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# HIRING INCENTIVES AND/OR FIRING COST REDUCTION? EVALUATING THE IMPACT OF THE 2015 POLICIES ON THE ITALIAN LABOUR MARKET

by Paolo Sestito* and Eliana Viviano*

**Abstract**

In 2015 Italy adopted two different policies aimed at reducing labour market dualism and fostering employment: a generous permanent hiring subsidy and new regulations lowering firing costs and making them less uncertain. Using microdata for Veneto and exploiting some differences in the design of the policies, we evaluate the impact of each measure. Both contributed to double the monthly rate of conversion of fixed-term jobs into permanent positions. Moreover, around 40 per cent of new total gross hires with permanent job contracts occurred because of the incentives, whereas 5 per cent can be attributed to the new firing regulations . The new firing rules also made firms less reluctant to offer permanent job positions to yet untested workers. The possibility of benefitting from the incentives in case of a conversion also boosted temporary hiring, as it allowed firms to test for the quality of a job match.

JEL: J6, J21
Keywords: job creation, firing costs, hiring incentives, labour market reforms.

**Contents**



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## 1. Introduction

Italy lost 1 million jobs over the 2008-2014 period as a result of a double dip recession. As a consequence of its dualistic labour market structure, job losses were concentrated among younger workers and, more generally, among people holding temporary job contracts. More recently, however, the number of open-ended contracts has started to rise (by around 1 per cent in 2015), despite the still subdued GDP growth (a bit less than 1 per cent). In this paper we test whether and to what extent this evolution can be attributed to two policy measures adopted in Italy at the end of 2014 aimed at both reducing labour market dualism and stimulating job creation. The first is a sizable temporary rebate of non-wage labour costs which applies to all new permanent job contracts (hereafter PHI) offered to workers who, in the previous semester, did not hold an open-ended position. These incentives are not targeted to specific groups of workers nor are they contingent upon firm-level net job creation. Rather, they also apply to conversions from a fixed-term to an open-ended position. The second is a reshaping of the regulation governing dismissals, aimed at reducing the level and the uncertainty of firing costs for all new permanent contracts in firms with at least 15 employees (the "*contratto a tutele crescenti*", or "graded security contract" hereafter CTC, part of a wider reform package known as the "Jobs Act").

We separately identify the effects of the two policies by jointly exploiting their different commencement dates (one came into effect in January 2015 and the other in March 2015) and the differences in the applicability of the two schemes, as the PHI applies to all firms but only to those workers without permanent job contracts in the previous semester, while the new CTC regulation reshaped firing costs for all new permanent contracts, but only for firms beyond the fifteen-employee threshold. We exploit the administrative data for the Veneto region, which allows us not only to measure labour market flows (in the first half of 2015 and the 2 years before), but also to reconstruct the status of workers in the previous labour market, to match the firm to the workers, and to identify the firm's size.

It has to be stressed that there are relevant aspects of the two policies that are not considered here. We do not discuss all the pros and cons of the two policies, nor the general equilibrium effects that can derive from their implementation, like, for instance, the effects on labour supply. However, even with these caveats, our results clearly show that both policies fostered net job creation at the firm level, shifted the employment composition towards permanent job contracts and increased the probability of workers securing a permanent position.

According to our findings the doubling in the monthly conversion rate from temporary to permanent contracts observed in Veneto in the first six months of 2015 (from about 1 to more than 2 per cent) is entirely due to the two policies, each policy contributing approximately equal shares to the total growth. On top of that, around 45 per cent of gross new hires with a permanent job contract can be imputed to the two policies. Disentangling the effect of the two policies, we find that 40 per cent of gross new hires can be imputed to the effect of PHI whereas 5 per cent of new hires can be imputed to the interaction of the two policies.

An interesting result is in the impact of the two policies on firms' willingness to hire yet untested workers on either a permanent or temporary basis. First, the reduction of firing costs introduced by the CTC enhanced the willingness of firms with more than 15 employees to hire workers who had never before worked for the firm. Second, the fact that the PHI also applied to permanent contract conversions paradoxically led to a rise in temporary hiring,[1] as many firms still exploited the possibility of testing workers through a temporary position, eventually converting it into a permanent position later on.

The relatively small effect of the CTC on the level of employment is in line with the literature about the effects on labour demand of a change in firing costs. From a theoretical point of view, in a static model firing costs are just a tax on firing that are economically equivalent to a component of labour costs. If wages cannot adjust, an increase in firing costs implies a downward shift in labour demand and lower employment. Its relevance, however, may be limited by the fact that firing costs may occur at a much later date and need to be discounted. In a dynamic context, higher employment protection dampens employment fluctuations as firms do not fully adjust labour input to economic shocks: most of the positive employment effects of a reduction (increase) in firing costs would materialize in an economic upswing (downswing) and Italy in 2015 was far from a cyclical upswing. So, most of the impact of firing costs is through its negative effects on the allocation of resources, a general equilibrium channel recently emphasized by Rodano, Rosolia and Scoccianti (2016). As such, our paper adds to (and mostly confirms) the relatively scant empirical literature focusing on the labour demand effects of firing costs. Autor, Kerr and Kugler (2007), using state-level data and time variations in employment protection legislation in the US, find that higher employment protection reduces employment flows. Adhvaryu, Chari and Sharma (2013) focus on rural India and rely on

[1] While our estimating period includes only the first half of 2015, so as to focus upon a period close to the introduction of the two policies, such an interpretation is supported by the raw data on hiring in December 2015, which was the last date the full amount of the PHI could have been cashed in. See INPS, Osservatorio sul precariato, available at https://www.inps.it/portale/default.aspx?iMenu=1&itemDir=10342.

supply-side shocks (like rainfalls) and different state-level employment protection legislation to show that employment protection reduces employment responses to shocks. In our paper we instead focus on a single Italian region, Veneto, before and after the inception of the new law on firing costs. As a consequence, our results are not affected by spurious local trends as in the above mentioned empirical papers.

More novel are our results about the effects on hiring of a reduction in both the uncertainty and the average expected level of firing costs. Actually, the CTC mostly tempered the high uncertainty stemming from the possibility that in the previous regime judges could decide in favour of the worker mandating not only monetary reimbursement, but also the worker's reinstatement in the firm. Any effect of the CTC, albeit small, is likely to be driven by the effects of the reduction in the uncertainty about the possible firing costs.

Similarly, several papers have already analysed how firing costs shape firms' propensity to use fixed-term job contracts, not only to facilitate short-term labour adjustment, but also to screen workers and test the suitability of a job match before offering a permanent position (e.g. Faccini, 2013, Guell and Petrongolo, 2007). However, to the best of our knowledge, no paper has so far shown that a reduction in firing costs increases firms' propensity to offer a permanent position to workers not previously screened.

Concerning hiring incentives, to the best of our knowledge, this is the first time that the Italian government introduces non-targeted, non-conditional hiring incentives. Cipollone and Guelfi (2003) analyze selective hiring incentives introduced in 2001 targeted to young workers hired on a permanent basis and do not find notable effects on labour demand. Ciani and De Blasio (2014) instead consider a very short-term policy intervention aimed at the conversion of fixed-term contracts into permanent jobs, introduced in Italy in 2013 and lasting just a few weeks because of severe funding constraints. This incentive was targeted at females and young people and they find that the policy had a positive effect on conversion rates. In 2014 the government introduced incentives to firms hiring workers on a permanent basis, but the incentives were conditional to the firms' net job creation. Given the very weak economic conditions, only very few firms took advantage of the incentives. Our results, instead, support the hypothesis that non-targeted, non-conditional incentives are immediately effective in gross and net job creation, and in this respect are similar in spirit to the ones analysed by Cahuc et al. (2014) who find a positive and rapid expansionary effect of the non-conditional hiring credits introduced in France during the Global Financial Crisis. Our results are also in line with Neumark (2013) and Neumark and Grijalva (2013) who argue that non-targeted hiring

incentives have a positive effect on employment during recessions, even if deadweight losses associated with these policies are generally large (e.g. Brown 2011).

The paper is organized as follows. In section 2 we briefly describe the policy measures introduced by the Italian government in 2015 (the PHI hiring incentives and the CTC introduced by the Jobs Act). In section 3 we describe our dataset. In section 4 we describe our estimation strategy. Section 5 presents the results of the empirical analysis. Section 6 concludes.

## 2. The Italian labour market and the policies under scrutiny

The Italian labour market is heavily segmented in permanent and fixed-term workers. The dualism arose at the end of the nineties when the government progressively introduced different types of fixed-term contracts to increase flexibility in the use of labour. Higher flexibility, however, was not accompanied by changes in firing costs for permanent job contracts.[2]

During the 2000s the share of fixed-term workers increased rapidly to around 13 per cent. More than 60 per cent of new hires were fixed-term job contracts, used not only to face labour demand uncertainty, but also as a cheap screening device before hiring workers under a permanent contract. People employed temporarily suffered the most for the consequences of the Global Financial Crisis, when firms, facing a sudden drop in their activity, used all the available margins to adjust labour input. For this reason the first steps in tackling firing costs were made in 2012, by law no. 92/2012, the 'Fornero Reform', followed in 2015 by the Jobs Act.

Before that, Italy was characterised by firing costs whose main feature was their uncertain and (potentially) high amount.[3] As such, dismissals were costless for firms if there was just cause, i.e. worker misbehaviour or firms' need to reduce or reorganize its workforce.[4] However, whenever a worker objected to the dismissal and the courts deemed the dismissal to be unfair, the costs could be rather high, particularly in the case of firms with at least 15 employees. Firms with less than 15 employees could (according to law no. 108/1990) choose between reinstating the worker and paying a pre-set severance payment (tied to the worker's seniority and varying from 2.5 to 6 times their monthly pay). For firms with at least 15 employees, the general rule

[2] See Sestito (2002) and Pirrone and Sestito (2006).

[3] We here refer to individual dismissals.

[4] A liquidity cost is present because the firm has to pay any departing worker (including those quitting and those retiring) a given percentage of each year's earnings accumulated over time at a low interest rate (more precisely it is equal to ¾ of the CPI inflation rate plus 1.5%), the so called Trattamento di Fine Rapporto (TFR) . Disbursing the TFR may imply an additional firing cost at the margins for those firms who are liquidity constrained as such an anticipated disbursement has to be somehow financed through a bank loan or other means. Note that since 2007 workers may decide to allocate their yearly contributions to the TFR to a second pension scheme, depriving the firm of the low-cost financing provided by the TFR: in such a case, firing a worker is totally unaffected by the existence of the TFR.

was that the worker be reinstated. Firms could side-step reinstatement by reaching a private arrangement with the worker, again at a potentially high cost.

The most critical aspect of this regime was the uncertainty in both the timing and contents of the judges' decisions, which have varied greatly.[5] The widespread delays in the Italian civil justice system are also likely to have compounded these inefficiencies as workers were lacking any income support (and pay) pending the litigation, whereas firms could end up having to pay high wage arrears if finally the court found in favour of the worker.

