

The use of permanent contracts across Spanish regions: Do regional wage subsidies work?

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Abstract

This paper concerns the evaluation of regional wage subsidies designed to foster the creation of permanent jobs in the Spanish economy since 1997. Since we have longitudinal data we apply a difference-in-differences estimator to identify the average effect of the treatment for this policy. We estimate the incidence of this policy over the transition rate to a permanent employment for unemployed and temporary workers using a new database derived from the Social Security Records. In average, this policy has positive effects on the transition rate to permanent employment either from a temporary contract or from unemployment. Nevertheless the incidence is larger when the worker is unemployed. We also find that the magnitude of the effect is small. For instance, when the wage subsidy increases from 3000 € to 6000, the transition rate to a Permanent Contract increases two percentage points, at most.

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1 Introduction

During the 1990s, Spain has faced several labor market reforms aimed at reducing the presence of fixed-term contracts among employees. However, the use of these contracts has only experienced a small decrease and Spain continues being the European country with the highest rate of temporary or fixed-term contracts in Europe. When the labor market is characterized by excess of supply, the use of temporary employment must be related to the demand side of the market. In fact, empirical evidence shows that temporary contracts are related to lower wages. Hence, the current extensive use of fixed-term contracts is basically due to the firm's desire of reducing total labor costs. Given that permanent contracts are associated with larger firing costs, it seems Spanish firms use temporary contracts to reduce labor costs and to face economic uncertainty. Furthermore, García-Pérez and Rebollo (2005) show how the behavior of unit labor costs is an important determinant in the use of temporary contracts across Spanish regions, especially in those where the level of education of the labor force is lower and the share of small firms is larger.

During the second half of the 1970s and the first years of the 1980s, Spain had one of the tightest labor markets in all Europe and its rate of unemployment was one of the highest in the OECD. This led Spanish policy makers to implement flexibility measures like the well-known 1984 labor market reform. The flexibilization strategy implemented at that time is a paradigmatic example of what has been called two-tier selective labor market policies. Broadly speaking, the reform of 1984 consisted of introducing the possibility of hiring workers on flexible, fixed-duration contracts. The objective was to foster job creation in order to reduce the already high rate of unemployment. As a result of this reform, temporary contracts rose from 18% in 1987 to 33% in 1994 and this rapid increase positioned Spain as the European country with the highest temporality rate. In 1994, 1997 and 2001 there were new changes in the regulation of the labor market aimed at reducing the scope for using fixed-term contracts by reducing the firing costs for new permanent employees¹. However these institutional reforms have hardly decreased the use of fixed-term contracts as the temporary employment rate was still almost three times higher than the European average in 2004.

Together with these institutional reforms, since 1997, the Spanish government has subsidized the creation of permanent contracts by, in some cases, large discounts of firm's payroll taxes. Hence, each month the firm obtains a reduction in total labor costs for these new permanent employees. Additionally, during the same period, some regions implemented wage subsidies for new permanent contracts. These subsidies are paid only at the beginning of each new permanent contract and, in some regions, they also depend on some eligibility conditions based on individual characteristics, basically age and gender, while in others they affect to any unemployed or temporary worker. In this context, Spain has become the OECD country with

¹ In the reform of 1997 a new permanent contract was designed. The main differential characteristic of this new contract was its lower firing costs. Nevertheless, it was aimed at certain population groups, mainly long term unemployed and young workers.

the highest percentage of GDP, 0.28% in the period 1999-2002, devoted to subsidy regular employment. Hence, this is an important policy that, at least potentially, has affected many Spanish workers. As such, a rigorous evaluation of the program may lead to insights regarding the benefits of this policy.

The main objective of this paper is to evaluate the effectiveness of these regional wage subsidies to foster permanent employment. We take advantage from the eligibility rules of these subsidies that vary across individuals, regions and time in order to identify the policy effects. Besides, the variation of the permanent employment rate among Spanish regions is somehow large and it differs from the variability found in regional wage subsidies: meanwhile the Southern regions show rates of permanent employment lower than 60%, in regions as Madrid or La Rioja these rates are basically similar to the European standards. Hence, as it happens with unemployment, the South of Spain concentrates a larger fraction of temporary contracts than in the rest of the country. At the same time, regions with a low rate of temporary employment also has implemented wage subsidies on new permanent contracts such as Madrid or Navarra.

In order to evaluate the effectiveness of these regional wage subsidies we study the effect of regional wage subsidies over the transition rate towards permanent employment, both from unemployment or a temporary contract, and over the exit rate from a permanent employment. Since we have longitudinal data, and given the characteristics of the policy to be analyzed, we consider that the best approach to study the effect of the policy is the difference-in-differences estimator (DID, hereafter). In order to gain homogeneity between treated and non-treated workers we analyze the incidence of wage subsidies by gender and age. In all cases we follow a competing risk approach. Firstly, we study the transition rate from a temporary to a permanent contract considering also the alternatives of unemployment and other temporary contract. Secondly we examine the transition rate from unemployment to a permanent contract taking into account the alternative of other temporary contract. And thirdly we estimate the exit rate from a permanent employment with the alternatives of unemployment, temporary contract and other permanent one.

