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The Effects of Partial Employment Protection Reforms: Evidence from Italy (joint with Sabrina Di Addario and Diego Daruich)

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Concerns over labor market flexibility have been at the center of the European political debate for the past three decades (see, e.g., Nickell [1997]). In response to the widespread belief that rigid employment protection laws (EPLs) depress employment, many countries—including France, Spain, and Italy—undertook reforms that substantially relaxed legal constraints on the use of temporary employment contracts. Importantly, however, these reforms were often only *partial* in that the degree of employment protection granted to workers hired via permanent employment contracts remained unchanged.

Economic theory delivers ambiguous predictions on the effects of such partial reforms of EPL. Several studies have noted that such reforms in principle could generate higher overall employment and improved labor market efficiency, or alternatively they could lead to a substitution of permanent contracts with rotating temporary contracts and little or no net gain in employment (Bentolila and Saint-Paul 1992; Blanchard and Landier 2002; Cahuc and Postel-Vinay 2002). Some studies even suggest that partial reforms could end up increasing the bargaining power of incumbent workers, usually hired via permanent contracts, thus enhancing the "insider-outsider" gap (Bentolila and Dolado 1994).

Empirical assessments of these policy changes have mainly used cross-country research designs with aggregate data (Bertola 1990; Garibaldi and Violante 2005; Lazear 1990). A few recent studies have conducted within-country before-and-after studies, focusing on firm-level aggregates (e.g., Autor, Kerr, and Kugler 2007; Cappellari, Dell'Aringa, and Leonardi 2012). While informative, an analysis of firm aggregates cannot directly address the effect of the reforms on job duration or on the rate of transition between temporary and permanent contracts, both of which are crucial to understanding the full impact of these institutional changes (Cahuc, Charlot, and Malherbet 2016; Güell and Petrongolo 2007). A firm-level analysis also ignores any distributional impact arising from the differential treatment of the reform on new versus incumbent workers (Boeri 2011).

In this dissertation, my coauthors, Sabrina Di Addario and Diego Daruich, and I use detailed Italian social security records matched with firm financial data and a difference-in-differences research design to provide a comprehensive empirical evaluation of an Italian reform signed into law in 2001. This reform facilitated the usage of temporary contracts, while maintaining existing employment protections for workers with permanent contracts.

Longitudinal data on jobs, firms, and workers permit us to answer three fundamental questions on the impact of this policy change: 1) How did the reform affect overall employment and labor income? 2) What factors contributed to the success or failure of the law in raising employment and earnings? 3) Were there heterogeneous effects across different worker and firm groups?

In Chapters 1 and 2 of the dissertation we find that, contrary to the stated intent of the law (Biagi and Sacconi 2001), the reform had little or no effect on aggregate employment and led to a decline in average earnings. We explain these results by showing that after the reform the Italian labor market became increasingly segmented: more workers were trapped in cycles of low-paid and fragile temporary jobs where the likelihood of transitioning from temporary to permanent jobs fell substantially. On the other hand, consistent with the intention of the law, average firm labor costs fell and mapped into significant increases in profits. The reform generated both winners and losers: its primary beneficiaries were firms, their shareholders and managers, as well as older incumbent workers. By contrast, the earnings of younger workers and new entrants were substantially depressed following the policy change, and this widened the intercohort gaps among Italian workers (Naticchioni, Raitano, and Vittori 2016). Chapter 3 shows that a potential mechanism to explain these distributional impacts is the large difference in bargaining power between temporary contract workers and permanent ones.

The policy evaluation conducted in Chapters 1 and 2 of this dissertation builds on the work of Cappellari, Dell'Aringa, and Leonardi (2012) and exploits the staggered implementation of the reform across different collective bargaining agreements (Contratti Collettivi Nazionali del Lavoro; CCNL henceforth). While Cappellari et al. rely on eight CCNLs and survey information on firms' sector to infer the passage of the reform, we exploit the fact that Italian social security records directly report each worker's CCNL. These unique data allow us to account for the fact that firms can hire employees covered by different CCNLs (Card, Devicienti, and Maida 2014; Devicienti, Fanfani, and Maida 2016). We combine this information with novel data on the renewals of 121 Italian collective bargaining agreements to infer the reform status for over 50 million person-year observations, which are subsequently matched with the universe of financial records of Italian limited liability companies. We show that outcomes follow parallel trends prior to the implementation of the reform, indicating that observations from CCNLs yet to be reformed can be used to gauge counterfactual outcomes for observations in reformed CCNLs in the absence of the reform. Relatedly, we show that there is relatively little endogenous sorting of workers across different CCNLs in response to the reform, and that the composition of new entrants before and after the policy change is well balanced across a large set of observable individual characteristics.