Most of the analysis made in Italy focused on the immediate effect of the regime's discontinuity around the 15-employee threshold. There is evidence that the potentially higher costs affecting firms with 15 or more employees may have somehow limited the growth of other firms as they approach that threshold (see Schivardi and Torrini, 2008). The effects, while statistically significant, were not very economically significant, as the discontinuity in the size distribution of firms around the threshold is not as marked as the sharp discontinuity taking place for instance in France around the 50-employee threshold, relevant for the rules concerning the role of unions at the firm level (see e.g. Garicano, Lelarge and Van Reenen, 2013; Gourio and Roys, 2014). Such a limited impact may however be due to measurement errors in measuring a firm's size, as there were ways to circumvent the threshold, for instance by employing apprentices or other temporary workers whose presence in a firm's workforce did not count towards the 15-employee threshold. Moreover, the general equilibrium implications of such a restraint on firm growth may be wider than what appears around the current threshold. This is the argument of Rodano, Rosolia and Scoccianti (2016) who show that removing uncertainty about expected dismissal costs could have an effect firm growth for firms of all sizes, the impact of which is likely compounded by the presence of other allocative distortions (they focus upon credit access distortions).

Removing these potentially high firing costs has been a hotly debated issue in Italy for over 20 years. Some attempts were made by both the first D'Alema government in 2000 and, more prominently, the second Berlusconi government in 2002. The latter's policy initiative was stopped by strong opposition from the biggest union, the CGIL.

Both the Fornero Reform (law no. 92/2012) and more recently the Jobs Act (decree no. 183/ 2014) were aimed at reducing the uncertainty around firing costs for firms with fifteen or more employees, with fair dismissals remaining costless. The Fornero law attempted to fix the existing procedures: litigants were channeled into a conciliatory procedure so as to prevent

[5] See Ichino (1996).

lengthy judicial litigations; it limited the possibility of reinstatement in the case of unfair dismissals for disciplinary or economic reasons; and provided an upper limit to the monetary firing costs (24-months' pay) whenever these had to be applied. At the same time, the Fornero reform relaxed some of the constraints in the use of fixed-term job contracts but introduced limits to the number of their renewals. These new limits were highly criticized also because of their possible negative impact during a deep recession. For this reason in 2013 and then again in 2014 (Decree Laws 76/2013 and 34/2014) the government progressively relaxed them.

Concerning firing costs the Fornero reform still left judges with a lot of leeway in determining both the fairness of the dismissal and its consequences. For this reason the new Renzi government made a second attempt at reducing firing costs with the 'Jobs Act', significantly reinforcing some existing elements and giving up the idea of obtaining unions' consent. The Jobs Act further limited the possibility of reinstatement, allowing it for discriminatory dismissals and for a few specific cases of disciplinary dismissals, and mandating, as a general rule, that unfair dismissals be compensated by disbursing an amount of money strictly predetermined by law that is proportional to job tenure (from a minimum of 4 times the monthly pay to a maximum of 24 times, i.e. 2-months' pay for every year of seniority). This monetary compensation may be halved if the worker agrees to end any pending litigation about the nature of the dismissal, and the worker is exempt from paying taxes on the compensation received.

Unlike the Fornero reform, which covered all permanent employees, the newly established rules only apply to permanent contracts signed after March, 7th, 2015, when the new law came into force, by firms with more than 15 employees (or by those firms which will reach the 15+ threshold with their new hires). Existing employees, as well as the newly signed permanent contracts in firms staying below the 15-employee threshold, remain covered by the previous legal framework.[6]

All in all, the new regime reduces both the expected firing costs and, most significantly, the uncertainty surrounding it for firms over the 15-employee threshold, with no change for those below the threshold.[7] It is not easy, however, to quantify the reduction in uncertainty in

[6] The Jobs Act states that for firms with less than 15 employees firing costs cannot exceed 6-months' pay with a minimum of 2-months' pay (one per year of seniority). Before the Jobs Act, firing costs varied from 2.5 to 6-months' pay. Differently from Fana, Guarascio and Cirillo (2015) we believe that this change is negligible.

[7] To be more precise, for those approaching the 15-employee threshold there is a reduction in the costs of overcoming the threshold as they are exempted from the consequences of overpassing it. This is why, unlike Schivardi and Torrini (2008), we are not limiting our analysis to firms close to the threshold in assessing the possible effects of the reform. For firms close to the threshold (say firms with 14 employees) the relevant discontinuity would be that with firms below but much farther away from the threshold (say firms with 1 to 5 employees), for which no change was implied by the new law. However, focusing on such a comparison would have implied looking at a much smaller subsample.

monetary terms; even using risk-neutral firms as a benchmark, it may depend on the judgments issued by local courts and the length of trials. The quantification of the reduction in firing costs may be further complicated by the presence of the abovementioned regime offering tax-free treatment of severance pay. This may have two different possible implications: on the one hand it directly reduces the cost for a firm of a dismissal deemed unfair by a judge; on the other hand it may stimulate the worker to challenge a dismissal that is fair under the now prevailing criteria, because the challenge may provide a low-cost alternative to the zero compensation the worker would receive without such challenge.

The government also introduced a very generous non-conditional hiring incentive. The incentive, established by the Financial Stability Law for 2015 (but already announced at the end of October 2014) covered all new permanent workers hired by any firm from January to December 2015, provided the worker did not have a permanent contract in the previous 6 months. The incentive is a three-year exemption from social security contributions up to a threshold, which is quite high compared with the average contributions typically paid by firms to workers (according to the government's estimates the incentive should fully cover the social security contributions of almost 80 percent of new hires). Note that conversions from fixed-term to permanent job contracts within a given firm are also subsidized (conversions from apprenticeships are instead excluded as they benefit from an ordinary subsidy which is still in place).

The two policy measures undertaken in 2015 and analysed in this paper almost overlap, because both target permanent hires and job contract conversions from fixed-term into open-ended contracts. There is, however, a small difference in their timing: from January 2015 for the incentive, from 7 March 2015 for the new firing costs. Moreover, there are some differences in the population targeted by the two policies that can be used to separately identify their effects. Incentives are paid to firms of any size, while the CTC applies to firms with at least 15 employees; the incentives apply only to workers without permanent contracts in the previous 6 months, while the previous status of the worker is irrelevant for the application of the CTC. Thus, information about firm size and workers' past work histories, together with the precise date of the new contract, allows for the separate identification of the effects of the two policies.

It has to be noted that the fixed amount of the hiring incentive for all new permanent contracts signed in 2015 leaves a lot of room for firms' 'strategic' behavior, since a firm may obtain the same amount for permanent contracts signed in both January 2015 and December 2015 (including conversions from a temporary to a permanent contract). It is well known that in

a dualistic labour market structure, many temporary hires are explained by a desire to screen new employees. Whenever the quality of the match is uncertain – for instance because the worker is unknown to the firm - the latter may opt for a low risk path, as the worker may be hired on a temporary basis, tested and eventually later transferred to a permanent position. Given the features of the PHI, such a strategy may still be preferable since offering a temporary contract to an unknown candidate does not destroy her hiring incentive eligibility status. The temporary job contract still allows the firm to test the worker's skills and leaves unchanged the option to convert the fixed-term position into an open-ended one, benefitting from the PHI if the conversion occurs before 31 December 2015. In contrast, whenever the match with a given worker is positively valued by the firm because she was already known to them (for instance because she had held a temporary position in the past), there is an incentive to immediately offer a permanent contract. This way the firm receives the incentive and avoids the risk that someone else offers the worker a permanent contract, removing her from the pool of workers eligible for the incentive.

The CTC may have an opposite effect, increasing the propensity to hire a worker unknown to the firm, insofar as the CTC has reduced the expected cost of firing her.

This has two consequences. First, the impact of both policies depends on the worker having been previously employed by the firm.[8] Second, the PHI may boost not only permanent hiring (and conversions from fixed-term to open-ended contracts) but also temporary hiring, especially in those cases where testing workers' skills is relevant. This implies that the effect of the two policy measures introduced in 2015 may not be easily assessed by comparing the changes in the number of newly signed open-ended contracts and new temporary job contracts.[9] This issue, however, is more extensively discussed in the next two sections.

[8] In a fully developed model, one should consider not only the presence of a previous relationship between the firm and the worker - which is a variable we may empirically proxy by looking at the presence of a given worker's previous job spells in a given firm – but also the local labour market environment and the length of the job applicant's pool which is available to each firm. The risk of having a worker transition into a temporary position is that another firm might offer her a permanent position, removing her from the pool of those eligible for the PHI. The fact that our estimates look at only a few months' data and a single region should allow us to neglect these ancillary elements from the analysis.

[9] The creation of temporary job contracts might be affected insofar as there are fraudulent arrangements between the worker and the hiring firm in order to 'build up' the eligibility status of the worker by passing through a temporary contract. While clearly fraudulent cases are present in the data - as shown by Veneto Lavoro (2015) - we believe that the quantitative amount is contained by the risk the worker would have to bear by renouncing a permanent contract for the promise of obtaining a new permanent contract in a different firm in 6-months' time. As a matter of fact (see section 4) the job-to-job moves flow has remained quite unchanged over time.

## 3. The data and some evidence

In this paper we use administrative microdata about the so-called *Comunicazioni Obbligatorie*. In Italy all occurrences concerning a job position must be electronically transmitted to the Regional agencies in charge of active labour market policies (and also made accessible to the Italian social security institute, INPS). Microdata archives, which cover only employees in the private sector and part of the public sector, are collected and organized by each Italian region. Potentially, the database registers when the position is created, destroyed, converted from fixed-term to permanent, or whether the duration of a fixed-term contract is extended. Because of the decentralization of the data-collection process, the quality of the micro data differ quite a lot across the different regions. Our data refers to one Italian region, Veneto, characterized by high quality and high timeliness. Veneto is located in the north-eastern part of the country. The weight of the manufacturing industry in the region's economy is among the highest in the country. Around 8 per cent of total Italian employees (excluding agriculture and Public Administration) reside in this region.

Our dataset contains information regarding all events (hiring, firing, conversion and fixed-term contract prolonged duration) that occurred in Veneto between January 2013 and June 2015. This time span has been chosen because of data availability. Nevertheless, the exclusion of events after June 2015 allows us to avoid the potential bias induced by at least two confounding factors. The first is that in June 2015 the government introduced new limits to the use of consultants, with potentially indirect effects on the use of other types of job contracts. The second is that in October 2015 the government announced its intention to extend the PHI to 2016. The incentive has been reduced however, from 100% to no more than 40% of total social security contributions, and its duration has been shortened from 3 to 2 years.

For each event recorded in our dataset it is possible to identify both the firm and the worker involved. On top of the relevant anonymized identifiers (firm and worker), we know the firm's size[10] (by size class) and sector of activity and the worker's gender, birth-date, and nationality. For each event we know the type of job contract, i.e. whether permanent or fixed-term. The latter group includes: (i) standard fixed-term dependent contracts, (ii) agency workers, (iii) apprentices,[11] (iv) consultants (so-called *parasubordinati*, i.e. a sort of consultants employed on a temporary basis) and (v) internships (so called *tirocini-formativi*). For each job

[10] The size of the firm is not directly communicated at the time of hiring/firing/conversion, but can be ascertained via other compulsory reporting requirements such as those under Law 68/1999 on legally protected workers.

[11] To be more precise, since 2008 apprenticeships in Italy are legally recognized as open-ended contracts (they were previously considered fixed-term). However, since no firing cost is associated with them we classify them as fixed-term.

contract we also know the relevant dates (day, month, year). Moreover, for each worker, we have information on past work experiences and we may reconstruct whether the worker is eligible for the PHI.

From our dataset we exclude job transitions of domestic workers hired by households, public sector workers and those in the agricultural sector, as they are not subject to the policy measures. We also exclude job transitions in the tourism sector, as the very high seasonality of employment in this sector cannot be fully captured by a 3-year sample like the one we are using in this paper.[12] After this selection our dataset includes around 2.3 million occurrences involving 800,000 workers and almost 150,000 firms.