Two alternative specifications of the policy variable are considered in each case. In one side, we define our policy variable as a dummy indicator that takes value one when the worker is eligible and zero otherwise. On the other side, the policy variable is a continuous variable that represent the maximum amount of the wage subsidy offered for the eligible individual. This second specification has certain advantages. Firstly, we gain variability in our policy variable. Secondly, we can test whether we should increase the amount of the wage subsidy to get a larger drop in the use of temporary contracts. In all cases, we test for the effects of unobserved heterogeneity on the policy variable. We use a new administrative database obtained from the social security records (*Muestra Continua de Vidas Laborales*) where we have available the whole labor history of the worker. The analysis covers the period 1995-2004 since the information on the type of contract previous to 1995 is not available for all workers.

Our main result is that the incidence of these regional wage subsidies is positive and larger when the worker comes from unemployment than when he is in a temporary contract. We also find that the incidence of the policy is larger for old male workers and young and medium aged women. Nevertheless, the magnitude of the effect is low in any case. For instance, the probability of entering into a permanent contract when the wage subsidy grows from 3000 to 6000 euros per contract, is two percentage points at most. Therefore, we conclude that the labor demand by type of contract hardly varies with wage subsidies on new permanent contracts. This low elasticity of the demand for new permanent contract to wage subsidies do not seem to be related with the temporary nature of the new vacancies since this low effect is also found when we restrict the analysis to workers who state in the same firm.

The rest of the paper is organized as follows. First, we will briefly review previous research on the use of temporary contracts, emphasizing those focused on the Spanish case. In the third section we describe the data used and the main characteristics of the regional wage subsidies. Sections fourth and fifth describe the econometric approaches used and the main results. Finally, section six presents our preliminary conclusions.

2 Background

The introduction of fixed-term contracts in Spain was based on the argument that by reducing firing costs, total labor costs could decline and subsequently they would encourage job creation. However, the experience has shown that it cannot be taken for granted that the liberalization of the labor market through the use of temporary contracts improves the functioning of the labor market, so far. Some previous works pointed out (Bentolila and Dolado, 1994; Saint Paul, 1996) that the role of fixed-term contracts seems to be unclear in terms of fostering employment creation and promoting regular employment. It is generally concluded that the introduction of this type of contracts is equivalent to a reduction in firing costs² and its impact on unemployment is therefore ambiguous. As Bentolila and Saint Paul (1992) show, using a model specially designed to analyze the macroeconomic implications of fixed-term employment, this type of contract has mainly contributed to increase the cyclical elasticity of employment. Among more recent theoretical models we find the work of Cahuc (2001). He assumes that firms can create both permanent and temporary jobs and they may convert a certain share of the latter to permanent contracts at their expiration. He concludes “a more flexible regulation on fixed-term contracts may actually destroy jobs, increase unemployment and reduce aggregate welfare, especially when firing costs are high”. The intuition of this result is that the higher the firing costs of permanent contracts, the lower the share of temporary jobs transformed into permanent jobs, because large firing costs are an incentive for the employer to use temporary jobs in sequence rather than converting them to long-term contracts, which are subject to firing costs. As a consequence, the use of temporary contracts is more likely to raise unemployment

² After the reform of 1997, fixed term contracts terminate at a lower costs as the severance payments is 12 days for year worked while for indefinite contracts is 45 or 20 days for year worked, depending on the type of layoff.

and labor turnover when it comes on a labor market already regulated by stringent permanent job security provision.

Other branch of the literature has focused on the study of the determinants of the equilibrium rate of permanent to temporary employment. This point is important to evaluate whether the current rate of temporary employment is mainly driven by short or long terms factors and evidently must be considered for any policy aimed at reducing the use of temporary contracts. One important result of this literature is the correlation of the permanent employment rate with labor productivity and/or total labor costs. To illustrate this relation, dynamic models of labor demand seems to be a good choice. For instance, Dolado, Garcia-Serrano and Jimeno (2002) use a basic dynamic model to argue that the equilibrium ratio of temporary to permanent employees is determined by the ratio among unit labor costs³ under each of those contracts, the elasticity of substitution between temporary and permanent workers, the volatility of labor demand along the business cycle and the average growth rate. Wasmer (1999) extends the matching framework of Pissarides' Equilibrium Unemployment Theory and proves that macroeconomic factors such as productivity growth and labor force growth have an impact on the relative demand for temporary contracts, beyond the need for flexibility from workers at the microeconomic level. He shows that firms will face a trade-off between paying high turnover costs and having stable workers, or paying low turnover costs but being more frequently engaged in a search process. In this context, higher productivity means higher expected profits, which induces further hiring today, since hiring costs indexed on productivity growth are lower if paid today. This is called the *capitalization effect* of growth and implies that when productivity growth is high, firms want to retain workers by offering them long-term contracts. This author evaluates the relative importance of productivity growth and shows that when this growth rate declines from 4% to 0% the share of short-term jobs increases⁴ from 0.5% to 10%.

