionality, and unrest in a global sample of 117 countries over the years 1992 and 2013. I look at the interactive impact of labor conditions and labor (im)mobility on labor unrest using three novel datasets on inter-sectoral labor mobility, IMF labor conditions, and labor unrest. Secondly, I demonstrate the adjustment and responsiveness of mobile and immobile markets to labor conditions in four European borrowers of the Fund with different levels of mobility and conditionality: Greece (a case of high conditionality and low mobility), Ireland (a case of low conditionality and high mobility), Latvia (a case of high mobility and high conditionality), and Portugal (a case of low conditionality and low mobility).

The paper proposes a novel theory of inter-sectoral mobility in relation to collective labor mobilizations under IMF programs. Previously, scholars such as John Maynard Keynes discussed mobility with respect to wages. [3] Scholars such as Henry Bienen and Mark Gersovitz, Michael Hiscox, and Ronald Rogowski demonstrated the importance of factor mobility in determining support for trade and for political stability. [4] Furthermore, we know that IMF programs have a potent impact on labor groups, as discussed by Gopal Garuda, Manuel Pastor, and James Vreeland.[5] This paper expands the theory of factor mobility to inter-sectoral labor mobility and theorizes the role of inter-sectoral mobility in relation to labor conditions and labor unrest. It empirically shows how IMF conditions might fall like an axe on immobile labor markets and hurt labor groups, triggering large-scale strikes and labor-related protests.

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[3] Keynes 1936.
[4] Bienen and Gersovitz 1985; Hiscox 2002; Rogowski 1989.
[5] Garuda 2000; Pastor 1987; Vreeland 2002.

The topic also has important policy implications for both the Fund officials and borrowing governments. Firstly, labor conditions in immobile markets increase the human cost of crises, with significant psychological implications for labor groups. Secondly, prolonged unemployment periods and a decline in human capital take a toll on economic productivity. Thirdly, governments often go to the IMF, because they cannot find credit on favorable terms in the market.[6] Labor unrest might harm market confidence in the governments, prolong the programs, and delay the repayment of the loans—an outcome that is not desirable either for the Fund or the borrowing government.[7] In the interest of labor groups, borrowing governments and the Fund, program designs can pay closer attention to labor market organization and mobility levels and assign conditions in accordance with preexisting industrial relations. The conclusion discusses potential policy advice in more detail in line with the findings of this paper.

The rest of the paper is organized as follows. The next section discusses the existing explanations in the literature on unrest under IMF programs and shows the gaps in the literature. The third section explains the underlying theory of mobility and the impact of labor conditions in an immobile market. The fourth section tests this theory in a global sample and reports the findings. The fifth section discusses four cases with different levels of mobility and labor conditions, namely Greece, Ireland, Latvia, and Portugal after the 2008 financial crisis. The final section summarizes the argument and the findings and discusses some policy implications.

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[6] Copelovitch 2010, 3.
[7] Chapman, Fang, Li and Stone 2015, 329; Woods 2006, 24.

Unrest under IMF Programs: Existing Explanations

There is a rich literature on the scope of IMF conditionality[8] and the impact of programs on domestic groups[9] and international and domestic outcomes more broadly.[10] However, a study on labor unrest with a specific focus on labor-related issues has yet to be conducted.

The impact of IMF programs on unrest has previously been discussed in the literature, mostly in the context of human rights violations. Rodwan Abouharb and David Cingranelli look at human rights violations under and outside of IMF programs and find strong evidence that the use of torture and extra-judicial killings increase under the programs.[11] Similarly, David Pion-Berlin and James Franklin separately argue that violent repression increases under IMF programs, since governments have a stake in implementing programs in order to secure loans from the Fund, repressing the opposition in the process.[12] Although highly plausible and empirically supported, those studies assume that there will be automatic labor opposition to programs in every country that borrows from the Fund, and take labor opposition for granted. They can further be developed by analyzing labor protests and strikes in addition to the cases of violent repression. This would clarify the causal mechanism of labor opposition to programs rather than taking it for granted. Secondly, by delving deeper into the specifics of IMF conditionality and the close

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[8] See for instance Chwieroth 2007, 2010, 2013; Copelovitch 2010; Dreher and Jensen 2007; Dreher, Sturm and Vreeland 2015; Gould 2003, 2006; Kentikelenis, Stubbs, and King 2016; Nelson 2014, 2017; Stone 2002, 2008; Steinwand and Stone 2008.

[9] See Abouharb and Cingeranelli 2009; Casper 2015; Dreher 2004, 2006; Dreher and Gassebner 2012; Gartzke and Naoi 2011; Hartzell, Hoddie and Bauer 2010; Kentikelenis et al. 2016; Nooruddin and Simmons 2006; Rickard and Caraway 2014, 2018; Pastor 1987; Pion-Berlin 1983; Vreeland 2002; 2003.

[10] Caraway et al. 2012; Clift 2018; Copelovitch 2010; Doyle 2010; Gould 2006; Przeworski and Vreeland 2000; Stone 2002, 2008; Nelson and Wallace 2017; Nelson 2017; Sidell 1988.

[11] Abouharb and Cingranelli 2009.

[12] Pion-Berlin 1983; Franklin 1997.

relationship between subcategories of IMF conditions[13] and rising labor opposition in a country, we can explain the cross-country variation under IMF programs such as between Greece and Ireland in 2010 under their respective IMF programs. Thirdly, existing studies look at unrest from the perspective of the government and explain repression. They do not necessarily delve into the reasons for opposition from labor's perspective.[14] Explaining the opposition and mobilization from the perspective of labor groups would not only contribute to our existing knowledge but would also unpack and clarify the causes of mobilization.

The literature provides strong evidence that IMF programs can affect domestic politics and political groups such as prompting cuts in public sector wages[15], exacerbating ethnic and/or political divisions and sowing the seeds of civil wars[16], precipitating coups d'état[17], inciting governmental instability and crisis[18], enhancing democratization[19], exacerbating inequality and poverty[20], stalling economic growth[21], and worsening health services provision and outcomes[22]. Vreeland and Garuda particularly demonstrates that IMF programs distribute income away from labor groups towards capital owners.[23] They show that there is a material basis to labor's discontent beyond the relative deprivation and perceptions that have been referred to explain labor opposition to programs in

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[13] As applied, for instance, by Caraway, Rickard, and Anner 2012; Nooruddin and Simmons 2006; Rickard and Caraway 2018; and Stone 2008 in the literature.
[14] Abouharb and Cingranelli 2009; Franklin 1997; Pion-Berlin 1983.
[15] Rickard and Caraway 2018.
[16] Hartzell et al. 2010.
[17] Casper 2015.
[18] Dreher and Gassebner 2012.
[19] Nelson and Wallace 2017.
[20] Oberdabernig 2013; Lang 2016.
[21] Bas and Stone 2014; Przeworski and Vreeland 2000.
[22] Kentikelenis et al. 2016.
[23] Vreeland 2002; Garuda 2000.

previous studies.[24] This paper builds on those studies and further specifies the underlying reasons for labor's material disadvantage under programs and explains the cross-country variation in labor unrest. It contributes to the existing literature by specifically investigating the causes of labor opposition and unrest.

In the literature, scholars have also looked at how domestic politics might shape IMF conditions.[25] Particularly, Teri Caraway, Stephanie Rickard, and Mark Anner show that potential labor power in domestic politics can affect labor conditions: namely that democracies with strong labor groups can avoid intrusive labor conditions through democratic representation of labor interests at the negotiation table.[26] This study deepens the inquiry and provides a theory of mobility that complements their study. It argues that different labor groups might be affected by labor conditions differently. It stresses that in immobile markets, labor conditions fall like an axe. On their own, however, labor conditions do not have a statistically significant triggering effect on labor unrest, probably because as demonstrated by Caraway, Rickard and Anner, those interests are represented at the negotiation table.[27] Keeping labor power and labor conditions constant, however, we see that lower levels of mobility generate greater labor unrest.[28]

Stroup and Zissimos argue that unrest in general rises under IMF programs due to the unavailability of public employment under structural adjustment programs.[29] They argue that a country's elite cannot use public employment as a way of diffusing discontent and preventing unrest under IMF programs. Scholars

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[24] On relative deprivation theory, see Gurr 1970. For an excellent summary, see Abouharb and Cingranelli 2009, 52.
[25] See for instance Caraway et al. 2012; Nooruddin and Simmons 2006; Stone 2008.
[26] Caraway et al. 2012.
[27] Caraway et al. 2012, 29.
[28] See Appendix III for more discussion.
[29] Stroup and Zissimos 2013.

have previously shown that governments can use public employment as a mechanism of compensation[30] and social insurance[31] and that it is a powerful patronage tool.[32] Under IMF programs, however, this is often not possible either due to budgetary cuts or specific conditions targeting the public sector wage bill.[33] Following this line of argument, we can propose that in addition to public employment, mobility functions as a tool of efficient and quicker allocation of workers into jobs and sectors that are less affected by an economic crisis and/or austerity measures. In this sense, mobility (although it is not yet extensively discussed in the literature) might be a broader and a more generalized diffuser of social discontent than public employment (often a small part of total employment in the job market). The overall mobility, which functions as a diffuser of social risk, method of insuring that unemployment periods will be short, and that movement across sectors will not result in substantial loss of income or rights, might be more effective.