In this paper we use three different versions of our dataset. First, we use the individual-level panel dimension, recording the working status of individuals month by month. We randomly select 50,000 individuals among those with at least one occurrence from January 2013 to June 2015. Thus, for each individual we know whether he/she is or is not working in a given month, the contract type, the size of the firm (in case of hiring, conversion and job separation) and past work experiences.

Second, we also consider the firm-level panel dimension that is implicit in our dataset, i.e. the monthly flows (hiring and net job creation) originated by each firm in our dataset. We randomly select of 5,000 firms followed from January 2013 to June 2015, among those firms hired at least one worker from 2013 to 2015. In this way we exclude firms entering or exiting the labour market during the period under consideration. For each firm we calculate cell-level flows. Each cell is defined by the intersection of year, month, the six types of job contracts and workers' job history, i.e. whether non-employed/employed with a permanent job contract in the previous 6 months. In what follows, for simplicity, we label the latter workers as 'eligible for the incentive', independent of the year in which we observe them (i.e. even if we observe them in 2013 and 2014, when no incentive was in place for them). In other words, being 'eligible' at the time of hiring means that the worker was not employed on a permanent basis in the previous semester. In the case of contract conversions the 'eligible' group excludes people with an apprenticeship job contract as these conversions were not covered by the PHI.

[12] Indeed, past work histories are calculated by considering all the sectors where workers were employed before the current episode, i.e. also job spells in the tourism sector.

We calculate both hiring and net job creation at the firm-cell level. Net job creation is defined as the difference between hiring and job separations. We consider all types of job destruction, e.g. firing, workers' voluntary separation, and retirement.[13]

Last, for the descriptive analysis, we consider aggregate flows. In Table 1 we report the total number of hires in each semester from 2013 to the first semester of 2015. In Table 2 we report the main socio-demographic characteristics of workers (share of men, average age, share of 'eligible') involved in the various labour market flows, which indeed are quite similar across different groups (also when calculating each share separately for each year).

Figure 1 plots hires and aggregate net job creation, from January 2013 to June 2015, for both open-ended and fixed-term job contracts. In January 2015 both the number of new open-ended and fixed-term contracts increased considerably, and then declined, even if open-ended contracts remained at a level remarkably higher than the one registered in the corresponding periods of 2013 and 2014. The total net flow of newly created job contracts was positive for both types of contracts (bottom panel), even if at the end of the period it was positive for fixed-term job contracts only.

In 2015 conversions from fixed-term to open-ended also increased considerably, as shown by Figure 2. They increased both in absolute terms (dashed line) and relative to the number of fixed-term positions (solid line), peaking in April 2015.

As already mentioned in Section 2, firms have the possibility of hiring a worker on a fixed-term basis, test her skills and then convert the contract into an open-ended one (still benefitting from the incentives and the CTC). This two-step strategy is in principle always convenient for the firm whenever the worker does not have a better alternative (and insofar as the PHI does not decrease or vanish, as after December 2015). The only risk for the firm stems from the fact that the worker may have a better alternative and, if offered a permanent contract by another firm, may disappear from the pool of eligible workers. Given that we are analysing a single region and a relatively short period of time, we are not attempting to take account of these 'local labour market' effects. What we may however consider is the fact that, ceteris paribus, the propensity to use such a two-step strategy is larger whenever the firm does not know the worker's characteristics. We proxy such a feature by distinguishing between two types of matches between workers and firms: those involving workers who were already employed in the same firm in the past (we label this group as "known workers") and those who are matched with

[13] As for hiring, the eligibility condition for people separated from their job - necessary to compute cell-level data - is defined by looking at the labour market status at the time of hiring.

a firm for the first time (workers "unknown to the firm"). The upper part of Figure 3 plots the flow of new job contracts by worker-firm relationship. The solid line refers to contracts involving workers and firms who were never matched before; the dashed line refers to matches involving workers already known to the firm. The flow of new hires of known workers increased considerably in January 2015 when incentives were introduced and then declined. The flow of new hires involving unknown workers peaked instead in March 2015 and increased again after April. The bottom part of Figure 3 plots the share of known workers in total hires of permanent workers and confirms that after the introduction of the PHI in January 2015 firms preferred to hire workers whose skills were already tested in the past.

As a first step, we first check the change in trends before and after the inception of the two policies by comparing eligible workers to non-eligible workers (in Figure 4) and firms of different sizes (in Figure 5), independent of the type of job contract. Even if the comparisons are affected by monthly seasonality, in Figure 4 the change in the trends of eligible and non-eligible workers is not significant before January 2015; it becomes so afterwards. Instead, in Figure 5 we do not find clear-cut evidence of a change in trends after the inception of the Jobs Act in March 2015.

However, the presence of the above depicted two-step strategy implies that the number (or the share) of new hires (or the conversions from fixed-term contracts) into permanent positions is not a sufficient statistic to be looked at, as the policy interventions might have boosted temporary hiring as well. To identify the effects of the two policies, we need to identify a 'control' group totally unaffected by the policies. This means focusing on events in small firms (as such unaffected by the CTC) involving workers who were neither immediately nor prospectively eligible for the PHI. People belonging to such a control group are workers transitioning from a permanent position in a small firm to another permanent contract in a firm of the same size. Their job-to-job transitions are driven by the materialisation of a better match, mostly because of idiosyncratic reasons unrelated to any labour demand shifts related to the PHI or the CTC. The evolution of these flows might be due to business cycle features, as a more buoyant economy normally triggers them. But this is precisely what one would like to control for by comparing the changes in the other flows, potentially affected by the two policies, to changes experienced by the control group.

Thus, in Figure 6 we report the flow of hires non-eligible workers in small firms (which, as reported in Table 1, amounts to around 5 per cent of total hires in all the years here considered) and the difference between its trend and the trends in some other relevant flows.

More in detail, panel (a) of Figure 6 reports the difference in trends of eligible and non-eligible workers in small firms. Panel (b) reports the difference in trends of eligible workers in small and large firms. Panel (c) reports and panel (d) compares the trend of non-eligible hires in small firms to all other hires (eligible workers in both small and large firms and both eligible and non-eligible workers in large firms). In panels (a) and (d) the existence of a difference in trends emerges clearly after January 2015. In panel (b), where the effect of the CTC is calculated by controlling for eligibility, together with some effects probably due to seasonality, there is also significant evidence of a change in trends in the last months of the period, i.e. after March 2015. Last, to check for the existence of differences in trends of non-eligible workers in small firms after the period January-March 2015 we look at the job-to-job transitions of individuals and we control by individual fixed effects; also in this exercise we do not find any relevant difference in trends (estimates available upon request).

## 4. The estimation strategy

The charts in the previous sections show that there are discontinuities in the hiring trends along some of the dimensions affected by the two policy measures here considered, and that the picture is very complex, as the policy measures may have impacted more than one labour market flow. In particular, the two-step strategy of offering a temporary position first and then converting it into a permanent contract so as to test the worker's skill and still cash in the whole amount of the PHI may have boosted temporary contracts as well. Broadly speaking, a possible measure of the counterfactual business cycle evolution unrelated to the two policies may be obtained by focusing on those labour market flows unaffected by the two policies, permanent hires of non-eligible workers from January to February 2015 and permanent hires of non-eligible workers in small firms from March 2015 onwards.

In order to get a more precise and quantitative assessment of the effects of the two policies we estimate a diff-in-diff model at two different levels: individuals[14] and firms.

The first exercise only looks at conversions of fixed-term contracts into open-ended contracts. This is a flow that is directly affected by both policies, although along different lines, depending on the employee's work history (relevant for the PHI) and the firm size (relevant for the CTC). More specifically, we will look at the probability of a worker with either an apprentice or a standard fixed-term contract to have her contract converted into an open-ended

[14] We do not observe people who have never get an employment (the ones remaining unemployed or out of the labor force) and those who, employed over a permanent contract, have never changed their status since 2011.

contract by the same firm.[15] More formally we define a dummy variable π equal to 1 if the fixed-term position is converted into an open-ended position and we estimate:

$$[1] \qquad \pi_{pgwym} = \gamma_p + \gamma_g + \gamma_w + \gamma_y + \gamma_m + \beta D_{(w=1)(y\geq 2015)} + \delta D_{(g=15+)(y\geq 2015)(m\geq March)} + \epsilon_{pwym}$$

where $\gamma_p$ are individual fixed effects, aimed at capturing workers' unobserved heterogeneity, $\gamma_g$, $\gamma_w$, $\gamma_y$, $\gamma_m$ are fixed effects for firm's size-class (*g)*, for worker's not having a permanent job in the previous semester (*w*), for year *(y)* and month *(m)*. The variable $D_{(w=1)(y\geq 2015)}$ is a dummy equal to 1 if the observation refers to the period from January 2015 onwards and involves workers eligible for the hiring incentive. The dummy $D_{(g=15+)(y\geq 2015)(m\geq March)}$ is a dummy equal to 1 if the observation refers to a firm with more than 15 employees in the period following the inception of the CTC. Year and month dummies take into account time trends. In equation [1] the control group includes conversions involving non-eligible workers (those employed with a permanent job contract in the previous 6 months or those with an apprenticeship job contract); conversions in small firms after March 2015 represent the control group used to identify the effect of the CTC.

In a second exercise we look at workers' probability of obtaining a permanent job. Our sample includes all people "at risk" of finding a permanent position, i.e. both temporary workers and all people currently jobless.[16] Notice that when considering these individuals, we may only observe the effects of the PHI, as firm size is a characteristic of the firm and not of the worker. We then define a variable $\pi_{pwym}$ which is equal to one if the worker p-*th* is hired with a permanent job contract in year *y* and month *m* and is equal to zero otherwise (in case of no employment or if the job contract is fixed-term). The other indices are defined as in equation [1]. We then estimate the following model:

$$[1'] \qquad \pi_{pwym} = \gamma_p + \gamma_w + \gamma_y + \gamma_m + \beta D_{(w=1)(y\geq 2015)} + \epsilon_{pwym}$$

where we use the same notations as in equation [1]. Moreover, since we have a panel of individuals and the variable $\pi_{pwym}$ typically does not change after a person has found a permanent job, we drop the worker from the sample after she finds a permanent job (unless after some time she re-enters the pool of job seekers because she no longer holds her previous job).[17]

[15] Also at the cell level we only consider the conversions stemming from apprentices and standard fixed-term contracts taking place in a given firm.
[16] But who have had at least 1 hiring or separation since 2012.
[17] A more suitable, but rather complex estimation model could be a panel duration model.

Fully exploiting the employee's work history, we can also split the sample among those who are not employed at a given time and are searching for a job and those who have a fixed-term job.

The third exercise looks at a similar phenomenon, but from the firm's perspective: permanent gross hiring. This flow is also affected by the two policies along different dimensions, depending on the workers' previous history (which determines a firm's eligibility for the PHI), and the firm size (relevant for the CTC). Again, the evolution of the flow of non-eligible workers in small firms provides the relevant control group. More formally, for each firm we identify a number of cells defined by the intersection of 30 months, 2 past employment statuses (i.e. whether non-employed/employed with a permanent job contract during the previous semester) and 6 contractual types (open-ended contracts, standard fixed-term dependent contracts, agency workers, apprentices, collaboration workers and internships).