In this framework we also want to point out the studies of Blanchard and Landier (2002) and Kugler, Jimeno and Hernanz (2003) since they analyze the effectiveness of a labor market reform consisting in a reduction of firing costs to reduce the share of temporary workers. Interestingly, Blanchard and Landier (2002) show that in countries with little employment protection, such as United States and United Kingdom, the proportion of the workforce on fixed term contracts has been relatively low and fairly stable while in countries characterized by high levels of employment protection, such as Spain, France and Italy, the proportion of temporary workers has doubled during the 1990s. Kugler, Jimeno and Hernanz (2003) develop a simple dynamic matching model similar to Blanchard and Landier (2002) but they endogenize dismissals and introduce payroll taxes, in order to analyze the Spanish labor market reform of 1997. In their model the demand for permanent and temporary employment depends on two productivity thresholds that depend, among other things, on dismissal costs and payroll taxes and given the values of the two productivity thresholds they can derive the steady-state values

³ They distinguish three components within the concept of labour costs: the wage, the firing cost and the hiring costs.

⁴ Following a similar argument, Holmlund and Storrie (2002) conclude that the rapid growth rate of temporary employment in Sweden is more related to adverse macroeconomic shocks than to institutional labor reforms.

of temporary and permanent employment⁵. Their model suggests that a reduction in dismissal costs for permanent workers increases hiring and firing and therefore has an ambiguous effect on unemployment. On the contrary, a reduction in firing costs for permanent contracts increases the rate of conversions from temporary to permanent contracts and reduces wage differentials. Their empirical results suggest that the reform increased permanent employment probabilities for young relative to middle-aged workers. They also show increases in the relative transitions from non-employment to permanent employment for young and older men and from temporary to permanent employment for young men and women after the reform. The reason why this reform mainly affected to young workers is that the reduction in dismissal costs and payroll taxes increased both hiring and dismissals for older men, though had a positive effect on the hiring margin of young workers with little effect on dismissals. They estimate the elasticity of permanent employment to non-wage labor costs and they find a fairly elastic response of permanent employment to non-wage labor costs for younger workers, for whom the payroll tax reduction was relatively more important.

Summarizing, the achievement of labor market flexibility through the expansion of fixed-term contracts has not been as successful as was initially expected, since it has also brought about efficiency and equity costs. Theoretical models show that labor productivity and total labor costs influence the equilibrium rate of permanent employment. Hence, from this theoretical model one would conclude that short-term labor market policies will not be as effective as long term ones, specially when the high rate of temporary employment is considered to be related to equilibrium variables. From this perspective, temporary labor market policies such as wages subsidies on new permanent contracts will only be partially effective in lowering the high rate of temporary employment.

3 Data Description

3.1 Social Security Records

We use a new dataset recently available in Spain which is named “*Muestra Continua de Vidas Laborales*”. This is an administrative dataset based on a random draw from the Social Security archives. It contains a sample of 4% among all the affiliated workers, working or not, and pensioners in the year 2004. It has information about 1,1 million people which covers their entire labor history. The amount of information for each individual in our database is quite large.⁶ There exists one different register for each contract held and this makes every change in the contract to need a different register although the employment spell is the same. Hence, we have applied some criteria to unify different registers when they refer to the same employment

⁵ As far as we know only the paper of Kugler, Jimeno and Hernanz (2003) -theoretically and empirically- directly relates the rate of permanent employment to labour costs when they examine the effects of the Spanish reform of 1997 on permanent employment.

⁶ We have first eliminated each incomplete or incorrect register. This may happen because some important information is missing or because it is clearly incorrect (dates of beginning and finishing incompatible, etc.)

spell⁷ or to eliminate simultaneous employment spells, that is when the individual is working with two firms at the same time (we keep only the information about the longer spell). Furthermore, we have also unified each two registers when they correspond to one contract that begins before the previous one has finished.

Finally, we are only considering labor histories of workers within the called “Regimen General”, that is, regular workers being paid by a firm. We are not using information for self-employed and either for workers in Agriculture, Fish and other minor special cases. Given the problem of too much missing information regarding the type of the contract for the spells before 1995, we will only study the employment spells (and non-employment spells), beginning after the end of 1994.