Bienen and Gersovitz look at political stability under IMF structural adjustment programs and discuss issues such as elite unity, military coups and civil-military relations, and deportation of the opposition in general.[34] They emphasize the role of factor mobility in determining the impact of IMF programs on different socio-economic groups and brilliantly argue that:

> The mobility of factors of production among sectors will be as important in other sectors as it is in government employment. When agricultural prices go down, the returns to land ownership will certainly be depressed, since fertile land is unlikely to have many alternative uses. Agricultural labor may, however, be able to move into an alternative employment, for

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[30] Nooruddin and Rudra 2014, 604.
[31] Rodrik 2000.
[32] Rickard and Caraway 2018, 5.
[33] Rickard and Caraway 2018.
[34] Bienen and Gersovitz 1985.

instance migrating to cities, thereby lessening the impact of a price decrease on labor's welfare.[35]

Bienen and Gersovitz mainly look at the role of factor mobility across land, labor, and capital.[36] This study broadens the focus to employment in different sectors in an economy and hence analyzes the mitigating role of smooth movement on labor's welfare in a broader sense. It also specifically looks at labor conditions in IMF programs rather than the general impact of structural adjustment. Furthermore, it puts Bienen and Gersovitz's ideas to an empirical test by employing a mixed method research design. The next section explains the theory of mobility and the impact of labor conditions in an immobile labor market in more detail.

Labor Mobility and Adjustment: Wages, Job Security, and Unrest under IMF Programs

Labor mobility, i.e. the ease of changing jobs and sectors[37], functions as a quasi-social protection mechanism in the labor market. It ensures that individuals can switch to jobs and sectors that are growing and/or are less affected by an economic contraction. For instance, more mobile groups are less threatened by trade liberalization and influx of foreign goods and are more supportive of open trade policies.[38] They are more likely to switch jobs and sectors, if their sector becomes less tenable due to increased competition.[39] Moreover, more mobile groups demand less social security than less mobile groups[40], as they heavily rely on mobility (rather than social policies) to avoid labor market risks. In general, in the face of uncertainty and/or increased risks in the labor market, individuals might

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[35] Bienen and Gersovitz 1985, 741-42.
[36] Bienen and Gersovitz 1985.
[37] Hiscox 2001, 2.
[38] Hiscox 2001, 21; Rogowski 1989.
[39] Hiscox 2001.
[40] Iversen and Soskice 2001.

rely on mobility as a substitute to social policy. Mobility ensures that they can move to a new job with similar income and without long periods of unemployment. For instance, a financial analyst can move to a consultancy job, if the financial sector takes a hit. Similarly, an agriculture worker can move to a low-skilled service job, if the agricultural product prices fall because of foreign competition. However, someone who is trained as a nurse would either require further training to move to a job with similar benefits or would need to accept a reduction in their earnings by moving to a different job. If they search for another nursing job, they might stay unemployed for a longer period than a worker in a more mobile sector.

In the absence of labor mobility, individuals are more exposed to labor market risks. This is especially true, when IMF programs decentralize labor markets and reduce the employment and wage security. IMF labor conditions often aim at breaking labor market rigidities and enabling efficient allocation of labor groups.[41] The Fund's pro-market rationale dictates that supply and demand in the labor market ensures greatest efficiency and productivity.[42] The Fund officials often envisage a trade-off between job and wage security and efficient allocation of workers.[43] Pro-labor measures such as minimum wage, collective bargaining, strict firing conditions and compensation for dismissals, and restrictions on temporary and part-time contracts are seen as market rigidities that might set wages higher than the market-clearing levels, while causing unemployment.[44]

When IMF programs suddenly and sharply open up labor markets, immobile workers become exposed to sudden losses of income and rights. They

[41] IMF 2013a, 5.
[42] Chwieroth 2015, 761; Nelson 2014, 308; Woods 2006.
[43] IMF 2013a, 7; Blanchard and Wolfers 2001. 12-13.
[44] IMF 2013a, 17.

often face four potential outcomes with significant implications for their income and security. Firstly, they may stay in their jobs but become more insecure, as firing becomes easier. They are more sensitive to such insecurity, as it might be harder for immobile workers to find positions with similar benefits in case of a job loss. Secondly, their income might fall, since collective bargaining institutions are decentralized and the minimum wage declines. This leads to an overall decline in income across the labor market. Thirdly, they might lose their job specifically due to IMF programs, which might lead to an overall economic contraction.[45] Finally, they might face long periods of unemployment or agree to a job with lower benefits to avoid such an outcome. All potential outcomes are likely to lead to an outburst of discontent and contentious action against the programs. In other words, when the axe of labor conditions falls on an immobile labor market, it triggers a sudden reaction from labor groups, often in the form of large-scale protests and strikes to block program implementation.[46]

Furthermore, immobility and IMF labor conditions interact: greater immobility triggers more labor conditions, and labor conditions have a larger impact on immobile markets. The IMF assigns more extensive labor conditions to more immobile borrowing countries, as they are seen as rigid markets in need of greater flexibility from the Fund's perspective.[47] In Greece, for instance, the Fund assigned conditions such as dismantling collective bargaining institutions, an increase in the number of hours a worker can work on a part-time contract, and

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[45] Przeworski and Vreeland 2000; Vreeland 2003.

[46] To be sure, immobile workers can mobilize against any sharp decentralizing labor market reform whether internationally- or domestically-initiated. IMF programs are one example of very potent and exogenous shock to the labor market. They might be more likely to generate unrest, however, since international organizations might be less sensitive to domestic outcomes than governments. It is because they do not often internalize the cost of policy failure. Fang and Stone 2012, 539.

[47] IMF 2013a, 17.

prolonging the maximum duration of temporary contracts. [48] Furthermore, it mandated lay-offs of public sector workers in order to reduce the government deficit.[49] This resulted in greater job and wage insecurity for Greek workers, some of whom remained in their jobs with reduced benefits and salaries or were fired without a job prospect in the short-term. Employment drastically fell in the country.[50]

In a mobile labor market, on the other hand, wage differentials are low.[51] When a worker loses their job, it is not discouragingly hard to find a new one with similar benefits and in a relatively shorter time frame. In such a market, labor conditions may not trigger large-scale opposition. For instance, the Fund assigned extensive labor conditions in Latvia in 2008, such as reduced wages in the public and private sectors and pension rights.[52] Latvia, however, has a more mobile labor market than Greece. Accordingly, labor groups did not react to the programs as strongly as the Greek workers did. Furthermore, in Ireland, where there were no labor conditions and labor is extensively mobile, labor groups reacted to the contraction in the economy by increasing their mobility and switching jobs and sectors. In Ireland and Latvia, we did not observe the rise of protests and strikes to the same extent as labor mobilizations in Greece. The interaction between labor conditions and mobility can be summarized as follows:

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[48] IMF 2010a, 26.
[49] IMF 2010a, 26.
[50] ELSTAT, various years.
[51] Hiscox 2001, 16-17; Hiscox and Rickard 2002, 20.
[52] IMF 2009, 8.

Table 1. Interaction between Mobility and Labor Conditionality

		Labor Mobility	
		High	Low
Conditions	High	Moderate unrest	High unrest
	Low	Low unrest	Moderate unrest

Table 1 shows that when there is a low level of mobility and a high number of labor conditions assigned under an IMF program, we will see a very high level of labor unrest (such as in Greece in 2010). Large-scale strikes and protests will be triggered. When there are fewer labor conditions and high mobility, on the other hand, we will observe minimal to no labor unrest (such as in Ireland in 2010). When there is high mobility and high number of conditions, we can expect to see moderate to no unrest (such as in Latvia in 2008). The same is true, when there is low mobility but fewer labor conditions (i.e. the axe either spares the labor market or falls more gently) such as in Portugal in 2011. The section on cases discusses each case (and their respective IMF programs) in detail. But, firstly, the next section tests this theory in a global sample and depicts the broad association between labor mobility, conditionality, and unrest under IMF programs.