We then estimate:

[2] $$n_{igofwym} = \gamma_i + \gamma_g + \gamma_o + \gamma_f + \gamma_w + \gamma_y + \gamma_m + \\ + \beta_1 D_{(o)(w=1)(y\geq 2015)} + \beta_2 D_{(f)(w=1)(y\geq 2015)} \\ + \delta_1 D_{(g=15+)(o)(y\geq 2015)(m\geq March)} + \delta_2 D_{(g=15+)(f)(y\geq 2015)(m\geq March)} + \epsilon_{iofgwym}$$

where $\gamma_i$ indicates firm i-th fixed effects, $\gamma_o$ is the fixed effect for permanent job contract $o$, and $\gamma_f$ is a set of fixed effects, one for each of the 5 types of fixed-term contracts (the other fixed effects are the same as in equation [1]). The variable $D_{(o)(w=1)(y\geq 2015)}$ is a dummy equal to 1 if the cell corresponds to permanent hiring occurred from January 2015 on, and involving eligible workers (and 0 otherwise). The dummy $D_{(g=15+)(o)(y\geq 2015)(m\geq March)}$ is a dummy equal to 1 if the cell refers to permanent hiring occurred after the inception of the Jobs Act, in a 15+ firm (independently on eligibility). $D_{(f)(w=1)(y\geq 2015)}$ and $D_{(g=15+)(f)(y\geq 2015)(m\geq March)}$, refer to fixed-term contracts. The first is equal to 1 if the cell refers to gross hiring of person not previously employed as permanent workers (w=1), occurred after January, 1st. The second refers to fixed-term hiring in firms with at least 15 employees, occurred after March, 7th 2015. So, in equation [2] $\beta_1$ and $\delta_1$ identify the direct effect of the two policies (i.e. the effect on open-ended contracts), while the terms $\beta_2$ and $\delta_2$ (which indeed are further distinct by type of temporary job contract) capture substitution or complementarities induced by the policies on other types of contracts. As before, month and year dummies capture business cycle and seasonality affecting permanent hiring of non-eligible workers in small firms. Notice that in the equation we may also control for firm's fixed effect, $\gamma_i$, disaggregating the class size dummy as such used for identifying the CTC effects. Further, in this exercise we may also control for the distinction

between workers who are already known to the firm (i.e. already screened by the firm in the past) and those who are not, so as to verify whether the PHI, and the CTC as well, have different effects on the two groups.

The last and final exercise tries to get together the firm's and worker's sides of the market by looking at the changes in employment (net hiring). We estimate equation [2] but the dependent variable is now net hiring at the firm level, equal to hiring *minus* firing.

## 5. The results

### *5.1 Temporary to open-ended contract conversions*

We start in Table 3 with conversions from fixed-term to open-ended contracts. We include worker fixed effects to control for the fact that typically temporary workers have several temporary employment spells in their working life and the probability that their contract is converted may depend on unobservable characteristics. The effect of hiring incentive PHI is positive and sizeable in column 1. The effect of the CTC is positive and significant in column 2 and also in column 3, when the interaction with the PHI is included. In the last case, however, the interaction is not different from zero, suggesting a larger effect of the CTC for non-eligible workers, namely apprentices. All the effects are sizable when compared to the average size of the monthly probabilities of conversion, reported in the last row of the table.[18]

### *5.2 Permanent contract gross hiring*

We then look at permanent hiring from both the perspective of the worker and the perspective of the firm. Table 4 presents the results for the probability that an unemployed or a fixed-term worker obtains a permanent job position, given her characteristics. The first column of Table 4 refers to all individuals (i.e. non-working or working under a fixed-term job contract), Columns 2 and 3 report the same estimates distinguishing workers by their initial status (out of employment, working with a fixed-term contract); so, column 2 identifies the

[18] As a robustness check in Table A1 we report the same estimates as in equation [2], but estimated at the cell-level. The dependent variable refers to the number of conversion from fixed-term and apprenticeship to open-ended contract. The first column refers to conversion of non-eligible workers (so the cells under exam are 60 out of the total 120) and it is aimed at identifying the effect of the CTC by comparing cells pertaining to firms above and below the 15 employees threshold. Non-eligible workers are those with an apprenticeship job contract or were employed with a permanent job contract in the previous semester. The effect of CTC, mostly identified by transitions from apprenticeship, appears to be positive and statistically significant. The second column includes also the cells measuring the conversions involving workers who did not have a permanent contract in the previous semester (whose conversion does allow to cash in the PHI). It allows to identify separately the effect of the CTC and PHI and their interaction. While positive, the CTC still positive and close to be significant (p-value equal to 13 percent), while both the PHI and the interaction terms are positive and statistically significant at standard levels.

effect of incentives on the flow from non-employment into permanent employment, whereas column 3 refers to workers probability of conversion from temporary to open ended contracts within the same firm, as in Table 3 and job-to-job movements associated to a change from a temporary to a permanent position. The results confirm the positive effect of incentives, which is extremely large when compared with the average probabilities observed in 2013/14 (reported in the last row).

We then estimate equation [2], which refers to gross hiring made at the firm level. The inclusion of firm fixed effects allows us to control for average firm-level hiring, which can depend on unobservable firm-specific characteristics. In some specifications we also split the dummies $D_{(o)(w=1)(y\geq 2015)}$ and $D_{(g=15+)(o)(y\geq 2015)(m\geq March)}$ into two groups to identify the effect of the two policies on workers already "known" to the firm, i.e. those for which there is lower uncertainty about the goodness of the job match. The results of this exercise are reported in Table 5. Notice that the effect of the two policies is obtained by using hiring of non-eligible workers in small firms as a control group (firm size matters from March 2015 onwards).

Both policies were legislated before being actually implemented. So, our identification strategy based on the timing of their implementation might fail whenever firms have strategically postponed or anticipated already planned hiring to exploit the opportunities offered by the two announced policies. In order to take account of such a possibility we exploit the fact that the introduction of the PHI was announced in October 2014 and the CTC since December 2014. So the possible anticipation effect of the PHI is captured by a dummy equal to 1 for the observations related to workers with no permanent job position in the six months preceding the time window from October 2014 to January 2015. Similarly, for the CTC we interact the dummy measuring the size of the firm with a dummy corresponding to the time window from December 2014 to March 2015. Since the two policies can affect hiring strategies not only with respect to open-ended contracts but also with respect to all the other types of contract, these dummies are further interacted with the dummies capturing the type of job contract. [19]

The first column reports the effect of incentives only, which is positive and highly significant. As expected the dummy capturing possible anticipating behaviour of firms is negative and significant, but smaller in absolute terms, suggesting that hiring incentives indeed had a total positive impact on hiring. The second column adds the dummy capturing the effect of the CTC which is positive, significant but remarkably smaller than the effect of hiring

[19] For instance, at the time of the announcement of the policies a firm could hire temporary workers and the convert their contract into an open-ended position after the inception of the law.

incentives. The own effect of CTC vanishes when we consider the interaction between the two policies, as in column 3, while the interaction term is quite large. So, most of the CTC effect appears to have acted by strengthening the effect of the PHI in the large firms segment.

Column 4 and 5 split the effect of incentives PHI (column 4) and CTC (column 5) by type of worker, i.e. whether "known" or "unknown" to the hiring firm. PHI boosted the chance for both workers, but, as expected on the basis of our discussion of the two steps strategy for exploiting the PHI, the increase is larger for the "known" ones[20]. As expected, lower firing costs boosted permanent hiring of those workers who were unknown by the firm as the CTC reduced the costs of breaking a bad job match and made the 15+ firms less selective and less reluctant in their permanent hiring. The last column of the Table considers instead total hiring net of job-to-job flows. Job-to-job flows are identified as those flows of workers with a time span smaller than 7 days from a job separation and a new hire. The column confirms the expansionary effect of both policies.

On the basis of these estimates, the last rows of Table 5 report the size of the estimated impact of the two policies. According to our estimates[21] around 40% of total permanent hires occurred in the first semester of 2015 are due to hiring incentive. These hires correspond to around 20% of total hires in the period. The effect of the CTC, which is sizable, is quantitatively smaller and equal to 5% of total hires of permanent contracts and 1% of total hires (i.e. including also other types of contracts). When excluding job-to-job flows the impact of the two policies on newly created jobs is even higher.

*5.3 The employment dynamics*

In Table 6 we consider at net job creation at the firm level, defined as gross hires minus job separations[22]. Following equation [2], $n_{gofwym}$ now represents the number of jobs created in each cell net of the number of jobs destructed in the same cell. The estimated coefficients represent the increase in the average size of the cell, due to the policies.

The results of the first column indicate a positive impact of hiring incentives (PHI), even when controlling for possible effects of anticipation of the policy, which reduced net job creation in the last quarter of 2014, as firms strategically postponed hiring in the first months of

[20] The coefficients of the interaction term between "known workers" and the fixed term contract types are reported in Table A2 in the Appendix.

[21] In estimating the total effect of the policies we consider the effect of anticipation.

[22] Notice that contract conversions do not contribute to net job creation as the additional open ended contracts are counterbalanced by the reduction in temporary contracts, which are converted into open ended contracts. The terminations of temporary contracts, insofar as they are not converted into open ended positions in the same firm, are taken into account as a negative component of net job creation.

2015 to get the incentives.[23] The second column of the Table includes also the direct effect of the CTC (i.e. the coefficient of the dummy $D_{(g=15+)(o)(y\geq 2015)(m\geq March)}$), which is positive. The term capturing possible anticipation of the CTC is instead not statistically different from zero. The third column includes both the direct effect of the two policies and the interaction between the two. The results are similar to the ones already presented in Table 5 for hires only: the own effect of the CTC becomes statistically in significant (and negative) as most of the actions appear as a strengthening of the incentive in the 15+ firms segment thanks to the CTC (the interaction term is largely positive and statistically significant).

As already mentioned, our main firm-level sample is a closed panel of firms with at least a labour market episode in each of the years from 2013 to 2015. As a robustness check, in the last column we carry out the same exercise as in column 3 but on a unbalanced panel of 50,000 randomly selected firms, which includes firms which register at least one change in their workforce during the period here analysed.[24] In this way we are able to capture the potential bias induced by firms entering (or exiting) the market because of the policies. In fact, PHI could have induced many small firms without employees to hire employees for the first time, an effect that cannot be captured by a closed panel as the one used in columns 1-3. The results of this exercise are fully consistent with the ones presented in the first columns.

To assess the quantitative relevance of these results in the bottom part of the Table we report some back-of-the-envelope calculation of the impact of the two policies on net job creation. According to our estimates, workers hired because of PHI account for more than 40% of total net flow of permanent workers, while the effect the Jobs Act is smaller (around 5%). They also account for 35% and 4% of the net flow of newly created dependent employment positions, in all the specifications (also when the unbalanced panel is considered). Moreover, if we look at the difference between the net flow in 2015 and the average net flow in 2013-14, we find that this difference is totally explained by the two policies.

It is not possible to extrapolate these results to Italy as a whole, as both the underlying trends and composition effects may differ by geographical area. Focusing on Veneto, our estimates imply that in the first semester of 2015 both policies increased the number of people employed with a permanent job contract by 0.7 percent.[25]

23 The sample size of the first two columns is half of the sample size of the third column as we do not distinguish cells by size of firms, as we do are not estimating the effect of the Jobs Act.

[24] In this case not the firm fixed effect is not identified for all firms, but contributes to the estimate of the average flow.

[25] Estimates calculated by applying the net flow of permanent job positions and contract conversions to the average stock of permanent employees in Veneto in 2014. The overall employment effect is smaller (0.5 percent) as part of the above mentioned effect is due to a shift towards permanent employment.