This database offers information about the personal characteristics of the worker and also about all her employment spells throughout her labor history. We have information about age, gender, occupation, unemployment and employment spells and their respective exact durations. This last issue is especially relevant given the aim of the paper. Other databases only gather annual information and therefore individual labor market transitions along a year are not available giving rise to an under-representation of short-term temporary contracts. The duration of the employment spells are built from the dates of beginning and ending the contract and it is measured in months.⁸ Moreover, for the periods of non-employment, we can distinguish among the ones when the payroll taxes are being paid, that is, when the worker is receiving Unemployment Benefits, and those when the worker contributions to Social Security is not paid, which can be both periods of unemployment without benefits or periods of inactivity. Hence, we use the terminology non-employment to name all these spells of not working within a firm. Other interesting characteristic of this database is that each firm has an authentication code. This last aspect is fundamental since it allows identifying if the worker remains in the same firm after changing the contract. Finally, since the complete labour trajectory of each worker is known, this database does not suffer from the typical problem of left censored related to the lack of information of previous labour market experiences to the analyzed one.

We have also available the reasons for each contract ending, the geographical location of the job, the firm’s sector of activity, the type of contract held and whether the contract was signed with a temporary help agency for each spell of employment. Moreover, we have exact information about wages, measured as the “base de cotización” (contribution base) which coincides with the monthly wage for all workers that earn more than the minimum base and less than the maximum one. These two limits are annually decided by Social Security authorities and make the wage to be censored in cases where it is outside these limits.

⁷ It is also quite usual in the Spanish labor market that some firms optimize their labor costs by the mean of firing the workers in periods of not working and hiring them again after that. Hence, the employment spell is continuing although it has a short interruption in the middle. Hence, we are unifying successive registers when they correspond to the same worker in the same firm and when the interruption is lower than 15 days.

⁸ We are not considering employment spell durations lower than 15 days in the case that the subsequent period of non-employment is also lower than 15 days in order not to study just very short spells due to reallocation or strong turnover within the firm. Moreover, we are neither studying non-employment spells of less than 30 days. The reason is basically the same: we consider that, given the characteristics of the Spanish labor market, a transition between two jobs with a period of non-employment of less than one month is basically a direct job-to-job transition.

We define two types of transitions from employment: a direct job-to-job transition which occurs when the non-employment in between the two jobs is lower than 15 days and an exit from employment to unemployment which happens whenever the non-employment spell is larger than 15 days. We will also distinguish, among the job-to-job transitions, the ones which end in a permanent contract from those that ends in another temporary contract. The definition of a temporary contract is a relevant issue. Guell and Petrolongo (2004) and Booth, Francesconi and Frank (2001, 2002) use a broad definition of a temporary contract⁹. We follow the same approach and within the concept of temporary contract we include the following categories: fixed term, specific task, training, contract for circumstances of production, internship contract and replacement.

Given our sample selection criteria we end up with 341312 and 214459 unemployment spells for women and men, respectively and with 173482 and 214459 spells of temporary contracts. Sample size and main sample characteristics by gender for unemployed and temporary workers are displayed in Tables 1 and 2. We can observe that low qualified and part-time workers, immigrants, and workers in the services and construction sector show lower probabilities of entering into a permanent contract. In Tables 3 and 4 we show the relation between the type of transition and the duration of the unemployment spell in the first case, and the duration of the temporary contract in the second case. The information shown in both tables put forward the existence of a high turnover rate. With respect unemployment duration we can observe that more than 70% of the sample consists of spells shorter than six months. Spells that end up into a temporary contract tend to have shorter durations than those spells ending up into a permanent one. In relation to the duration of the temporary contract we again observe that the sample is mainly composed by short term temporary contracts. More than 70% of them length less than six months, and in the case of the women this share is even higher and reaches a minimum of 80%. We also observe that the probability of having another temporary contract is larger for short-term temporary contracts.

3.2 Empirical Transitions Rates to a Permanent Contract from Unemployment and from a Temporary Contract

We start off displaying in Figure 1 the behaviour of the exit probability to a permanent contract –conditional on ending the current spell-, from unemployment and from a temporary contract by gender during the period 1994-2004. The first remarkably fact is that the transition rate to a permanent contract is much larger from the unemployment state¹⁰ than from a temporary contract. This situation remains during the whole period and therefore it seems independent

⁹ For instance, in Casquel and Cunyat (2005) some type of contract such as internship contract are not considered.

¹⁰ This difference can be related to national policies. For instance, with the reform of 1992 the national government established certain economic incentives to foster permanent employment. These incentives were addressed to long-term unemployed workers. In the reform of the year 1997 we find again different incentives depending on the labor state of the worker. For instance the new permanent contract was addressed to certain type of temporary workers (ej. young workers between 18-29 and older than 45 or with a new temporary contract longer than a year) and for all long term unemployed workers. In this reform there were also discounts of the payroll tax when a firm transforms a temporary to a permanent contract. Interestingly in 2001 the new permanent contract was generalized to new groups of workers.

from the national and regional labour market policies that began in 1997. Interestingly, the probability of getting into a permanent contract starts increasing after the year 1996 and this growth is much larger from the unemployment state. For instance, the transition rate from unemployment to a permanent contract increases from 12% to 15% for women, and from 11.8% to 12.3% for men. Whereas the transition rate from a temporary to a permanent contract only increases from around 2.8% to 3%. Evidently, this growth in the transition rate should be related with the economic expansion that began in 1995 but it is also relevant to note that in 1997 there was an important labour market reform and national and regional active labour market policies to foster permanent contracts began. This higher trend remains until 2000 when the transition rate to a permanent contract move again backwards. This drop is especially larger from the unemployment state.