Quantitative Evidence

This paper argues that a high number of IMF labor conditions trigger labor unrest in immobile labor markets. In other words, labor conditions and labor immobility interact in triggering large-scale labor opposition to programs. In this section, I investigate the interactive impact of labor conditions and (im)mobility on labor-related protests and strikes. I firstly look at systematic commonalities among

IMF borrowers and carry the impact of self-selection into the second stage of the analysis on the interactive impact on unrest.

Selection into IMF Programs

Self-selection into IMF programs might create a systematic bias that also correlates with unrest.[53] Previous studies identified factors such as an economic crisis (i.e. reduced growth rate), GDP and GDP per capita income (poor countries are more likely to sign an agreement)[54], inflation[55], left-wing government in office (left-wing governments are less likely to sign an agreement)[56], democracy score (democratic governments are more likely to borrow from the Fund)[57], elections (governments are more likely to shy away from IMF agreements especially in election years)[58], recidivism (repeated programs might create an "IMF fatigue" which leads governments to stay away from IMF programs)[59], and development aid (developing countries are disproportionately more likely to borrow from the Fund)[60] in predicting self-selection into IMF programs. I run a logit model with fixed effects, where the dependent variable is being under an IMF program (coded as '1' if a country had at least one Letter of Intent in a particular year and '0' otherwise). Data come from the World Bank Development Indicators dataset for the variables GDP, GDP per capita income, inflation, and development aid; from the World Bank Database of Political Institutions[61] for left-wing governments; and

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[53] Steinwand and Stone 2008, 125; Stone 2008, 602; Przeworski and Vreeland 2000, 387.
[54] Stone 2008, 604.
[55] Pop-Eleches 2008, 1187.
[56] Pop-Eleches 2008, 1197
[57] Stone 2008, 605-606.
[58] Rickard and Caraway 2014.
[59] Steinwand and Stone 2008, 145; Stone, 2008, 604.
[60] Caraway et al. 2012, 43.
[61] Beck et al. 2001.

from the IMF official website for the binary IMF variable. Table 2 reports the results.

Table 2: Selection into IMF Programs

Variables	IMF program participation
GDP per capita income	-0.000***
	(0.000)
Inflation	-0.000**
	(0.000)
Development aid	0.000
	(0.000)
Democracy	0.132***
	(0.026)
Left-wing government	-0.130
	(0.143)
Elections	-0.202
	(0.144)
Recidivism	0.881***
	(0.061)
Number of observations	2,536
Number of countries	85

Notes: Logistic regression analysis for panel data with fixed effects; Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

The results confirm the findings of the earlier studies. They show that an economic recession (measured in terms of changes in GDP per capita income in the fixed effects model) and inflation reduce the probability of signing an IMF agreement. As argued by Vreeland, governments might sign an agreement even when they are not undergoing an economic crisis, in order to anchor their desired reforms with an external actor and bypass domestic opposition.[62] Democratic governments, on the other hand, are more likely to borrow, as expected. This might be due to the Fund's bias towards democratic countries: the IMF is more likely to

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[62] Vreeland 2003, 13.

grant loans to democratic regimes compared to authoritarian ones.[63] Recidivism is one of the strongest predictors of the IMF participation: governments that have previously borrowed from the IMF are more likely to go back to the Fund, all else being equal.[64] In order to account for systematic commonalities among borrowers, I carry the probability of signing an IMF program into the second-stage of analysis and plug the inverse Mill's ratio into the model.[65]

Measuring Labor Unrest, Mobility, and IMF Conditions

In the second-stage, I look at the determinants of labor unrest. I construct a novel dataset on labor unrest based on the LexisNexis database. I code strikes and protests exclusively related to working conditions and wages such as protests against declining wages, dismissals, working conditions such as asocial and long hours, changes to labor law, and collective agreements.[66] I look at 'all English sources' on the database for country-years. This creates an obvious bias for English-speaking countries. Yet, they rarely or never borrowed from the Fund within the period discussed in this study. This approach is more productive than looking at, for example, major news agencies, which are significantly biased towards reporting internationally significant protests and/or protests in capital cities and that involve some sort of violence.[67] Looking at 'all English' sources balance between consistency in the sample (instead of looking at local sources,

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[63] Stone 2008, 605-606.

[64] Steinwand and Stone 2008, 145.

[65] Heckman selection model is extensively common in the literature accounting for self-selection into the programs. I do not use it in this study, as the Heckman selection model assumes linearity of the dependent variable in the second stage.

[66] I do not specifically report riots, as this is a subjective category. It is normatively biased to look at political action from the perspective of the authority, and hence to marginalize the opposition. See for instance Tilly 2003.

[67] Beissinger, Sasse, and Straif 2014, 338.

which would again skew the data in favor of rich countries) and inclusiveness (instead of looking at world's major news agencies only).

There are several collective mobilizations datasets in the literature, such as Banks (2012). However, those datasets code all protests and strikes including collective action unrelated to labor issues, such as anti-government, pro-democracy, and anti-war protests. In this paper, I am specifically interested in grievances and protests of worker groups. In this new labor unrest dataset, I specifically look at whether labor protests and strikes increase in case the IMF levies labor conditions. Robertson and Teitelbaum code strikes and industrial action in low- and middle-income countries, and between the years 1980 and 2005.[68] The labor unrest dataset in this study complements theirs by covering a greater number of years (between the years 1992 and 2013) and a greater number of countries. It also looks at labor-related protests in addition to strikes. Strikes can be especially costly for labor groups, since they risk lay-offs from employers. Protests might be a more feasible way for labor groups to voice demands and grievances.

I construct a 'labor unrest' variable for the ease of interpretation and sum strikes and protests for each country-year, as well as looking at their individual impact.[69] Labor unrest changes between 0 and 75 in the dataset over the years 1992 and 2013 for a sample of 163 countries. For robustness checks against measurement errors, I also retest the theory with the high profile strikes and industrial action dataset by Robertson and Teitelbaum.[70]

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[68] Robertson and Teitelbaum 2011.
[69] Results for individual impact are available from the author upon request.
[70] Robertson and Teiltelbaum 2011.

In addition, I construct two new datasets on labor conditions and labor mobility. Following Hiscox and Hiscox and Rickard, I define labor mobility as the ease of changing jobs and sectors, and look at yearly changes across sectors calculated as a ratio of the total labor force.[71] The formula for calculating labor mobility can be denoted as follows:

$$\text{Labor mobility}_{i,\,t} = \frac{\sum |E_{i,\,t} - E_{i,\,t\text{-}1}| - |\sum E_{i,\,t} - \sum E_{i,\,t\text{-}1}|}{0.5 * (\sum E_{i,\,t} + \sum E_{i,\,t\text{-}1})}$$

E stands for the number of workers in a sector in a particular year; i stands for the sector; and t stands for a particular year. The measure looks at the annual changes in the number of workers in a particular sector from year *t-1* to *t.* Then, I subtract the change in the total number of workers in all sectors from this measure in order to account for natural movements to and out of the labor market, such as the retirement of some workers and the entry of new graduates. Finally, I turn the measure to a ratio of the total workforce by dividing it by the average of total number of workers in the labor market in the year *t-1 and* t, as there is naturally a greater movement in and out of the market in larger countries. Data on the number of employees in each sector over the years come from ILO ISIC2 and ISIC3 reviews (The list of sectors in the analysis is in Appendix I). Labor mobility changes between 0 (very little or no movement) and 0.7 (extensive movement) in the dataset. This is the first global inter-sectoral labor mobility dataset in the literature and complements and extends Hiscox and Rickard's mobility dataset on the manufacturing sectors in industrialized countries.[72]

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[71] Hiscox 2002; Hiscox and Rickard 2002.
[72] Hiscox and Rickard 2002.

I code labor conditions in accordance with the strictness of labor conditions, following Caraway, Rickard, and Anner.[73] In IMF programs, not all conditions carry the same weight. Performance criteria and prior conditions are, for example, prerequisites for the continuation of programs: the disbursement of the next tranche depends on the fulfillment of those criteria.[74] Therefore, I assign the highest importance to performance criteria and prior actions and code them as '4'. Structural conditions follow performance criteria and prior actions in terms of strictness. The Fund expects them to be implemented; however, failure does not automatically result in the delay of the disbursement. I code the labor conditions in the first Letter of Intent for each year. I do not code each Letter of Intent for each year, as this results in the inflation of conditions due to the carryover of the some conditions such as performance criteria to the next Letter of Intent.[75] Labor conditions change between 0 and 49 in the dataset between the years 1992 and 2013. For robustness checks, I re-run the tests with Kentikelenis et al.'s dataset (the results are in Appendix II).[76]

There are several conditionality datasets in the literature. Nevertheless, most are not publicly available and/or cover shorter periods of time, including the Fund's own Monitoring of Funds Arrangement (MONA) database. Particularly, MONA is not very clear and randomly misses some entries.[77] The new labor conditions dataset I use for this study updates the existing ones and offers an additional check for the publicly available datasets. I do not look at the implementation of conditions, as their specification in the Letter of Intent is

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[73] Caraway et al. 2012, 42.
[74] Caraway et al. 2012, 42.
[75] Dreher et al. 2015, 124.
[76] Kentikelenis et al. 2016.
[77] Rickard and Caraway 2018.

sufficient for labor groups to mobilize and stage protests and strikes. In other words, labor groups mostly react to the prospect of implementation that would put them at a distinct disadvantage.