We have carried out several robustness checks. First, since also the apprenticeship job contract has been subject to several legislative changes during the period under analysis, we have carried out the same regressions presented in Table 5 and Table 6, but excluding apprentices. Results, available upon request, are unaffected. As an additional check, in some estimates we exclude firms around the 15-employees threshold, as their behaviour might be affected by the CTC through additional channels. Also in this case the results are qualitatively similar.

## 6. Conclusions

In this paper, using a diff-in-diff approach, we analyse the reaction of firms to two policies introduced in the first part of 2015 by the Italian government, aimed at both reducing labour market dualism and favouring job creation. The first is a generous hiring incentive to firms offering open-ended job contracts, not conditioned to firms' net job creation. The second is the reduction of firing costs for firms with at least 15 employees (not only a monetary reduction, but also a decrease in uncertainty about the consequences of unfair dismissals). We find that the two policies were successful in both reducing dualism and stimulating labour demand, even during a recession period characterised by very high macroeconomic uncertainty.

As already said, our estimates do not consider all the relevant aspects relevant in judging the appropriateness of the measures undertaken (see Brown et al., 2011, for a wider theoretical discussion on hiring subsidies). In particular, we do not discuss the pros and cons of the current temporary and rather unselective hiring incentives vis-à-vis permanent and more selective subsidies targeting specific groups of workers supposed to be weaker and less employable (e.g. youths and long term job seekers). Furthermore, we do not deal with the merits and pitfalls of incentives for gross hiring which subsidizes also part of the normal turnover taking place in a firm. The policy also favours the conversion of temporary contract into permanent ones and the poaching of suitable temporary workers from one firm to another. So, an indirect effect of hiring incentives might be that of lifting up the temporary hiring of people whose contract is transformed into a permanent one after some months. At the moment we can only provide evidence on both an increase of the probability to find a permanent position for both non-employed and temporary workers in other firms, and an increase in the temporary-to-permanent contract conversions within the same firm.

Our estimates also fall short of an overall evaluation of the new firing rules introduced by the Jobs Act. As a matter of fact, the CTC does not modify the general principle that only

dismissals opposed by the worker and considered unfair by a judge have to be compensated. Differently from the previous regime, the reinstatement of the worker, while still possible, applies only to few and better specified cases of unfair dismissals (the ones deemed to be discriminatory). Also the uncertainty concerning the amount of the financial compensation possibly stemming from a judiciary intervention has been considerably lowered as its amount has been capped and pre-specified by the law as an increasing function of worker seniority. Furthermore, the compensation cost for firms has been halved if the worker accepts a transaction, so ending any pending litigation, whose acceptance is favoured as the compensation so obtained is cashed tax free. The new regime is likely to provide more certainty to both the worker and the firm. The above mentioned tax exemption may also induce a higher share of dismissals to end up with some compensation (the risks of high compensation costs has been reduced, but the firm may still find more convenient to avoid any risk at all by offering the tax exempt transaction). Our estimates do not allow to consider all these effects, whose relevance will increase over time as the stock of employees will be increasingly made up by people hired according to the new rules. Neither we are able to consider to what extent the tax exemption is relevant for firms' and workers' decisions.

Furthermore, our estimates do not consider the overall general equilibrium implications of the reduced uncertainty and average amount of the dismissal costs for the firm. Albeit small, the effects of the firing costs reduction might have significant general equilibrium effects, for instance if their allocative effects may cumulate to other market imperfections (e.g. capital market imperfections) in shifting the whole firms' size distribution.

All in all, our estimates are therefore only one of the elements necessary to decide what to do in the future, concerning the possible presence of selective work incentives (i.e. incentives targeted to population groups considered less easily employable) and the tradeoff between marginal tax wedge reductions (i.e. tax cuts applied only to either gross or net hiring) and tax wedge reductions applied across the board (i.e. inward shifts in the tax schedule facing the whole stock of workers). We however believe that our empirical exercise is a step forward for the comprehension of the reaction of firms to changes in employment protection and in its interaction with changes in other labour cost components.

We show that both measures were effective in both shifting employment towards permanent contract and raising overall employment levels. The predominant component has to be attributed to the sizable incentive provided by the law, with a strengthening of such an impact in the 15+ employees firms thanks to the new CTC which reduced the average cost and

the uncertainty concerning possible future dismissals. A relevant longer run effect of the CTC comes from the fact that it made firms less reluctant in hiring on a permanent basis a yet untested worker.

All schemes of incentives provide money for events which economic agents might have decided anyway to put in place, so that their unitary budgetary costs are higher than what formally provided for each individual event. The PHI made no exception to such a rule. There is evidence that firms postponed planned hires in order to exploit the timing of the temporary incentive provided by the law and; furthermore, firms acted "strategically" also along other lines as, given the fact that workers eligibility to the PHI was related to the absence of a permanent job in the previous semester, the firms continued to offer only a temporary position to all the yet unknown job applicants, postponing the chance of cashing the full amount of the subsidy to the eventual case of conversion to an open ended contract. Such a behaviour has led to an increase in temporary hires as well, with subsequent conversions to permanent positions (taking place within the December 2015 window). Our estimate of the contribution of the PHI to the total flow of gross permanent hiring allow us to asses that the deadweight loss of the PHI was of about 1 out of two. Our estimates of the deadweight loss, however, are only just one element to determine the its full monetary value, as other factors may affect the calculation (for instance, labour income taxes paid for each additional permanent job position and savings in unemployment benefits not paid to temporary workers in case of their conversion).

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## Tables and Figures

Figure 1: Hiring and net job creation by type of job contract (thousands). (1)


(1) Net job creation is the difference between jobs created and destructed.

Figure 2: Number of conversions from fixed-term or apprenticeship job contracts to permanent job contracts, and the ratio to the total number of hires with fixed-term or apprenticeship job contracts.

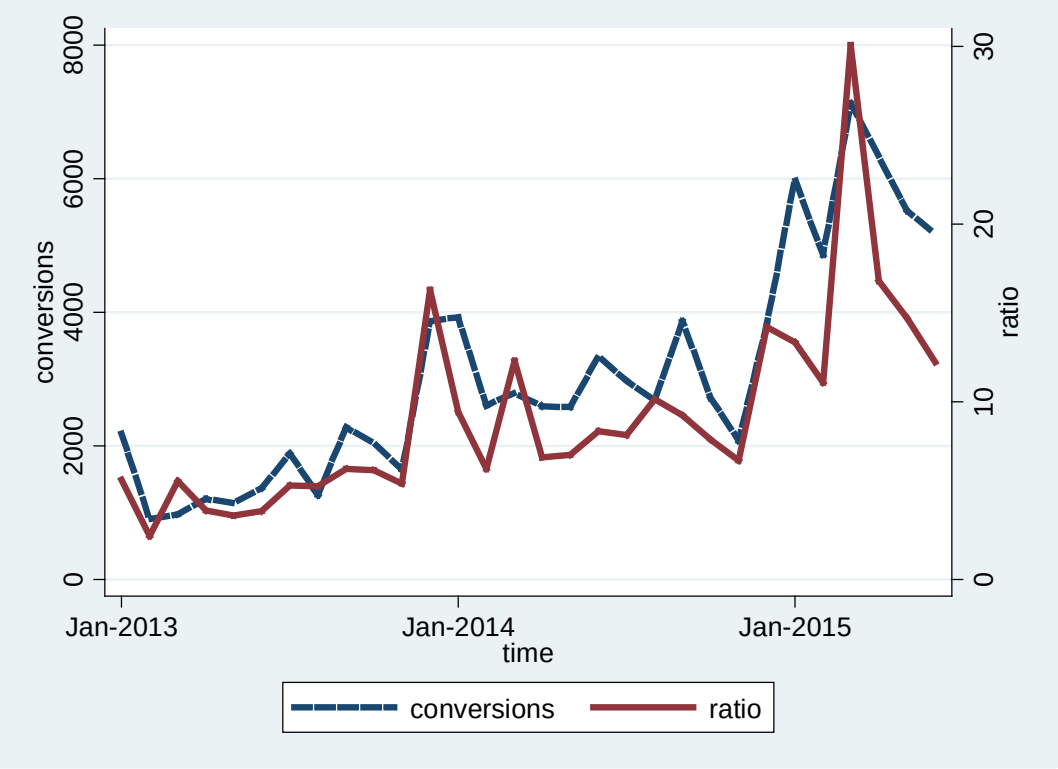


Figure 3 Hires (all types of contracts) by previous relationship with the worker: known to the firm (i.e. employed in the past in the same firm, in the left-hand scale) and unknown to the firm (i.e. never employed with the firm, in the right-hand scale) in the upper part; share of known workers in total permanent hires in the bottom panel.