In Table 5 we display the transition rates to permanent contracts by regions so as to show the existence of an important variability of these rates across Spanish regions. For instance, we have regions such as Andalusia or Extremadura with the lowest transition rates to permanent contracts. In the opposite side we must mention regions such as Madrid, la Rioja o Cataluña whose transition rates almost double the ones found for Andalusia and Extremadura. When we relate this information with the intensity of regional wage subsidies we can observe that there is not a clear relationship between these two variables.

In Tables 6 and 7 we display the transition rates from unemployment and from a temporary contract by age and gender. These transition rates ratify the high turnover level that seems to characterise the behaviour of the labour market for the Spanish economy independently of the age and gender of the worker. We can observe that the main destination state after unemployment is a temporary contract. Meanwhile, after a temporary contract the most probable option is to exit to unemployment. Thus, only around 13% of women and 11% of men enter into a permanent contract after an unemployment spell and around 2.6% of women and 2.3% of men enter into a permanent contract after a temporary one. Interestingly, the exit rate to a permanent contract is slightly higher for women. Since regional wage subsidies tend to be larger for women –as we will show later on–, we can wonder whether these differences by gender can be related to these regional policies. Moreover, there are also some differences by age groups. For instance, young workers have more chances to enter into a permanent contract independently of their initial labour state. Thus, the transition rates to permanent contract from unemployment are 14% and 12% for female and male workers respectively and 2.7% and 2.6% from a temporary contract. Meanwhile, old workers have lower transition rates to permanent contracts. They are 13.4% and 11.3% when unemployed and 2.3% and 2.2% when they are employed with a temporary contract.

3.3 Regional Wage Subsidies

Wage subsidies on new permanent contracts are an initiative that several Spanish regions established since 1997 when the national government implemented important discounts in

firm's payroll taxes on new permanent contracts. While this last policy is common for all Spanish workers and it has remained constant, regional wage subsidies have varied between and within regions and along time in two dimensions: i) the eligibility conditions: ii) amount of subsidies during the period 1997-2004. Wage subsidies show regional and time variation in eligibility rules mainly based on the individual characteristics of the worker such as age and gender¹¹. This fact allows us to examine the response of different group of individuals to the change in incentives. For example, some regions offer these subsidies only for women whereas others restrict their use just for young workers.

One of the main characteristics of the policy we are analyzing is that the firm that hires the worker must apply for the subsidy to receive it. Given the way the data is collected, we can not observe who has effectively been benefited from the policy. Therefore, our treatment groups are those workers who fulfill the eligibility criteria. Given this definition of treated groups it is important to highlight that our analysis tries to measure the potential impact of regional wage subsidies over the creation of new permanent contracts. That is, it is possible that workers considered as potentially treated are not effectively treated by this policy and therefore this analysis could overestimate the incidence of the wage subsidies over the transition rate to a permanent contract. Nevertheless, since this subsidy implies a drop in total labor costs for the firm, it is plausible to assume that the firm will apply for it when the eligibility conditions are fulfilled.

The data is taken from each regional government and it only covers wage subsidies at the regional level¹². The main characteristics of these wage subsidies are described in Tables 9, 10 and 11. As it is shown in Table 9, this policy was implemented since 1997 in some regions, whereas in others it was implemented afterwards or never, as in Cataluña¹³. Table 9 also shows that the eligibility conditions vary notably among regions and time. We find regions as Andalusia where the policy applies to all workers while other focus this policy on certain group of workers such as women or young workers. If we combine the information provided by this Table 9 with the one presented in Table 5 we can observe that there is not a clear relationship between the transition rate to a permanent contract and the existence and importance of regional wage subsidies.

Besides we are also interested in measuring whether the effectiveness of these wage subsidies depends on the amount of the subsidy. The idea is that the larger the amount of the subsidy the larger is the reduction in labor costs when the firm hires a permanent contract and the larger should be the incidence of the policy on the rate of permanent employment. That is, it could be that the policy does not foster permanent contract because the wage subsidy does not

¹¹ The eligibility conditions of the regional wage subsidies may also depend on other variables such as the labour state of the worker or certain characteristics of the firm such as the type of activity. For instance, in some regions the wage subsidies are addressed for workers in temporary contracts while in others they are also extended to unemployed workers. Nevertheless, we have finally opted to consider only eligibility conditions based on age and gender.