Control Variables

In the analysis, I also control for several economic and political variables that have been previously shown in the literature to affect both labor unrest and mobility and conditionality[78]:

The log of GDP. Programs and unrest are more common among poor countries compared to richer ones.[79] The data come from the World Development Indicators (WDI) dataset.

Log of GDP per capita income. A country's GDP per capita is positively linked to its political stability (with lower probability of unrest), and to its social spending and hence indirectly to its mobility (by giving greater educational and vocational training opportunities).[80] The data come from the World Development Indicators (WDI) dataset.

Log of economic growth. Protests and strikes are less common when the economy is growing. Economic contraction is likely both to prompt an IMF agreement and conditions, and an increase in strikes and protests from labor groups.[81]

Log of inflation. Increasing inflation might prompt governments to sign an agreement[82], as well as compounding the human cost of the crisis with decreasing

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[78] For a discussion on the inclusion of control variables in multilevel analysis, see Gelman and Hill 2006.
[79] Fearon and Laitin 2003, 83; Stone 2008, 604.
[80] Lipset 1959; Przeworski and Limongi 1997; Iversen and Soskice 2001, 889.
[81] Huber 1980, 130.
[82] Pop-Eleches 2008, 1192.

consumption power. Data come from WDI dataset. Higher levels of inflation indicate higher percentage increases in the annual consumer price index (CPI).

The log of total population. Fearon and Laitin show that a large population is conducive to conflict and political instability, due to relative ease of organizing against the central authority and the government's reduced capacity to control the population.[83] Data come from the WDI dataset.

FDI Inflow. Inflow of large sums of FDI to a country might mitigate some of the adverse impact of IMF conditions. It might create new employment opportunities in the receiving country and provide greater leverage to worker groups against their employers. It might also reduce some of IMF labor conditions. Alternatively, it might trigger mobilizations against the inflow of FDI.[84] Data come from WDI dataset.

Remittances. Remittances might function as a substitute for social welfare spending and as insurance against income and labor market risks.[85] Hence, in countries, where there is a large flow of remittances, labor groups may not react to programs as much. Data on remittances come from WDI dataset.

Democracy. Democracies are both more likely to conclude an IMF agreement[86] and to have less unrest.[87] Data come from the Polity IV dataset of the Correlates of War project.

Left-wing government. Left-wing governments are less likely to conclude an IMF program compared to right-wing ones.[88] Moreover, one might argue that left-wing governments are more likely to represent labor interests against the

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[83] Fearon and Laitin 2003, 81.
[84] Owen 2015.
[85] Doyle 2015.
[86] Stone 2008, 605-606.
[87] Dahl 1989; Hegre et al. 2001.
[88] Pop-Eleches 2008, 1197.

Fund.[89] Left-wing governments are coded as '1,' and non-left governments as '0'. Data come from World Bank Database of Political Institutions (DPI).

Proportional representation. Proportional representation is more likely to give smaller parties the opportunity to enter into Parliament and lead to multiple voices, interests, and preferences represented within it.[90] Stronger democratic representation might ameliorate conflict and hence discourage unrest. Proportional representation systems are coded '1' and other electoral systems as '0'. Data come from the World Bank DPI.

Log of inequality. Earlier studies argued that inequality increases under IMF programs[91] and labor unrest in borrowing countries might unfold due to increased inequality and relative deprivation under the programs.[92] The data come from the Adjusted Income Inequality Index.[93]

Regime stability. When regimes undergo dramatic changes, labor-related protests and strikes (in addition to other types of anti-government protests and strikes) might increase. In order to control for this impact, I measure the years a country's regime type remains stable (that it remains democratic or authoritarian).[94] Higher numbers indicate greater stability. Data come from Polity IV dataset.

Self-selection into IMF programs. As discussed in the first-stage analysis, one can argue that the systematic commonalities among IMF borrowers cause unrest, rather than labor conditions or mobility *per se*. In order to control for such impact, I add the probability of self-selection into programs to the overall analysis.

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[89] Caraway et al. 2012, 35.
[90] Lijphart 2008, 79.
[91] Lang 2016; Oberdabernig 2013.
[92] Abouharb and Cingranelli 2006, 2009; Franklin 1997.
[93] Solt 2016.
[94] Nelson 2014, 316.

IMF participation. Participation in an IMF program might send a powerful signal to the electorate on government incompetence, which then engenders protests and strikes.[95] I posit that participation in IMF programs will increase the likelihood of unrest in the zero-inflated negative binomial model—that a larger number of non-zero outcomes would be found in case of IMF programs. Previous studies demonstrated that unrest is more likely under IMF programs, and empirical checks in this study verify this. The next section explains the model specification in more detail.

Model Specification and Empirical Results

Labor unrest is not a very common event: mobilizations, especially in developing countries, require substantial organizational capacity.[96] Moreover, strike action is often very costly for workers. It requires a strike fund to compensate for wage losses, and there is always a risk of dismissals (although this is often illegal). For this reason, there are many zeros on the dependent variable. I account for this skew by estimating a zero-inflated negative binomial regression. Negative binomial models are particularly appropriate, as they specifically look at non-normally distributed count data.[97] I also specify the model with alternative count models such as zero-inflated Poisson and negative binomial and Poisson models for panel data (instead of zero-inflated versions) with time-fixed effects and robust standard errors clustered across countries. This is admittedly a very conservative model that might disregard some cross-country variation but yields more accurate and reliable results.

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[95] Dreher and Gassebner 2012, 331.
[96] Huber 1980, 192.
[97] Baltagi 2008; Cameron and Trivedi 2015; Greene 2012.

I first report the individual impact of labor mobility and labor conditionality on unrest before adding the control variables. For robustness checks, I run the models with Kentikelenis et al.'s labor conditionality data[98] and with Robertson and Teitelbaum's high-profile strikes and industrial dispute data[99] in addition to the labor unrest and labor conditions datasets that I use for this study. Table 3 reports the results.[100]

Table 3. Labor Mobility, Conditionality, and Unrest

Variables	(1) Labor Unrest	(2) High-Profile Strikes	(3) Industrial Dispute
Labor mobility	-10.83**	-7.83	-7.599
	(5.471)	(5.344)	(6.636)
Labor conditionality	-0.040	-0.008	-0.017
	(0.027)	(0.024)	(0.038)
Mobility*Labor conditionality	0.297	-0.382	-0.868
	(0.585)	(0.686)	(1.192)
IMF	18.19***	-21.34***	13.90***
	(0.924)	(2.410)	(3.479)
Constant	0.287	-0.009	-0.476
	(0.263)	(0.305)	(0.406)
Number of observations	969	573	573

Notes: Zero-inflated negative binomial regression with robust standard errors clustered across countries; Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The results show that labor mobility has an independent reducing impact on labor unrest. Workers in mobile labor markets are less exposed to risks and prospect of loss of income compared to workers in immobile markets. Labor conditions on the other hand have substantively and statistically negligible impacts

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[98] Kentikelenis et al. 2016.

[99] Robertson and Teitelbaum 2011.

[100] The results are very similar when I run them with Kentikelenis et al. (2016)'s data on labor conditions both in substantive impact and statistical terms. The results are available from the author.

on unrest. IMF program participation as expected increases the likelihood of unrest.

Next, I add control variables to the analysis. Table 4 reports the results.