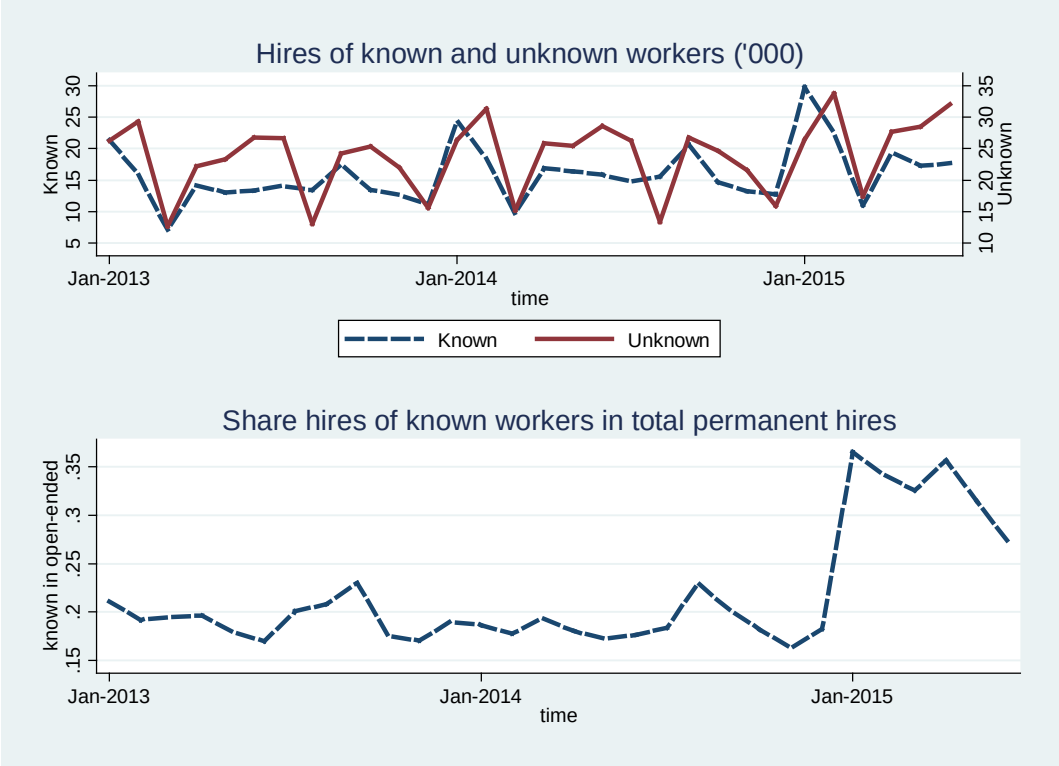
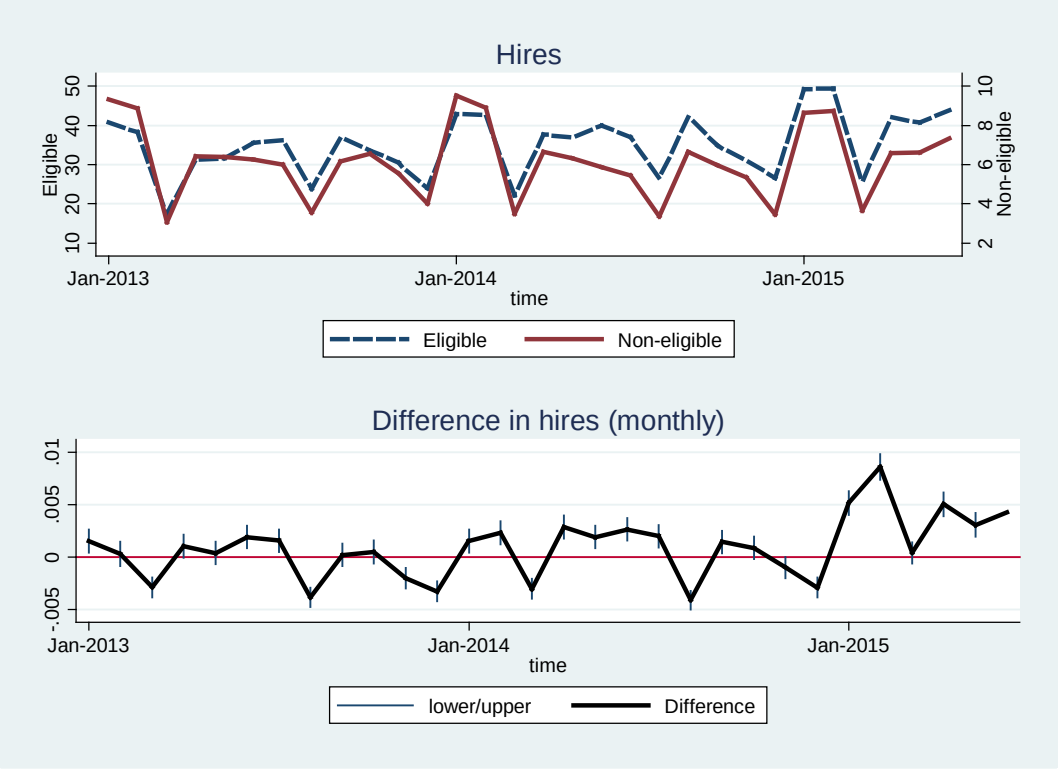
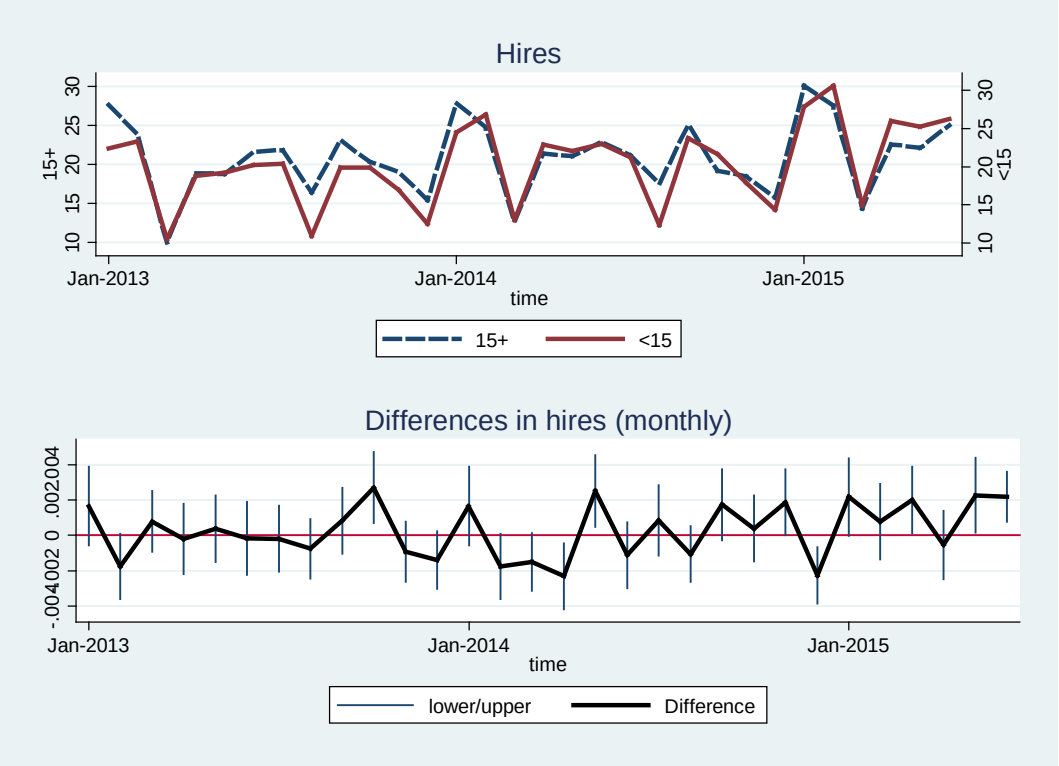


Figure 4: Hires (all types of contracts) by previous employment condition: employed with an open-ended contract in the previous 6 months (i.e. non-eligible for PHI in 2015) and unemployed or employed with a fixed-term job contract in the previous 6 months (eligible for PHI in 2015). Thousands in the upper panel and differences in monthly hires between the two groups in the bottom panel. The small vertical lines represent the confidence intervals. Differences are normalized by using the pre-treatment average. (1)



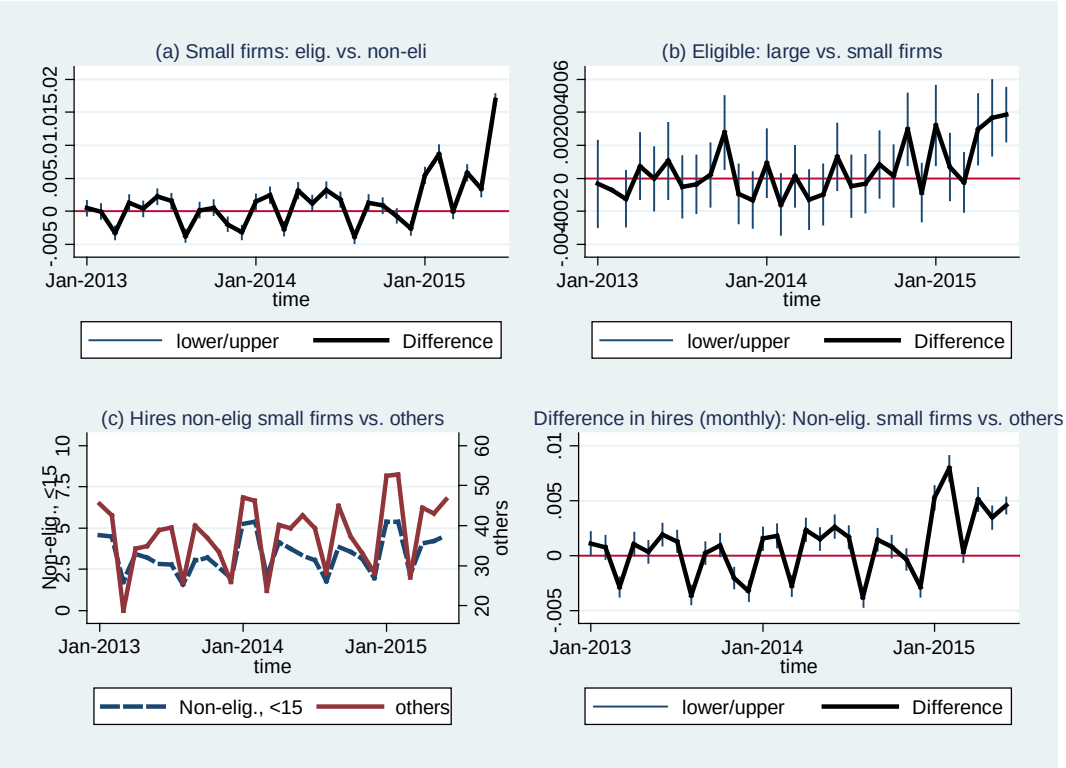

(1) Differences in trends are derived by an OLS estimate of hires on a set of separate monthly dummies for eligible and non-eligible workers. Robust standard errors.

Figure 5: Hires (all types of contracts) by size of the firm: less than 15 (not subject to the Jobs Act) and 15+ (subject to the Jobs Act). Thousands in the upper panel and differences in monthly hires between the two groups in the bottom panel. The small vertical lines represent the confidence intervals. Differences are normalized by using the pre-treatment average. (1)



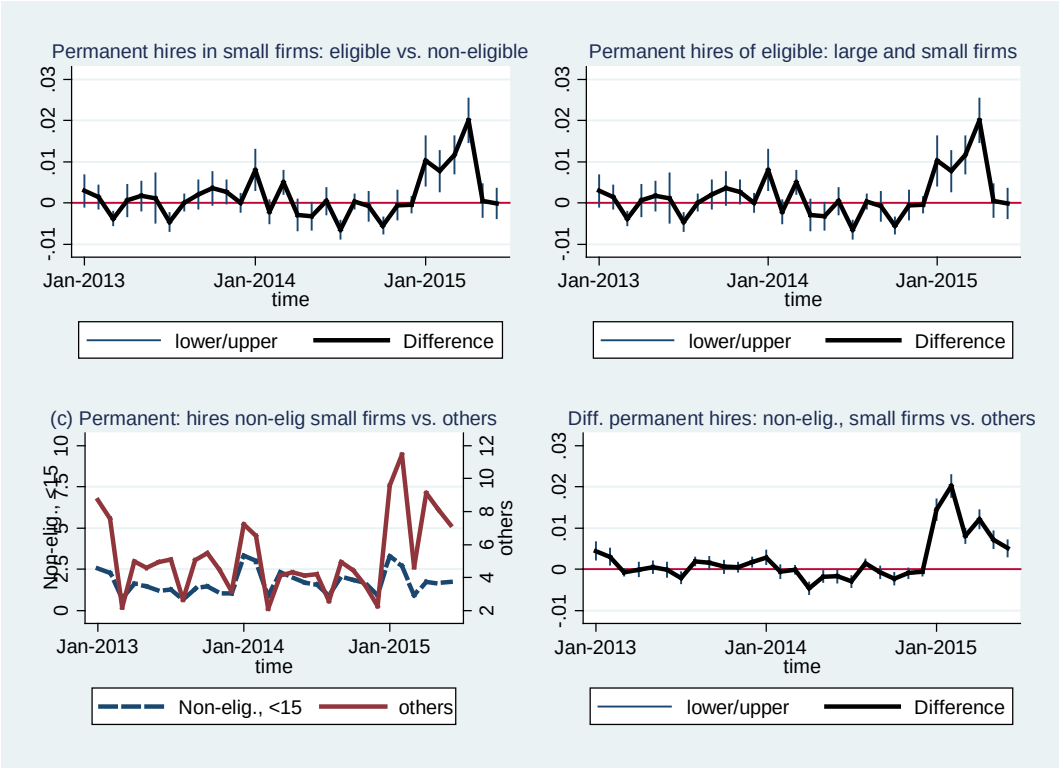

(1) Differences in trends are derived by an OLS estimate of hires on a set of separate monthly dummies for firms with less than 15 employees and 15+ firms. Robust standard errors.