¹² It could be that some local governments also offer wage subsidies or any other kind of public subsidy to foster permanent contracts.

¹³ Before 1997 we can find regional policies to foster employment for specific group of workers. Those regional policies are not specifically designed to foster permanent employment and therefore they are not considered in this analysis.

significantly cover the larger labor costs related to the new permanent contract. In Tables 10 and 11 we characterized the amount of regional wage subsidies by region and individual characteristics. Again, we can observe that this strongly varies between personal characteristics and regions. Therefore, we will use this additional source of variability to identify the average effect of the policy over the transition rate to a permanent contract. We face one shortcoming with this type of information that it is important to mention. The data available refers to the maximum wage subsidy the firm can receive per contract and year. Initially it seems more reasonable to use the minimum wage subsidy but in many cases the information available fixes this minimum at zero. The use of the maximum wage subsidy implies that our results measure the maximum incidence of the subsidy.

The average subsidy for each region, in 2002 Euros, is shown in Table 11, with their minimum and maximum amount. This ratio represents around 9% of the regional gross annual wage in Balears, the region with the lowest subsidy, and more than 60% in Extremadura, one of the regions with less permanent contracts. In Table 11 we display the subsidy by age and gender. The subsidy is clearly larger for women and older workers, whereas it is the lowest for young workers.

4 The Empirical Approach: Identification and Estimation Method

We want to measure the causal effect of these regional wage subsidies over the flow to a PC either from a TC or from U. For this exercise we will estimate two duration models but following a multiple risk approach to avoid the biases related to single risk models. Therefore, we estimate the transition from a TC considering that the worker can move to U, other TC or to a PC. With the same approach we estimate the transition from U considering that the worker can move to a TC or to a PC.

Given that the Social Security records offer the duration of the spells of employment and unemployment on a monthly base the appropriate approach is to study the exit rate to a permanent employment as a discreet duration model. Moreover discreet time duration models allow specifying with enough flexibility the time dependence characteristics of the exit rate, as well as to incorporate in the analysis explanatory variables with temporary variability (Alison 1982). In addition, discreet duration models put in evidence the narrow existing correspondence between duration and discreet choice models.

As it is traditional in the literature of duration models the objective function is to estimate the exit rate. For each individual we observe the duration in a determined state -duration of an episode of temporary contract or unemployment-, from $t=1$ up to k -month in which the individual changes of situation to any of the competing alternatives or remains in the same state. A common alternative to estimate the hazard rate consists of transforming the duration model in a sequence of discreet choice equations defined on the surviving population at each duration (Jenkins, 1995). In this case, we define a binary variable y_{ikj} , that takes value one when the

worker changes state at time “t” from k to state j , and zero otherwise. This expression has exactly the same form that the likelihood function of a discrete choice model where y_{jk} is the binary endogenous dependent variable, once we have rearranged the database so there are so many rows by individual as time intervals -months in this case-, in which the worker has remained in the initial situation (Allison, 1982; Jenkins, 1995).

We follow the approach proposed by Heckman and Singer to specify the heterogeneity term. We assume that each hazard rate has two support points. Besides, we allowed two types of individuals, so that each type is characterized by a unique set of points of support and the corresponding probability, π_m . The points of support and the associated probabilities are estimated jointly. Following McFadden and Train (2000) the likelihood function of a mixed multinomial logit is:

$$\ln L = \sum_{i=1}^N \sum_{j=1}^J y_{ij} * \ln(\Pi_{ij}) \quad (1)$$

where $y_{ij}=1$ if the worker changes to state j and zero otherwise. We also define the term Π_{ij} :

$$\Pi_j = \sum_{m=1}^M \pi_m P_j(t) \quad (2)$$

where m represents the points of support and π_m the corresponding probabilities.

Once we have described the econometric approach to estimate the transition rates from unemployment and from a temporary contract we move onto the description of our econometric approach to identify the treatment effect of these regional wage subsidies. Our approach is directly linked to the standard causal effects analysis. In particular, we follow a Difference-In-Differences (DID, hereafter) approach. The aim of the DID approach is to compare outcomes between similar groups of individuals before and after the treatment.

In this research, the treatment is the wage subsidy and the treatment group is composed of those potentially affected by the policy. Obviously, the control group¹⁴ are those workers who are not potentially affected by the wage subsidy. Thus, the individual, regional and time variability of the policy discussed in the previous section provides us with many sources of identification of the unbiased estimator of the policy effect. That is, we use similar workers in different regions and different workers in the same region as control groups.