Table 4. Labor Unrest under IMF Programs

Variables	(4) Zero-Inflated Negative Binomial	(5) Zero-Inflated Poisson
Mobility	-0.490	7.383*
	(4.547)	(4.242)
Labor conditions	0.060	0.188**
	(0.048)	(0.077)
Mobility*Labor Conditions	-1.795**	-4.663**
	(0.893)	(2.091)
Logged GDP	0.453***	0.269***
	(0.116)	(0.090)
Logged GDP per capita	-0.046	0.064
	(0.231)	(0.195)
Logged economic growth	-0.052	-0.039
	(0.046)	(0.039)
FDI Inflow	-0.013	1.757
	(2.135)	(2.658)
Logged inflation	-0.055	-0.025
	(0.046)	(0.041)
Logged population	0.168	0.044
	(0.123)	(0.098)
Remittances	0.000	0.000
	(0.000)	(0.000)
Democracy	0.111**	0.010**
	(0.045)	(0.046)
Left-wing government	0.103	0.0011
	(0.168)	(0.161)
Proportional representation	0.545	-0.038
	(0.449)	(0.353)
Logged inequality	-0.037	0.026
	(0.092)	(0.078)
Regime stability	-0.000	0.001
	(0.009)	(0.008)
Self-selection into IMF	-4.387	-3.123
	(4.248)	(6.194)
IMF participation	13.11**	0.334
	(5.587)	(0.553)
Constant	-16.12***	-11.11***
	(3.028)	(3.048)
Number of observations	551	551

*Notes: Robust standard errors are clustered across countries with time-fixed effects; Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.*

Table 4 shows that the interactive effect of mobility and conditionality is substantively and statistically significant across all four models for count data (negative binomial and Poisson models for panel data is in the Appendix II). [101] At lower levels of mobility, labor conditions trigger strikes and protests from labor groups. In immobile markets, when the IMF imposes labor conditions (such as increasing flexibility for part-time and temporary contracts, and making it easier to fire employees), labor groups might remain in their jobs with worse conditions, such as longer working hours on a part-time contract or increased insecurity due to longer maximum duration of temporary contracts. Alternatively, they might be fired without strong prospects of finding jobs with equal benefits and income. In immobile labor markets, there are high wage differentials across sectors, and it is not easy for workers to switch to a sector that is relatively less affected. Labor groups then are motivated to stage protests and strikes to prevent program implementation. Labor unrest in this sense is both a retrospective action against labor conditions, and proactive political participation to prevent conditions from being implemented once they are specified in Letters of Intent.

Democracies and richer countries witness greater numbers of labor-related protests and strikes. This is expected; democracies provide greater channels for labor organization and mobilization, and risks such as layoffs or violent repression are lower. Similarly, in richer countries, there are greater financial resources for strikes and protests, and greater educational opportunities for greater organizational

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[101] Note that the number of observations decrease compared to the first-stage model. This is because the first model looks at a global sample and accounts for participation in IMF programs, whereas the second model looks at only borrowers and investigates the role of mobility and conditionality in triggering labor protests and strikes. Naturally, the second-stage model is a sub-sample of the global sample and is restricted to IMF program countries. Looking at only IMF borrowers allows us to explore the cross-country variation in terms of unrest among borrowers.

capacity.[102] Other economic variables such as remittances, FDI, and inequality, and political ones such as left-wing government, proportional representation, or regime stability do not seem to play a prominent role in labor unrest. This might be because IMF programs are sharp and sudden interventions in a borrowing government, with immediate impacts. This does not leave much room for adjustment, except for mobility opportunities and the possibility of finding a similar job with equivalent benefits and income in another sector.

I also re-run the models with the labor conditionality dataset[103] from Kentikelenis and others for robustness checks (the results are in Appendix II). With alternative measurements and datasets as well, the results are almost identical. At lower levels of mobility, IMF labor conditions cause large-scale labor unrest. The next section demonstrates how mobility functions as a tool of readjustment and a social and labor market risk diffuser in four European cases with different levels of mobility and labor conditions under their respective IMF programs.

European Borrowers of the Fund: Mobility, Conditionality and Unrest

Mobility is a powerful reallocation mechanism in the labor market. Under IMF programs, mobile markets respond to changes by reallocating workers to growing sectors and in a relatively shorter time period compared to immobile markets. This prevents large drops in employment as well as a significant loss of income and rights. The European borrowers of the Fund excellently demonstrate the functioning of mobility and its interaction with the Fund conditionality at different levels of mobility and conditionality.

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[102] On the link between educational attainment and organizational capacity of labor groups, see Rudra 2002.
[103] Kentikelenis et al. 2016.

Greece borrowed from the IMF, European Commission, and the European Central Bank in May 2010.[104] This was the second so-called Troika arrangement in the European Union following Latvia in 2008. After Greece, Ireland also concluded an agreement later in 2010, while Portugal joined the list in 2011.[105] A comparison between four European borrowers is particularly ideal for the purposes of this study. They demonstrate variability in terms of mobility: Greece and Portugal are profoundly immobile, whereas Ireland and Latvia are among the most mobile markets in the European sample. While Ireland and Portugal received relatively fewer (or no) labor conditions, Greece and Latvia received very high numbers of labor conditions. The four European borrowers can be depicted in a two-by-two matrix of conditionality and mobility as follows:

Table 5. Mobility and Labor Conditionality in Greece, Latvia, Ireland, and Portugal in the Post-2008 crisis

		Labor Mobility	
		High	Low
Conditions	High	Latvia, 2008	Greece, 2010
	Low	Ireland, 2010	Portugal, 2011

Table 5 shows the variation on two independent variables in this study, i.e. labor conditions and labor mobility. In addition to demonstrating variance across

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[104] IMF 2010a, 1.

[105] Note that the Troika arrangement is inconsequential for the purposes of this study, since as the previous section shows, a similar mechanism linking labor conditions and immobility to labor unrest exists in a global selection of cases. Furthermore, as long as conditions are assigned, it is not of high importance whether they were primarily recommended by the Fund or the Commission (or Germany, for that matter). More than the conditions' source, their empirical and material impact on labor groups' existing and prospective income are consequential.

independent variables, the study of those four countries significantly contributes to our knowledge on IMF programs. They are among the richest democracies in the world and show significant similarities in terms of their development levels, controlling for unobserved confounding variables. More importantly, until now, we have mainly studied unrest and violent repression in developing countries. The study of labor unrest in relatively more developed cases provides greater analytical leverage into the causal mechanism; since institutional, political, and economic weaknesses that plague developing countries would not be observable to a similar extent in those countries. These cases clearly demonstrate the adjustment mechanisms that mobility provides, and the strong reactions that rise up when mobility is low and adjustment opportunities are either minimal or nonexistent. Greece in 2010 particularly shows the labor grievances that are caused by labor conditions in an immobile market.

Greece in 2010: Immobility and Labor Unrest

The phrase 'The cradle of democracy rocking the world' was used by Mark Mazower to describe the aftermath of Greece's signing an IMF agreement.[106] Forty-four strikes, twelve of which were general strikes, and numerous labor protests followed the signing of the agreement between 2010 and 2013.[107] The protests were often synchronized with the negotiations with the IMF and the European institutions, and with votes on the bills (specified in the program) in the Parliament. One of the biggest demonstrations in three years was organized before votes were held on the labor conditionality bills (promising wage cuts, changes to pension rights, and lay-offs of civil servants) in the Greek parliament on October

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[106] New York Times, 29 June 2011.
[107] LexisNexis database, various years.

19, 2011 when more than 80,000 people gathered in Syntagma Square in Athens.[108] Several days earlier, on May 11, 2011, a similarly large demonstration (with the participation of 50,000 people) was organized by public sector union ADEDY[109] and private sector union GSEE[110] during the negotiations between the Greek government and the institutions.[111] On other occasions, thousands gathered in Athens and in smaller cities such as Thessaloniki to protest the agreement and the measures included in the programs. Strikes almost froze life in Greece in that period.

Extensive labor conditions suddenly and sharply opening an immobile labor market created large-scale grievances and triggered substantial labor unrest in Greece. IMF labor conditions in the Greek program aimed at bringing greater flexibility into the labor market. They were targeted towards employing workers where they are most productive and enhancing the ability of market forces to determine wage levels.[112] Collective agreements and a high minimum wage are believed to distort market conditions and set wages above the optimum level.[113] Moreover, employment protections such as making firing and hiring difficult, discouraging part-time work, and high overtime payments were argued to make the labor market rigid for new entrants and hamper growth.[114] In fact, labor is profoundly immobile in Greece. Formal job tenure is the highest among twenty

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[108] New York Times, 19 October 2011.
[109] Ανωτατη Διοίκηση Ενώσεων Δημοσίων Υπαλλήλων- Congress of Public Administration Employees.
[110] Γενική Συνομοσπονδία Εργατών Ελλάδος- General Confederation of Greek Workers.
[111] CNN, 11 May 2011.
[112] IMF 2014.
[113] IMF 2010a, 7.
[114] IMF 2010a, 7.