To guide our empirical analysis, in Chapter 1 we develop a search and matching model based on Cahuc, Charlot, and Malherbet (2016) that captures the dynamic incentives of reforms to employment protection. The model suggests that partial EPL reforms can generate both intended and unintended consequences. The latter are driven by the increase in the turnover of temporary jobs, as this type of policy change reduces incentives to sign longer temporary contracts as well as to convert workers originally hired under a temporary contract to a permanent position. Quantifying the extent of both intended and unintended consequences and their overall impact on workers and firms is the objective of our empirical analysis.

Chapter 1 presents the effects of the reform on jobs. We find that, consistent with the intended consequences of the law, the reform fostered job creation and increased the share of new jobs signed under a temporary contract. Offsetting this rise in job creation, however, we find that the rate of separation for workers hired under a temporary contract increased after the reform. This change was primarily driven by decreases in the probability that a temporary contract is renewed and mapped into significant increases in the transition rate from a temporary contract in one year to nonemployment in the next year. We also find that, after the reform, most new jobs were filled by workers who came directly from another job (i.e., a job-to-job transition) rather than by workers coming from nonemployment. Looking more closely at the jobs themselves, we find that, after the passage of the reform, the total number of days worked under a temporary contract decreased by approximately 5 percent. This effect resulted in an increase in the difference in earnings between permanent and temporary contract of around 10 percent following the reform.

Chapter 2 describes the impact of the reform on firms and workers. Starting with firms, we find that firm profit margins, defined as profits divided by value added, increased following the policy change by approximately 5 percent. This increase in profits stemmed primarily from a decrease in labor costs per worker rather than increases in value added. Indeed, we estimate that the average gap in annual labor costs between temporary and permanent workers to be approximately 16,500 euros. Average firm size did not change significantly after the reform, suggesting that firms primarily substituted permanent positions with temporary ones, although there is some indication that this change led to a decrease in value added. This highlights a trade-off between lower labor costs and lower productivity in firms' decisions to utilize temporary contracts (Weil 2014).

The decrease in labor costs and increased utilization of temporary contracts is also associated with a rise in within-firm earnings inequality. We find that the reform raised the within-firm standard deviation of earnings by approximately 4 percent. Moreover, the within-firm pay gap between young and older workers also increased by 4.5 percent. Interestingly, the overall wage bill paid to managers and their average compensation both increase after the reform. This suggests that the increase in profits following the policy change may have been partially redistributed to managers.

Chapter 2 then presents estimates of the impacts of the reform on workers. We find that the reform has close to null effect on the probability to be employed, which is consistent with our theoretical framework and the previously described effects of the policy on the dynamics of job destruction and creation. On average, however, workers earned less after the reform, with a substantial rise in the pay gap between incumbent permanent workers, who had higher earnings following the reform, and incumbent temporary workers, who suffered an average earnings loss of up to 5 percent following the policy change. These losses are primarily driven to decreases in the probability that incumbent temporary workers were converted to permanent contracts by their employers after the reform.

Longitudinal data on workers permit us to isolate the dynamic effects of the reform on new entrants. Young individuals who entered the labor market after the reform earned between 3.5 and 7 percent less in the first year of entry compared to those who had entered in the prereform regime. These estimates persisted up to the seventh year following entry in the labor market and mapped into cumulative present discounted value losses ranging from 1,000 to 4,000 euros, depending on the cohort analyzed. We show that these negative estimates were not due to compositional changes or selective entry of workers based on the reform status. Instead, postreform-entering cohorts were disproportionately more likely to be "trapped" during their careers in temporary jobs where firms had possibly fewer incentives to provide on-the-job training (Cabrales, Dolado, and Mora 2014).