There are two main identification assumptions maintained in this DID estimation. The first one is that, apart from the control variables, there are no other forces affecting treatment and control groups. In addition, the composition of the treatment and control group must remain stable

¹⁴ Good control groups will be those whose behaviour has evolved similarly to those of the group experiencing the policy change and who respond similarly to changes in the variables that derive policies to change. The appeal of the DID estimation comes from its simplicity as well as its potentiality to circumvent many of the endogeneity problems that typically arise when making comparisons between heterogeneous individuals (See Meyer 1995, for an overview).

overtime¹⁵. Therefore, to provide an unbiased estimate of the treatment effect, it must be the case that either –unobserved- time varying regional and individual variables did not change between the pre and post-treatment period or that they changed in an identical manner in the control and treatment group. One reason for these assumptions to be violated is the fact that individuals eligible for the wage subsidy could react to it in anticipation of the policy¹⁶. Nevertheless we consider that the strong variability in the eligibility conditions across regions and time and the use of regional and individual time varying covariates provides us with a control group that matches these two requirements. For instance, the anticipation of the policy could affect the results when the analysis cover a short period after the policy is implemented. In this context, one can argue that firms act strategically to get the highest reward from the policy. But this is not the case in this analysis since there are regions where the policy remains unchanged for several years. Therefore we consider that in this case the incidence of the anticipation effect on our estimations should not be relevant.

Moreover, much of the debate around the validity of a DID estimate typically revolves around the possible endogeneity of the interventions themselves (See Besley and Case, 2000)¹⁷. In this paper, as it is common in many panel data studies¹⁸, we will include a regional fixed effect to control for permanent differences across regions in policies and outcomes¹⁹.

We will analyze the incidence of the regional wage subsidies over the transition rate to a permanent contract from unemployment and from a temporary contract. Moreover, we will study the treatment effect of our policy by controlling for the three dimensions of variability in our policy measure: eligibility conditions, based on individual characteristics, region where the worker lives and time. Nevertheless, we are also concerned with the existence of substitution effects. Substitution effects occur if participants take some of the jobs that non-participants would have got in absence of the treatment. The wage subsidy can affect the individual probability of having a permanent contract in two ways. First, the firm that hires an eligible individual receives a wage subsidy when signing a new permanent contract that may enhance its probability of having a permanent contract. Second, some of the individuals who are not eligible might faced a drop in this probability. In this situation we would say that in average terms the policy has no effects when in reality it has. The extent to which this may happen will depend on a number of factors. If the wage subsidy just covers the deficit in productivity of unemployed or temporary workers we would not expect any substitution effect. The eligible workers are no cheaper than anyone else. Second, it will depend on the extent that these workers are substitutable in production for the existing ones and on the extent that it is easy to churn

¹⁵ These assumptions are discussed in detail in Blundell and MaCurdy (1999).

¹⁶ In our case this could apply when firms anticipate the policy.

¹⁷ Besley and Case (2000) show that the inclusion or exclusion of variables that determine both policy and behavioural outcomes dramatically alters the estimated impact of the policy when the identification strategy relies exclusively on regional variability. Their findings are a reminder that inadequate controls for time-varying regional level variables may bias estimates of the policy incidence identified from regional-level policy variation. They suggest that one way of dealing with these concerns is the DID approach. That is to try to identify the policy effect by selecting a control group of workers in the same industry or occupation in regions where the policy variable did not change, among regions thought to be similar to that whose policy has changed.

¹⁸ See Anderson and Meyer (1997), Gruber and Madrian (1997).

¹⁹ If the systematic determinants of state policies are additive, time invariant regional characteristics, then will indeed remove concerns about endogeneity.

workers, that is, to replace a worker finishing a permanent contract with a new subsidized worker. This latter point is important when the wage subsidy does not require keeping the worker for several years. Of course, if new permanent contracts are generally short, firms will be able to use subsidized workers instead of the non-subsidized ones, without extra effort. For instance, Cebrian and Toharia (2005) offer some evidence that this might be happened.

Other issue related to the definition of the comparison group is whether we can assume that the two groups of workers –treated and non treated-, are subject to the same aggregate labor market trends and react in the same way. Evidently, this assumption is more plausible when we split the sample by age and gender to the extent that the human capital of the two groups is similar and also preferences for work should be the same. Preferences for work between the eligible group in their early twenties and the eligible group in their middle thirties may, however, not be the same as this is the age that many people have children. This might generate differential aggregate trends across groups. So we also consider estimating the average treatment effect splitting the whole sample into subsamples by gender and age. This makes most likely that the overall characteristics and behavior of the control group match that of the treatment group. Such an approach is similar to the discontinuity design (Hahn, Todd and Van der Klauss, 1999). Nevertheless, the substitution effects are likely to be much more severe the closer are the productivity characteristics of the two groups. In the event of substitution, the impact of the program for the eligible group is biased upwards by the fact that the outcome for the control group is decreasing. To avoid this type of bias, we will include in the model a regional time varying dummy variable that takes value one when the worker lives in a region at the time the policy is implemented.