OECD countries. [115] Similarly, labor mobility levels—the number of worker changes in-between sectors—are half of the OECD average (0.012 in Greece, compared to the OECD average of 0.025). At the macro-level, the IMF argues that such rigidities reduce the competitiveness of the Greek economy, discourage exports due to high labor costs, and deter investment (again, due to high labor costs associated with production). [116]

IMF labor conditionality has been an exogenous shock to the immobile Greek labor market. Labor conditionality foremost reduced the existing employment protection measures, and diminished the security that labor enjoyed. For instance, the notice period for laying off workers was reduced by half. [117] The maximum duration for fixed term contracts was extended from twelve to thirty-six months. The minimum wage for youth (under twenty-years of age) was set at eighty per cent of the national minimum wage, and for the new entrants above 25 years of age at eighty-four per cent. [118] Moreover, the collective bargaining process has been decentralized. In addition to the three-layered bargaining process, which had been sidelined by legislative acts, 'associations of persons' (as opposed to unions) were given the right to negotiate wage and employment conditions with employers. The duration of part-time and short-term work contracts and their maximum number of renewal have been extended. The definition of part-time work has been increased to forty hours per week, and overtime payment was changed into hourly rates in the contract abolishing the previously defined 'ten per cent extra' rule for overtime

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[115] Whereas 30.9 per cent of Greeks reported being in their current job for fewer than six months in 2007 before the financial crisis, the percentage was considerably higher in Ireland in the same year, 43.5 per cent. OECD, various years.
[116] IMF 2011a.
[117] Koukiadaki and Kretsos 2012.
[118] Koukiadaki and Kretsos 2012.

work.[119] Those measures not only reduced income for workers, but also increased risks (For a full list of labor conditions in Greece, see Appendix III).[120]

Labor conditionality led to three types of risks for immobile workers in Greece. Firstly, employment protection declined. Existing jobs have become less secure, since hiring and firing became easier. This also led to an immediate decline in employment across all sectors.[121] In immobile markets such as Greece, the re-allocation process is slow, and flexibility measures result in a decline in employment levels in the short-term. Conversely, in mobile labor markets, either we observe movement towards growing sectors despite the crisis, or different sectors peak at different points during the crisis and absorb the redundant workers, preventing a drastic decline in the employment in the short-term.

Secondly, wage protections were reduced, by promoting individual contracts as opposed to collective ones. This change led to the immediate decline of nominal wages. According to the OECD data, the share of involuntary part-time workers as a percentage of the total labor force increased from 2.2 percent in 2009 to 3.5 percent in 2013.[122] In 2011, 37.5 per cent of all part-time workers said that they were involuntarily in part-time work.[123] Moreover, there was a considerable increase in overtime work (especially for part-time workers), and a visible shift

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[119] Patra 2013, 23.

[120] The Letter of Intent submitted in 2010 to the IMF by the Greek authorities summarized the labor market reforms as follows: 'Substantive legislative changes were introduced in July easing employment protection legislation and collective dismissals, reforming minimum wages, reducing overtime premia, and allowing firm-level agreements to prevail over other levels. Alongside reforms in public employment to reduce labor-market distortions, these will increase adjustment capacity of firms, ultimately boosting employment. Further measures will be taken to reform collective bargaining, including the elimination of the automatic extension of sectoral agreements to those not represented in the negotiations. Finally, the government will adopt legislation to introduce symmetry in the arbitration system while strengthening its independence and transparency.' IMF2010a, 7.

[121] ELSTAT, various years.

[122] OECDa, various years.

[123] OECDa, various years.

from full-time to part-time work for existing workers, with reduced wages and lower levels of overtime payments.[124] With lower levels of protection and without the prospect of a job with similar benefits, Greek workers stayed in their jobs despite reduced benefits.

Thirdly, there is evidence that conditionality paved the way for the expansion of an already strong informal market, under the threat of dismissals and individual contracts. Informal employment agreements and individual level agreements (instead of collective ones) increased.[125] In other words, the labor market did not respond to the changes by shifting and reallocating workers where they are the most productive. Instead, there was a loss of rights and income for groups of workers, who were 'stuck' in their existing jobs, and an overall decline in employment in the short-term. This can best be explained by the immobility of the labor market. Switching between jobs and sectors was not easy for Greek workers. They, therefore, mobilized to stage strikes and protests.

After his meetings with the IMF officials and the Prime Minister on April 29, 2010, GSEE President, Giannis Panagopoulos, stated that 'labor will resist the measures militantly'.[126] Confirming the same point, labor union representatives I interviewed for this study state that their main motivation was to block the implementation of the program. The scientific director of GSEE, George Argeitis, succinctly puts it: 'Labor flexibility is catastrophic for labor, for our institutions, for our society, and so we [GSEE] reacted and tried to block its implementation.'[127] Ireland, on the other hand, tells a totally different story.

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[124] ELSTAT, various years.
[125] Dedoussopoulos et al. 2013, 44; Patra 2012, 23.
[126] GSEE, 29 April 2010.
[127] Interview with George Argeitis, Scientific Director of GSEE (private sector trade union) on 25 September 2014, Athens, Greece.

Ireland in 2010: Mobility and Adjustment

Mobile labor groups adjusted to the crisis by switching jobs and sectors in Ireland.[128] In the Irish job market, we see an increase in the number of workers in different sectors between 2010 and 2012, indicating that workers were switching between jobs and sectors. For instance, in 2010 (the first year of the crisis), employment in services, wholesale and retail trade, education, and accommodation and food service activities significantly declined from the previous year. In 2010, employment in information and communication; financial, insurance, and real estate activities; professional, scientific and technical activities; and administrative and support service activities, on the other hand, increased despite the crisis. The following year, in 2011, the number of individuals employed in education, accommodation and food services, and human health and social work peaked. Yet, in 2012 the latter two sectors continued to expand, in addition to information and communication and financial, insurance and real estate activities reaching their pre-crisis levels. [129] Ireland demonstrates a very interesting pattern of mobility: different sectors peak in terms of employment, absorbing the redundant workers and preventing a sharp decline in employment at different points during the crisis. Mobility in this way also prevents substantial declines in terms of wages and benefits for workers.

There were two major protests held in Dublin and other major cities on November 27, 2010 (before the budget negotiations in Dail Eireann—the Irish Parliament—on December 8, 2010), and on February 9, 2013 at the end of program implementation. [130] The former protest focused on the government's austerity

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[128] Ireland had an average mobility score of 0.019 between the years 1984 and 2007.
[129] Irish Central Statistics Office (CSO), various years.
[130] ICTU 2010, 2013.

(budgetary cuts) policies. The Irish Congress of Trade Unions called for an end to budget cuts, and defended pro-employment policies.[131] In the latter, the Congress called for restructuring of the government's debt. Labor groups did not stage extensive strikes or protests in Ireland, unlike Greece. They, however, did not receive extensive labor conditions, either. Latvia demonstrates the responsiveness of a mobile market to labor conditions.

Latvia in 2008: Labor Conditions in a Mobile Market

Latvia faced painful and highly intrusive labor conditions after borrowing from the Fund in 2008. Minimum wage cuts, pension cuts, public wage reductions, and layoffs of public employees disproportionately affected labor groups. Despite the reductions in rights and benefits, however, we did not observe extensive labor unrest in Latvia. This can be explained by high labor mobility in the country. Labor groups and the market adjusted to the changes in institutional and wage settings by increasing mobility.

Particularly, high-skilled and low-skilled groups seem to be differently affected by the crisis and the changes in the Latvian job market. Highly-skilled workers seemed to be largely unaffected by the crisis. Workers in sectors such as financial intermediation and social and health work were able to protect their jobs and their income. In fact, the total number of workers with higher education increased from 289,000 to 295,000 in the first quarter of the crisis (end of 2008, beginning of 2009) despite rising overall unemployment.[132] Low-skilled workers, however, seem to suffer the most because of the crisis and declining employment opportunities. 23,000 workers with basic education or less lost their jobs in the first

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[131] ICTU 2010.

[132] CSP, various years.

quarter of 2009.[133] This corresponds to one-fourth of all persons who became unemployed in the beginning of the crisis.

Low-skilled workers particularly seem to use mobility as a strategy to cope with the crisis. They switched towards less-affected low-skilled sectors such as agriculture, mining, community, social, and personal services, and hotels and restaurant services after a brief unemployment period. In all those sectors, employment increased despite the crisis and in spite of massive employment contraction (around 100,000 workers in the first two quarters of 2009) in the third and fourth quarters of 2009. In addition, the government implemented a re-training and upskilling program for the unemployed.[134] For immobile groups (such as workers in education), employment seemed to remain stable or growing. Nevertheless, due to wage cuts, the income of workers in those sectors declined, as many people were 'stuck' in their jobs. Those groups reacted against the program. On April 2, 2009, 12,000 teachers protested against the wage cuts.[135]

Unlike Greece, part-time work did not substantially increase in Latvia. Although there was a temporary increase in part-time work in the first quarter of 2009, the level later decreased[136]. This can be explained by labor mobility. When there are lower levels of mobility, workers become 'stuck' in their jobs and often switch from full-time and permanent contracts to part-time and temporary jobs, following the flexibility measures in the institutional and legal setting as we observed in Greece. In a mobile market, however, labor groups switching between

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[133] CSP, various years.