Figure 6: Difference in monthly hires of eligible and non-eligible workers in small firms in panel (a); difference in monthly hires in small and in large firms within the group of eligible in panel (b); in panel (c) we report the number of hires of non-eligible workers in small firms (left-hand panel) and the number of all the other hires (right-hand panel); difference in monthly hires of non-eligible workers in small firms and other hires in panel (d). The small vertical lines represent the confidence intervals. Differences are normalized by using the pre-treatment average. (1)




(1) Differences in monthly hires are derived by an OLS estimate of hires on a set of separate monthly dummies for the two groups compared in each panel. Robust standard errors.

Figure 7: All panels refer to hires with a permanent job contract. Difference in monthly hires of eligible and non-eligible workers in small firms in panel (a); difference in monthly hires in small and in large firms within the group of eligible in panel (b); in panel (c) we report the number of hires of non-eligible workers in small firms (left-hand panel) and the number of all the other hires (right-hand panel); difference in monthly hires of non-eligible workers in small firms and other hires in panel (d). The small vertical lines represent the confidence intervals. Differences are normalized by using the pre-treatment average. (1)




(1) Differences in monthly hires are derived by an OLS estimate of hires on a set of separate monthly dummies for the two groups compared in each panel. Robust standard errors.

Table 1: Number of hires in Veneto in each semester, by type of firm (less than 15 employees, 15+) and workers past work experience (without a permanent job in the previous semester = eligible for the incentive after January 2015).

| | Total | Small firm | Large firms | Non-eligible | Eligible | Non-eligible in small firms |
|---|---|---|---|---|---|---|
| 2013.1 | 235,093 | 114,430 | 120,663 | 41,447 | 193,646 | 9,928 |
| 2013.2 | 216,798 | 100,566 | 116,232 | 32,956 | 183,842 | 7,774 |
| 2014.1 | 263,033 | 132,310 | 130,723 | 42,101 | 220,932 | 13,322 |
| 2014.2 | 228,438 | 111,195 | 117,243 | 31,630 | 196,808 | 9,378 |
| 2015.1 | 292,443 | 150,773 | 141,670 | 43,813 | 248,630 | 15,007 |

Table 2: Characteristics of workers hired in Veneto in each semester from January 2013 to June 2015. Total, workers hired in small firms and workers not previously hired with a permanent job contract (non-eligible for the 2015 incentive) hired in the semester by a small firm.

| | All hires | | | Small firms | | | J-t-j flow , small firm, non-eligible | |
|---|---|---|---|---|---|---|---|---|
| | Share eligible | Share men | Average age | Share eligible | Share men | Average age | Share men | Average age |
| 2013.1 | 96.4 | 52.4 | 36 | 95.6 | 53.1 | 37 | 59.1 | 36 |
| 2013.2 | 96.3 | 51.7 | 35 | 95.2 | 53.7 | 35 | 53.3 | 36 |
| 2014.1 | 95.5 | 54.7 | 36 | 94.1 | 55.1 | 37 | 55.5 | 38 |
| 2014.2 | 95.8 | 51.6 | 36 | 94.0 | 54.4 | 36 | 61.0 | 36 |
| 2015.1 | 94.8 | 55.7 | 37 | 93.5 | 56.2 | 37 | 60.3 | 38 |

Table 3: Probability of conversion from fixed-term to permanent job contract: individual-level estimates of the effect of the policies

| | (1) | (2) | (3) |
|---|---|---|---|
| Incentive (PHI) | 0.008 | 0.007 | 0.009 |
| | [0.086]* | [0.095]* | [0.075]* |
| Jobs Act (CTC) | | 0.005 | 0.013 |
| | | [0.000]*** | [0.047]** |
| Incentive (PHI)*Jobs Act (CTC) | | | -0.009 |
| | | | [0.209] |
| Individual fixed-effects | yes | yes | yes |
| Year and month dummies | yes | yes | yes |
| Observations | 625,306 | 625,306 | 625,306 |
| R-squared | 0.164 | 0.164 | 0.164 |
| Monthly probability of conversion in 2013-14 | .009 | .009 | .009 |

Linear probability model. Robust p values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. The dependent variable is a dummy equal to 1 if the fixed-term job contract is converted into an open-ended contract.

Table 4: Probability to find a permanent job: individual-level estimates of the effect of the policies

| | All | Non-working at time t-1 | Fixed-term at time t-1 |
|---|---|---|---|
| | (1) | (2) | (3) |
| Incentives (PHI) | 0.008 | 0.008 | 0.011 |
| | (0.000)*** | (0.000)*** | (0.001)*** |
| Individual fixed-effects | yes | yes | yes |
| Year and month dummies | yes | yes | yes |
| Observations | 1,289,075 | 860,185 | 428,890 |
| Monthly probability to find an open-ended job position in 2013-14 | .008 | .008 | .005 |

Linear probability model. Robust p values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. The dependent variable is a dummy equal to 1 if the person finds a permanent job position and 0 otherwise. The model in column (1) includes also a dummy for the condition at time t-1 (whether employed temporarily or not employed). The second column refers to people moving from unemployment into a permanent employment; column (3) refers to transitions from fixed-term to open-ended job contracts in another firm within the same month.

Table 5: Hires (gross) with permanent contracts: firm-level estimates of the effect of the policies

| | (1) total hires | (2) total hires | (3) total hires | (4) total hires | (5) total hires | (6) total hires-job-to-job flows |
|---|---|---|---|---|---|---|
| Incentive (PHI), Open-ended | 0.040 | 0.039 | 0.036 | 0.008 | 0.008 | 0.039 |
| | [0.000]*** | [0.000]*** | [0.000]*** | [0.000]*** | [0.000]*** | [0.000]*** |
| Jobs Act (CTC), Open-ended | | 0.03 | -0.006 | | 0.008 | 0.044 |
| | | [0.041]** | [0.335] | | [0.000]*** | [0.099]* |
| Incentive (PHI), Jobs Act (CTC), Open-ended | | | 0.074 | | | -0.013 |
| | | | [0.013]** | | | [0.000]*** |
| Anticipating incentive (PHI), Open-ended | -0.014 | -0.014 | -0.015 | -0.004 | -0.004 | -0.004 |
| | [0.000]*** | [0.000]*** | [0.000]*** | [0.000]*** | [0.000]*** | [0.583] |
| Anticipating Jobs Act (CTC), Open-ended | | 0.019 | 0.019 | | 0.003 | |
| | | [0.203] | [0.198] | | [0.107] | |
| Known, Inc. (PHI), Open-ended | | | | 0.007 | 0.008 | |
| | | | | [0.000]*** | [0.000]*** | |
| Known, Jobs Act (CTC), Open-ended | | | | | -0.008 | |
| | | | | | [0.000]*** | |
| Main effects | | yes | yes | yes | yes | |
| Time dummies | | yes | yes | yes | yes | |
| Observations | 1,865,880 | 1,865,880 | 1,865,880 | 6,214,320 | 6,214,320 | 1,865,880 |
| R-squared | 0.015 | 0.015 | 0.015 | 0.009 | 0.009 | 0.015 |
| **Share of flow of permanent contracts due to the policies** | | | | | | |
| Effect of incentives (PHI) | 39 | 38 | 30 | 39 | 38 | 51 |
| Effect of Jobs Act (CTC) | | 5 | | | 5 | 12 |
| Effect of both policies | | | 5 | | | |
| **Share of total flow due to the policies** | | | | | | |
| Effect of incentives (PHI) | 8 | 8 | 6 | 8 | 8 | 14 |
| Effect of Jobs Act (CTC) | | 1 | | | 1 | 3 |
| Effect of both policies | | | 1 | | | |

Linear probability model. Robust p values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. The dependent variable is the number of hires made by each firm. For each firm we identify cells measuring the number of hires of workers with given characteristics made by the firm. Each cell is defined by the intersection of month (from January 2013 to June 2015), type of contract (6 categories), eligibility to PHI (as defined in the text), size of the firm (smaller than 15, 15+), and past relationship with the firm (worker known, unknown) in columns 4 and5, only. Difference between total hires and job-to-job flows in column 6.

Table 6: Permanent contract net job creation: firm-level estimates of the effect of the policies
(1)

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | **Closed panel (5,000 firms)** | | | **Unbalanced panel (50,000 firms)** |
| Incentive (PHI), Open-ended | 0.04 | 0.038 | 0.036 | 0.005 |
| | [0.000]*** | [0.000]*** | [0.000]*** | [0.000]*** |
| Jobs Act (CTC), Open-ended | | 0.03 | -0.006 | -0.009 |
| | | [0.047]** | [0.447] | [0.123] |
| Incentive (PHI), Jobs Act (CTC), Open-ended | | | 0.075 | 0.014 |
| | | | [0.016]** | [0.071]* |
| Anticipating incentive (PHI), Open-ended | -0.006 | -0.007 | -0.007 | -0.003 |
| | [0.028]** | [0.023]** | [0.019]** | [0.000]*** |
| Anticipating Jobs Act (CTC), Open-ended | | 0.018 | 0.018 | 0 |
| | | [0.282] | [0.272] | [0.991] |
| Main effects | yes | yes | yes | yes |
| Time dummies | yes | yes | yes | yes |
| Observations | 1,865,880 | 1,865,880 | 1,865,880 | 10,400,000 |
| R-squared | 0.004 | 0.004 | 0.004 | 0.004 |
| **Share of flow of permanent contracts due to the policies** | | | | |
| Effect of incentives (PHI) | 51 | 47 | 41 | 47 |
| Effect of Jobs Act (CTC) | | 5 | | |
| Effect of both policies | | | 5 | 5 |
| **Share of total flow due to the policies** | | | | |
| Effect of incentives (PHI) | 42 | 38 | 35 | 38 |
| Effect of Jobs Act (CTC) | | 4 | | |
| Effect of both policies | | | 4 | 4 |

Linear probability model. Robust p values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. The dependent variable is the difference between the number of hires made by each firm and the number of job separation in the same cell. For each firm we identify cells measuring the number of hires and job separations of workers with given characteristics made by the firm. Each cell is defined by the intersection of month (from January 2013 to June 2015), type of contract (6 categories), eligibility to PHI (as defined in the text), and size of the firm (smaller than 15, 15+). Unbalanced panel of 50,000 firms in column 4.

## Appendix

Table A1: Aggregate estimates of the effect of the policies on conversions from fixed-term to permanent job contracts

| | Non eligible | All |
|---|---|---|
| Incentive (PHI), Open-ended | 76 | 136 |
| | (0.065)* | (0.127) |
| Jobs Act (CTC), Open-ended | | 749 |
| | | (0.000)*** |
| Incentive (PHI), Jobs Act (CTC), Open-ended | | 993 |
| Incentive (PHI), Open-ended | | (0.000)*** |
| Observations | 60 | 120 |
| R-squared | 0.853 | 0.882 |
| Increase in total flow (post/pre) | 103% | 63% |
| Estimated effect (contribution in percentage points): | | |
| Jobs Act | 34pp | |
| Incentives | | 35pp |
| Incentives*Jobs Act | | 26pp |
| R-squared | 0.853 | 0.882 |

OLS estimates. Robust p values in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. The dependent variable is the number of fixed term contract converted into open ended contracts in each cell level. Each cell is defined by the intersection of month (from January 2013 to June 2015), firm size (below/above 15 employees) and worker's eligibility to PHI. In the first column only the cells pertaining to non- eligible workers are considered.