In the last chapter of the dissertation, we abstract from the effect of the reform and focus on the economic forces behind the substantial gap in daily wages between permanent and temporary workers. Informed by our results on within-firm inequality and by the large underrepresentation of temporary contract workers within unions (Bentolila and Dolado 1994; Lani 2013), we concentrate on the role of employers' pay policies in generating a contract wage gap (Card, Cardoso, and Kline 2016). Exploiting within-person daily wage changes for workers who transitioned from a temporary to a permanent contract within the same employer, we find that temporary workers received only 66 percent of the rents traditionally shared by firms with permanent workers. This difference in rent sharing explains 75 percent of the raw wage return when transitioning from a temporary to a permanent contract within the same employer.

This dissertation contributes to the following strands of the literature. Our analysis of firms provides new evidence on the role of employment protection in the performance of firms (Autor, Kerr, and Kugler 2007; Cappellari, Dell'Aringa, and Leonardi 2012; Cingano et al. 2016), a relationship characterized by mixed empirical results that has received a considerable amount of theoretical attention (Boeri and Garibaldi 2007; Lagos 2006). We also establish a previously unexplored link between institutional reforms aimed at facilitating the creation of temporary work arrangements and increases in within-firm inequality (Card, Cardoso, and Klein 2013; DiNardo, Fortin, and Lemieux 1996; Song et al., forthcoming).

Our analysis of job flows in Chapter 1 provides new quasi-experimental evidence of the role of labor market flexibility and temporary contracts in the dynamics of job creation and destruction. This relationship has typically been studied by either comparing cross-country aggregates (Bassanini and Marianna 2009; Bertola 1990; Bertola and Rogerson 1997; Boeri 1999) or relying on individual data based on surveys combined with selection on observable techniques (Bover and Gómez 2004; Gagliarducci 2005; Güell and Petrongolo 2007; Picchio 2008). Focusing on individual transitions across employers and employment contracts permits us to decompose the responses of job creation and destruction to the policy change. Moreover, we can also test crucial predictions from our model, such as the negative impact of the reform on the likelihood of converting temporary contracts to permanent ones. We also document how partial reforms targeting only the employment protection of temporary contracts map into a widening of the duality in key labor market outcomes across employment contracts. These findings connect to an older literature that examines the existence and consequences of dual labor markets (Dickens and Lang 1985; Rebitzer and Taylor 1991).

The worker-level analysis of Chapter 2 contributes to the literature that examines the impact of partial labor market reforms on individual outcomes (see Boeri [2011] for a review). We highlight the distributional impacts of these reforms across different individuals. We also provide new insights into the question of whether temporary contracts represent stepping stones into the labor market or a trap that hinders the development of the career of young workers, a question characterized by mixed empirical evidence (Autor and Houseman 2010; Blanchard and Landier 2002; Booth, Francesconi, and Frank 2002; Ichino, Mealli, and Nannicini 2008). Our examination of the consequences of entering the labor market under the new policy regime connects to studies that analyze how entry conditions affect short- and long-term earnings (Kahn 2010; Oreopoulos, von Wachter, and Heisz 2012) and is related to recent work of García-Pérez, Castelló, and Marinescu (2016), who study a reform similar to the one analyzed here for Spanish male high school dropouts.

Finally, Chapter 3 provides new evidence for the existence of a permanent contract premium in wages (Kahn 2016) using an event-study design that zooms into the within-person, within-employer return of transitioning from a temporary to a permanent contract. We show that a major explanation for the large return associated with this transition is that firm-specific rents are not distributed equally between temporary and permanent workers within the same firm. This last finding contributes to a nascent literature that shows how firms are increasingly redrawing their boundaries, often by making use of alternative types of work arrangements, such as temporary employment contracts, in an attempt to limit the degree of rent sharing to a group of core employees (Goldschmidt and Schmieder 2017; Kahneman, Knetsch, and Thaler 1986; Katz and Krueger 2016; Weil 2014;).

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