[134] IMF 2010b, 25.

[135] Associate Press, 14 January 2009.

[136] CSP, various years. In the last quarter of 2008, approximately seventy-four thousand people were employed in part-time jobs. The number increased to approximately ninety thousand in the first quarter of 2009 and later declined to seventy-seven thousand in the second quarter of the same year. See CSP Labor Force Statistics.

jobs is more ordinary. Labor conditionality does not create similar uncertainty. Workers switch towards less affected sectors, join re-training programs, and retain the possibility of finding a job with similar benefits once the economy starts recovering. Low-skilled workers in Latvia did not heavily move towards part-time jobs after the flexibility measures. Instead, they either became unemployed (with the possibility of returning to the market following the recovery) or they moved to the sectors such as agriculture, mining, community and health services, and hotels and restaurant services. Therefore, the critical difference between how mobile and immobile job markets are affected by conditionality is the level and types of risk. In an immobile market, there are very high levels of uncertainty with respect to keeping a job, the benefits associated with it, and future income; whereas, in a mobile market, switching jobs does not necessarily bring increased risks. Similarly, if there were not many labor conditions, risks would not increase to a similar extent, as demonstrated by Portugal.

Portugal in 2011: Responsiveness of an Immobile Market to Labor Conditions

Portugal is very similar to Greece in terms of low levels of labor mobility. Labor mobility is quite low in Portugal compared to other EU member states and OECD countries.[137] Although we did not observe large-scale unrest in Portugal, we did see very high levels of responsiveness to any labor conditionality in the country. In fact, it is very interesting how the protests almost perfectly synchronized with labor conditions in the programs in Portugal almost month by month. The Portuguese case shows that in an immobile market, labor groups respond to labor

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[137] The cross-sectoral mobility level was 0.01 in 2007 and 0.03 in 2008, compared to 0.05 in Latvia.

conditions with almost immediate reaction.

For example, in the first Letter of Intent in May 2011, the program included reduction in severance payments in job contracts as a structural benchmark. However, it also envisaged cuts in labor taxes in order to increase competitiveness.[138] The cuts indirectly benefitted labor groups. Even though there were protests against austerity in March 2011 under Jose Socrates' Socialist government, we did not see an outburst in protests after the program. The first review and the Letter of Intent in September 2011, however, introduced privatization measures for the state-owned enterprises.[139] On October 15, 2011, immediately after the review, 20,000 people rallied against the program in Lisbon. In Oporto, another 20,000 were estimated to have joined their counterparts in the capital city.[140] The target of the protesters were the government and the IMF: the protest banners read "IMF, get out of here".[141] The second review in December 2011, however, did not introduce any new labor conditions. The program was peacefully implemented in this period without any large-scale protests or demonstrations.

The initial round of protests intensified in the second half of 2012, in parallel to increasing labor conditionality for Portugal. The sixth review set a structural benchmark for decentralization of collective agreements in September 2012. Particularly, the new Prime Minister, Pedro Passos Coelho, announced that social security contributions of workers might increase from eleven to eighteen per cent of their wage. The protests were commensurate to the initial anti-austerity

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[138] IMF 2011b, 20.
[139] IMF 2011c, 14.
[140] Agence France Press, 15 October 2011.
[141] Agence France Press, 15 October 2011.

demonstrations in September 2011.[142]

In fact, the third year of the program (2013) had the highest number of conditions related to the labor market, and was the most intense year in terms of labor unrest in Portugal. Specifically, five structural benchmarks were identified in the program. [143] Firstly, the program envisaged re-arranging employment conditions such as work hours, holidays, and firing costs in the civil service in accordance with private employment. Secondly, the government was asked to combine the public workers' pension fund with the general pension scheme. Thirdly, the statutory retirement age was set to be increased to sixty-six. Fourthly, severance compensation for new permanent contracts was decreased in labor laws. Finally, the mobility pool —where redundant civil servants are kept in the registry and then allocated to appropriate jobs—was set to be reduced. Before the formal announcement of the program, protesters marched again against the government and the trilateral agreement on June 12, 2013. On June 27, 2013, immediately after the review and the conditions became public, transportation workers announced a general strike, freezing the country's bus, metro, and train services. [144] The Portuguese case demonstrates the receptivity of an immobile market to labor conditionality. It shows that decentralization measures and measures facilitating hiring and firing costs might generate uncertainty and loss of income for workers in an immobile market. Reuters anecdotally reports that despite high taxes and anti-austerity sentiments, not losing jobs was the first priority for the Portuguese workers, and cite an electrician saying: 'It's simple - if I don't work, I don't eat. The government disgusts me, the austerity is stifling us, but protesting won't feed my

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[142] New York Times, 15 September 2012.
[143] IMF 2013b, 17.
[144] Reuters, 27 June 2013.

family'.[145]

Conclusion

In this article, I analyzed the impact of labor mobility and IMF conditionality on labor unrest (i.e. protests and strikes related to labor issues). The study shows that labor conditions implemented in an immobile labor market lead to an increase in labor unrest. IMF labor conditions both heighten the risks that immobile workers are exposed to, and cause them to lose in terms of real and prospective benefits and income. As a result, they react against programs in order to block their implementation. Statistical analysis in a global sample of IMF program countries supports this thesis. I also demonstrated how labor conditions and mobility interact by looking at European borrowers of the Fund, namely Greece (a case of low mobility and high conditionality and a high level of labor unrest), Ireland (a case of high mobility and low conditionality and minimal to no unrest), Latvia (high conditionality in a highly mobile market, therefore moderate to low levels of unrest), and Portugal (low mobility yet fewer labor conditions and hence moderate levels of unrest) after the 2008 financial crisis.

The article offers several contributions to the literature on the impact of IMF programs on political and labor mobilization. In previous studies, scholars have argued that programs increase the likelihood of human rights violations and governmental instability due to the formation and mobilization of opposition. Existing studies provide several plausible yet untested explanations, such as rising expectations under programs and 'relative deprivation'. This article aims at providing a deeper understanding of the causes behind the opposition and mobilization. It argues that labor conditions implemented under IMF programs

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[145] Reuters, 27 June 2013.

challenge the interests of immobile labor groups. In an immobile labor market, labor is not as flexible to adjust to the conditions brought by the IMF program. Even when workers adjust, they lose in real terms such as income and rights. In other words, the paper explains the link between IMF programs and rising grievances, and how they turn into unrest. Secondly, this article is one of the first studies in the literature that elaborates on the importance of inter-sectoral labor mobility in shaping domestic preferences and reactions against programs. The impact of labor mobility on trade politics is well-known in the literature. This article offers an original contribution by discussing its consequences in terms of the impact of an international actor, i.e. the IMF, on labor mobilizations.

This analysis offers a possible policy lesson in the design of IMF programs. In prospective programs, Fund officials might pay closer attention to labor mobility levels. Program implementation might be paced. Initial fiscal adjustment measures might be used to create some space for expenditure in the budget as in the case of Portugal in 2011, and immobile sectors might be compensated via upskilling and training programs as in Latvia in 2008. The Fund and governments can more carefully think about the re-integration of immobile workers to the labor market. As such, those programs ultimately might cause fewer human costs to labor groups, while also contributing to quicker resumption of economic growth and political stability in borrowing countries.