Table A2: Hires (gross) with a permanent contract: firm-level estimates of the effect of the policies. Other coefficients not reported in Table 5, columns 1-3

| | (1) | (2) | (3) |
|---|---|---|---|
| Eligible, Apprentices | 0.003 | 0.005 | 0.004 |
| | [0.031]** | [0.003]*** | [0.007]*** |
| Jobs Act, Apprentices | | -0.019 | -0.016 |
| | | [0.000]*** | [0.000]*** |
| Eligible, Jobs Act, Apprentices | | | -0.007 |
| | | | [0.396] |
| Anticipating incentive, Apprentices | -0.007 | -0.007 | -0.006 |
| | [0.000]*** | [0.000]*** | [0.000]*** |
| Anticipating Jobs Act, Apprentices | | -0.01 | -0.01 |
| | | [0.141] | [0.134] |
| Eligible, St. Fixed Term | 0.044 | 0.042 | 0.041 |
| | [0.000]*** | [0.000]*** | [0.000]*** |
| Jobs Act, St. Fixed Term | | 0.027 | 0.021 |
| | | [0.022]** | [0.164] |
| Eligible, Jobs Act, St. Fixed Term | | | 0.013 |
| | | | [0.583] |
| Anticipating incentive, St. Fixed Term | 0.001 | 0 | 0 |
| | [0.802] | [0.993] | [0.982] |
| Anticipating Jobs Act, St. Fixed Term | | 0.044 | 0.044 |
| | | [0.133] | [0.133] |
| Eligible, Agency | -0.006 | -0.006 | -0.008 |
| | [0.000]*** | [0.000]*** | [0.000]*** |
| Jobs Act, Agency | | 0.009 | -0.013 |
| | | [0.180] | [0.000]*** |
| Eligible, Jobs Act, Agency | | | 0.045 |
| | | | [0.001]*** |
| Anticipating incentive, Agency | -0.01 | -0.01 | -0.01 |
| | [0.000]*** | [0.000]*** | [0.000]*** |
| Anticipating Jobs Act, Agency | | -0.001 | -0.001 |
| | | [0.820] | [0.830] |
| Eligible, Collaborator | -0.007 | -0.006 | -0.006 |
| | [0.000]*** | [0.000]*** | [0.000]*** |
| Jobs Act, Collaborator | | -0.017 | -0.016 |
| | | [0.000]*** | [0.000]*** |
| Eligible, Jobs Act, Collaborator | | | -0.003 |
| | | | [0.745] |
| Anticipating incentive, Collaborator | -0.01 | -0.01 | -0.01 |
| | [0.000]*** | [0.000]*** | [0.000]*** |
| Anticipating Jobs Act, Collaborator | | -0.012 | -0.012 |
| | | [0.014]** | [0.013]** |
| Eligible, Intern | 0.012 | 0.012 | 0.01 |
| | [0.000]*** | [0.000]*** | [0.000]*** |
| Jobs Act, Intern | | 0.005 | -0.019 |
| | | [0.580] | [0.000]*** |
| Eligible, Jobs Act, Intern | | | 0.049 |
| | | | [0.009]*** |
| Anticipating incentive, Intern | 0.005 | 0.005 | 0.005 |
| | [0.011]** | [0.010]** | [0.011]** |
| Anticipating Jobs Act, Intern | | -0.001 | -0.001 |
| | | [0.941] | [0.950] |
| Constant | 0.008 | 0.008 | 0.009 |
| | [0.000]*** | [0.000]*** | [0.000]*** |
| Observations | 1,865,880 | 1,865,880 | 1,865,880 |
| R-squared | 0.015 | 0.015 | 0.015 |

Table A3: Hires (gross) with a permanent contract: firm-level estimates of the effect of the policies: Other coefficients not reported in Table 3, columns 4-5

| | (1) | (2) |
|---|---|---|
| Eligible, Apprentices | -0.002 | -0.001 |
| | [0.000]*** | [0.008]*** |
| Eligible, St. Fixed Term | 0.011 | 0.011 |
| | [0.000]*** | [0.000]*** |
| Eligible, Agency | -0.001 | -0.002 |
| | [0.004]*** | [0.000]*** |
| Eligible, Collaborator | -0.005 | -0.005 |
| | [0.000]*** | [0.000]*** |
| Eligible, Intern | 0.012 | 0.011 |
| | [0.000]*** | [0.000]*** |
| Known, eligible, Open-ended | 0.007 | 0.008 |
| | [0.000]*** | [0.000]*** |
| Known, eligible, Apprentices | 0.005 | 0.005 |
| | [0.000]*** | [0.000]*** |
| Known, eligible, St. Fixed Term | 0.004 | 0.005 |
| | [0.001]*** | [0.000]*** |
| Known, eligible, Agency | -0.001 | -0.001 |
| | [0.008]*** | [0.132] |
| Known, eligible, Collaborator | 0.006 | 0.006 |
| | [0.000]*** | [0.000]*** |
| Known, eligible, Intern | -0.016 | -0.016 |
| | [0.000]*** | [0.000]*** |
| Anticipating incentive, Open-ended | -0.004 | -0.004 |
| | [0.000]*** | [0.000]*** |
| Anticipating incentive, Apprentices | -0.002 | -0.002 |
| | [0.000]*** | [0.000]*** |
| Anticipating incentive, St. Fixed Term | 0 | 0 |
| | [0.698] | [0.876] |
| Anticipating incentive, Agency | -0.003 | -0.003 |
| | [0.000]*** | [0.000]*** |
| Anticipating incentive, Collaborator | -0.003 | -0.003 |
| | [0.000]*** | [0.000]*** |
| Anticipating incentive, Intern | 0.002 | 0.002 |
| | [0.000]*** | [0.000]*** |
| Jobs Act, Apprentices | | -0.004 |
| | | [0.000]*** |
| Jobs Act, St. Fixed Term | | 0.009 |
| | | [0.000]*** |
| Jobs Act, Agency | | 0.007 |
| | | [0.000]*** |
| Jobs Act, Collaborator | | -0.002 |
| | | [0.007]*** |
| Jobs Act, Intern | | 0.002 |
| | | [0.210] |
| Known, Jobs Act, Open-ended | | -0.008 |
| | | [0.000]*** |
| Known, Jobs Act, Apprentices | | 0.002 |
| | | [0.074]* |
| Known, Jobs Act, St. Fixed Term | | -0.018 |
| | | [0.000]*** |
| Known, Jobs Act, Agency | | -0.008 |
| | | [0.000]*** |
| Known, Jobs Act, Collaborator | | -0.001 |
| | | [0.278] |
| Known, Jobs Act, Intern | | -0.002 |
| | | [0.261] |
| Anticipating Jobs Act, Open-ended | | 0.003 |
| | | [0.017]** |
| Anticipating Jobs Act, Apprentices | | -0.001 |
| | | [0.172] |
| Anticipating Jobs Act, St. Fixed Term | | 0.005 |
| | | [0.015]** |
| Anticipating Jobs Act, Agency | | 0.001 |
| | | [0.053]* |
| Anticipating Jobs Act, Collaborator | | -0.001 |
| | | [0.151] |
| Anticipating Jobs Act, Intern | | 0 |
| | | [0.756] |
| Constant | 0.004 | 0.004 |
| | [0.000]*** | [0.000]*** |
| R-squared | 0.009 | 0.009 |

Table A4: Permanent contract net job creation: firm-level estimates of the effect of the policies: Other coefficients not reported in Table 6

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Eligible, Apprentices | 0.005 | 0.005 | 0.006 | -0.002 |
| | [0.004]*** | [0.002]*** | [0.001]*** | [0.000]*** |
| Jobs Act, Apprentices | | -0.016 | -0.011 | -0.004 |
| | | [0.000]*** | [0.002]*** | |
| Eligible, Jobs Act, Apprentices | | | -0.01 | 0.003 |
| | | | [0.243] | [0.270] |
| Anticipating incentive, Apprentices | 0 | 0 | 0 | 0.002 |
| | [0.971] | [0.996] | [0.988] | [0.001]*** |
| Anticipating Jobs Act, Apprentices | | -0.002 | -0.002 | 0.01 |
| | | [0.818] | [0.812] | [0.456] |
| Eligible, St. Fixed Term | 0.027 | 0.027 | 0.027 | -0.001 |
| | [0.000]*** | [0.000]*** | [0.000]*** | [0.184] |
| Jobs Act, St. Fixed Term | | 0.006 | 0.021 | -0.016 |
| | | [0.650] | [0.151] | [0.492] |
| Eligible, Jobs Act, St. Fixed Term | | | -0.031 | 0.011 |
| | | | [0.231] | [0.661] |
| Anticipating incentive, St. Fixed Term | -0.059 | -0.059 | -0.059 | -0.002 |
| | [0.000]*** | [0.000]*** | [0.000]*** | [0.097]* |
| Anticipating Jobs Act, St. Fixed Term | | -0.015 | -0.015 | 0.007 |
| | | [0.655] | [0.652] | [0.598] |
| Eligible, Agency | -0.007 | -0.005 | -0.004 | -0.001 |
| | [0.089]* | [0.075]* | [0.008]*** | [0.008]*** |
| Jobs Act, Agency | | -0.042 | -0.024 | -0.005 |
| | | [0.230] | [0.100] | |
| Eligible, Jobs Act, Agency | | | -0.038 | 0.009 |
| | | | [0.596] | |
| Anticipating incentive, Agency | -0.005 | -0.005 | -0.005 | 0.001 |
| | [0.010]*** | [0.008]*** | [0.009]*** | [0.001]*** |
| Anticipating Jobs Act, Agency | | -0.012 | -0.012 | -0.002 |
| | | [0.269] | [0.260] | [0.359] |
| Eligible, Collaborator | -0.004 | -0.004 | -0.003 | -0.001 |
| | [0.014]** | [0.036]** | [0.040]** | [0.000]*** |
| Jobs Act, Collaborator | | -0.014 | -0.012 | -0.003 |
| | | [0.008]*** | [0.000]*** | |
| Eligible, Jobs Act, Collaborator | | | -0.005 | 0 |
| | | | [0.641] | [0.992] |
| Anticipating incentive, Collaborator | -0.014 | -0.013 | -0.013 | 0 |
| | [0.000]*** | [0.000]*** | [0.000]*** | [0.554] |
| Anticipating Jobs Act, Collaborator | | -0.028 | -0.028 | -0.007 |
| | | [0.095]* | [0.094]* | [0.122] |
| Eligible, Intern | 0 | -0.001 | -0.001 | 0.002 |
| | [0.876] | [0.796] | [0.570] | [0.000]*** |
| Jobs Act, Intern | | 0 | -0.011 | -0.004 |
| | | [0.966] | [0.000]*** | |
| Eligible, Jobs Act, Intern | | | 0.021 | 0.004 |
| | | | [0.339] | |
| Anticipating incentive, Intern | 0.001 | 0.001 | 0.001 | 0 |
| | [0.786] | [0.726] | [0.741] | [0.741] |
| Anticipating Jobs Act, Intern | | -0.011 | -0.011 | -0.002 |
| | | [0.382] | [0.386] | [0.412] |
| Constant | 0.01 | 0.01 | 0.01 | 0.006 |
| | [0.000]*** | [0.000]*** | [0.000]*** | [0.000]*** |
| Observations | 1,865,880 | 1,865,880 | 1,865,880 | 10,400,00 |
| R-squared | 0.004 | 0.004 | 0.004 | 0.004 |