Appendix I: Sectors used in the Calculation of Inter-Sectoral Mobility

ILO Cross-Sectoral (ISIC 3)

A Agriculture, Hunting and Forestry

B Fishing

C Mining and Quarrying

D Manufacturing

E Electricity, Gas and Water Supply

F Construction

G Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods

H Hotels and Restaurants

I Transport, Storage and Communications

J Financial Intermediation

K Real Estate, Renting and Business Activities

L Public Administration and Defence; Compulsory Social Security

M Education

N Health and Social Work

O Other Community, Social and Personal Service Activities

P Households with Employed Persons

Q Extra-Territorial Organizations and Bodies

X Not classifiable by economic activity

ILO Cross-Sectoral (ISIC 2)

1 Agriculture, Hunting, Forestry and Fishing

2 Mining and Quarrying

3 Manufacturing

4 Electricity, Gas and Water

5 Construction

6 Wholesale and Retail Trade and Restaurants and Hotels

7 Transport, Storage and Communication

8 Financing, Insurance, Real Estate and Business Services

9 Community, Social and Personal Services

0 Activities not Adequately Defined

Appendix II: Robustness Checks

Table 6. Negative Binomial and Poisson Models for Panel Data

Variables	(6) Negative Binomial	(7) Poisson
Mobility	-5.848	1.840
	(3.655)	(3.430)
Labor conditions	-0.0457	0.052
	(0.073)	(0.050)
Mobility*Labor Conditions	0.194	-1.674***
	(1.253)	(0.617)
Logged GDP	0.503**	0.296**
	(0.195)	(0.135)
Logged GDP per capita	0.219	0.041
	(0.283)	(0.207)
Logged economic growth	0.0192	-0.056
	(0.037)	(0.051)
FDI Inflow	0.279**	0.225
	(0.110)	(2.848)
Logged inflation	-0.066	-0.070
	(0.045)	(0.043)
Logged population	0.199	0.074
	(0.133)	(0.147)
Remittances	-0.000*	0.000
	(0.000)	(0.000)
Democracy	0.037	0.097**
	(0.069)	(0.049)
Left-wing government	0.001	0.064
	(0.136)	(0.172)
Proportional representation	0.139	0.124
	(0.572)	(0.512)
Logged inequality	-0.005	-0.031
	(0.076)	(0.091)
Regime stability	-0.025**	0.000
	(0.011)	(0.009)
Self-selection into IMF	1.203	-4.501
	(3.544)	(6.216)
Constant	-21.87***	-11.75***
	(4.962)	(4.010)
Number of observations	393	551

Notes: Negative binomial ad Poisson regression with robust standard errors clustered across countries with time-fixed effects; Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 7. Models with Kentikelenis et al.'s (2016) Labor Conditionality Data

Variables	(8) Zero-Inflated Negative Binomial	(9) Zero-Inflated Poisson
Mobility	-2.358	6.298
	(4.925)	(4.170)
Labor conditions2	0.0174	0.482**
	(0.0737)	(0.241)
Mobility*Labor conditions2	-2.109*	-14.05
	(1.274)	(8.547)
Logged GDP	0.529***	0.267**
	(0.141)	(0.135)
Logged GDP per capita	0.0268	0.195
	(0.251)	(0.231)
Logged growth	-0.0477	-0.0405
	(0.0433)	(0.0386)
Logged FDI	-0.150	-0.0425
	(0.127)	(0.137)
Logged Inflation	-0.0287	-0.00331
	(0.0459)	(0.0405)
Logged Population	0.152	0.0184
	(0.122)	(0.0951)
Remittances	0.000	0.000*
	(0.000)	(0.000)
Democracy	0.110***	0.0775*
	(0.0423)	(0.0437)
Left-wing government	0.0734	-0.0141
	(0.181)	(0.187)
Proportional representation	0.471	-0.0235
	(0.439)	(0.351)
Logged inequality	-0.0325	0.00535
	(0.0950)	(0.0904)
Regime stability	0.00246	0.00223
	(0.00920)	(0.00695)
Self-selection into IMF	-2.651	-0.518
	(3.558)	(2.475)
IMF program participation	18.91***	1.016*
	(3.413)	(0.563)
Constant	-14.45***	-9.844***
	(3.040)	(3.538)
Observations	566	566
Number of countries		

Notes: Zero-inflated negative binomial and Poisson regression with time-fixed effects and robust standard errors clustered across countries; Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Appendix III: Alternative Explanations: Labor Power, Conditions, and Unrest

An alternative, and a plausible, explanation for labor unrest is the capacity of the labor groups to organize and to resist IMF program conditionality. Nita Rudra, for instance, demonstrates that strong labor groups with higher organizational capacity mobilize to pressure the government against welfare benefit cuts.[146] The same logic can be implemented in explaining labor unrest. Theoretically, strong labor would more easily organize to stage strikes and demonstrations. Weakly organized labor, on the other hand, would be unable to stage disruptive and antagonistic action against the programs simply due to lack of organizational capacity. Furthermore, collective labor rights, as coded by Layna Mosley and Saika Uno, might amplify opportunities for organization compared to the situation in repressive regimes, where organizational rights are restricted.[147] Finally, Caraway et al., using Rudra's labor power measures, find evidence that strong labor successfully avoids labor conditions in democracies.[148] If this is the case, then labor conditions and unrest might be endogenous.

This is less of a problem for this study, since grievances rise because of lack of mobility and concomitant risks and material losses of labor groups in borrowing governments. Labor conditions—as discussed in the quantitative evidence section— does not have an independent impact on unrest. They become crucial in case of an immobile labor market. Latvia demonstrates that a mobile market can in fact tolerate labor conditions.

Furthermore, I find empirical evidence pointing that higher labor power and better protected labor rights in fact reduce the likelihood of unrest, controlling for

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[146] Rudra 2002.
[147] Mosley and Uno 2007.
[148] Caraway et al. 2012.

democratic development and GDP per capita income, as opposed to increasing it. I use

datasets from Rudra (2002) and Mosley and Uno (2007). One degree of increase in labor

power —measured as the ratio of skilled to unskilled workers multiplied by the inverse

ratio of unemployment— reduces the possibility of unrest by twenty percent (p=.48).

Similarly, higher protection of labor rights reduces the likelihood of unrest by seven

percent (p=.02). This is probably because labor interests are represented at the

negotiation table, as argued by Caraway et al. (2012). When the IMF goes ahead and

assigns labor conditions despite strong opposition, however, workers in immobile

markets will be aggrieved to a much larger extent than mobile workers. Some of the

reasons why countries might receive (or avoid) extensive labor conditions besides labor

power might be geostrategic interests[149], the composition of creditors[150], organizational

goals and imperatives of the Fund[151], professional ties between the Fund and high-level

bureaucrats of the borrowing government[152], and an overall overlap between the Fund's

ideology and that of the borrowing government[153]. For further robustness checks, I re-

run the model with lagged unrest variable from the previous year.[154] If labor groups

avoid labor conditions mainly thanks to the potential of disruptive action, then we can

theorize that unrest from the previous year can predict labor conditions in the following

one. Alternatively, one can argue that what makes Greece in 2010 different from Ireland

in the same year is the 'culture of protests'. Although such arguments are problematic

since they disregard the material basis of opposition and the income distribution away

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[149] Dreher and Jensen 2007; Dreher 2006; Stone 2002, 2008.
[150] Gould 2006.
[151] Copelovitch 2010.
[152] Chwieroth 2007, 2015.
[153] Nelson 2014, 2017.
[154] Results available from the author upon request.

from labor under programs[155], I test such claims for robustness checks. The models remain robust when run with the lagged variable as well.

[155] Vreeland 2002.

Appendix IV: Labor Conditions in Greece, 2010, Latvia, 2008 and Portugal, 2011

Labor Conditions in Greece in May 2010 Letter of Intent

- Reduce public wage bill by cutting bonuses/allowances; and pension bonuses (except minimum pensions). (Prior action)

- Adopt a comprehensive pension reform that reduces the projected increase in public spending on pensions over the period 2010-60 to 2½ percent of GDP. (Structural benchmark)

- Prepare a privatization plan for the divestment of state assets and enterprises with the aim to raise at least 1 billion euro a year during the period 2011-2013. (Structural benchmark)

- Following consultation with social 37 partners and within the frame of EU law, the government will reform the legal framework for wage bargaining in the private sector, including by eliminating asymmetry in arbitration. (Soft condition)

- The government will adopt legislation for minimum entry-level wages in order to promote employment creation for groups at risk such as the young and long-term unemployed. (Soft condition)

- In parallel, the government will implement the new control system for undeclared work and modernize labor market institutions. (Soft condition)

- Employment protection legislation will be revised, including provisions to extend probationary periods, recalibrate rules governing collective dismissals, and facilitate greater use of part-time work. (Soft condition)

Labor Conditions in Latvia in 2009 Letter of Intent

- An indicative ceiling on the general government wage bill. (Quantitative indicative target)

- National Tripartite Co-operation Council to establish a Committee to Promote Wage Restraint. (Structural benchmark)

- Wages: prepare a comprehensive report on proposed revisions to the public-sector wage grid and the relative wage adjustment across public institutions. (Structural benchmark)

- Put in place a wage-setting mechanism in line with the fixed exchange rate regime. (Soft condition)

- Indexing pensions only to inflation. (Soft condition)

Labor Conditions in Portugal in 2011 Letter of Intent

- Submit to Parliament a law, already agreed with social partners, to align and reduce severance payments on all new contracts (fixed term and open-ended). (Structural benchmark)

- Finalize calibration of fiscal reform to reduce unit labor costs via deficit-neutral reduction in labor taxes. (Structural benchmark)

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