The general specification of the competing risk duration model we estimate is the following:

$$P\left(\frac{T_{ijt} = t}{T_{ijt} \geq t}\right) = F(\alpha_i x_{ijt} + \gamma_t z_{jt} + \beta_0 D_{ijt} + \beta_1 D_{ij} + \beta_2 D_j + \beta_3 D_t + \beta_4 D_{jt} + \beta_5 D_i + \beta_6 D_{it} + \varepsilon_{ijt}) \quad (3)$$

where i stands for individuals, j for regions and t for years; the matrix x_{ijt} contains covariates that vary among individuals and are mainly related to time varying personal and labor characteristics; z_{jt} stands for time varying covariates specific to the region where the individual works²⁰. These variables help to identify an unbiased estimate of the policy's effects as they adequately reflect the incidence of changes in other variables that are simultaneously influencing outcomes of the control and treated group under study. This idea is relevant since using individual and regional time varying covariates we extend identification to those instances

²⁰ Besley and Case (2000) shows that fixed effects models might also mislead the effect of the policy. In this context a potential source of bias is due to the presence of unobservable variables that may determine both the policy and the outcome of interest. In our case, it could be possible that some unobservable measure of pessimism about the region's potential for economic growth may influence both the existence and generosity of the policy and the type of contracts in a particular region. Therefore, the individual variability in the eligibility conditions within regions play an important role in this study.

in which observed compositional differences between treated and controls cause non-parallel dynamics in the outcome variable²¹.

The policy variable is D_{ijt} and takes value one when the worker i , located in region j at time t is living in a region with wage subsidies and she is eligible, and zero in other case. The rest of “ D ” variables help to identify an unbiased estimate of the average treatment effect of the policy:

- $D_j=1$ worker is located in a treated region
- $D_i=1$ Individual characteristics of the worker are eligible independent of being in a treated region
- $D_{ij}=1$ Worker belongs to the eligible group in a treated region
- $D_{jt}=1$ Worker is in a region that applies the wage subsidy at time t
- $D_j=1$ Worker is located in a treated region
- $D_{it}=1$ Worker has eligible characteristics at time t
- $D_t=1$ Policy is implemented at time “ t ”

Summarizing, the variables D_i , D_j and D_{ij} control for permanent differences between eligible workers, treated regions and eligible individuals within a region, respectively whereas, the variables D_{it} and D_{jt} controls for time varying regional and individual effects and it helps to identify the existence of substitution effects. Finally, D_t controls from common aggregate effects that could influence the outcome. Formally, the analysis should include all the variables pointed out above but given the characteristics of the policy we face with several restrictions. For instance, the effect of the covariates D_i and D_{it} can not be identified directly since they do not have variability across observations and time and therefore they can not be estimated separately from the constant. Nevertheless, we include in x_{ijt} covariates that determine the eligibility conditions, basically age and gender.

Therefore, the key issue from a policy point of view concerns the sign, size and significance of the estimated parameter β_0 that measures the true effect of the policy once we have control for all the covariates that could simulatenously affect the treatment and the outcome. The estimation of the policy incidence on the treatment group, β_0 , is estimated as the post-treatment change in outcome for the treatment group, after controlling for the mean change in outcomes observed pre and post-treatment and for the mean differences in outcomes between the treatment and the control group. The parameters β_1 and β_2 are the treatment group and region specific effects and

²¹ Under the *Conditional Independence Assumption* the selection of individuals is supposed to be made on observable characteristics and thus, conditioning on those variables, the potential outcomes and the treatment status are independent. Besides the DID also allows selection on time invariant unobservables.

they account for average permanent differences between the treatment and control group in the first case and between treated regions and non-treated region in the second case²². The parameter β_3 and β_4 show the existence of national and regional aggregate effects from the policy. If there is no general equilibrium effect we expect it to be non significant. This interpretation is always conditional to the consideration of regional and national economic cycle variables.

Finally ε_{ijt} is the error term whose composition is the following:

$$\varepsilon_{ijt} = \eta_i + \nu_{ijt} \quad (4)$$

where η_i describes unobserved time-invariant differences and ν_{ijt} the random error term of the model. We will assume that the random component ν_{ijt} is independent of both, the individual and region effects. Recall that one advantage of the DID approach is that it controls for unobserved time-invariant differences. Therefore the estimation of the parameter β_0 should be the same when estimating the model with and without unobserved heterogeneity. Nevertheless we opt to estimate the model with unobserved heterogeneity since this is relevant in the analysis of the duration dependence of the exit rate.

5 Results

In this section we deal with the incidence of regional wage subsidies over the transition rate to a permanent employment from unemployment and from a temporary contract. Moreover, since these regional policies might give rise to substitution effects between different types of workers we also study whether these regional policies affect the exit rate from permanent employment.

The sample used in the estimation includes all unemployed individuals and workers with a temporary contract aged 18-64 years. In all cases we also split the whole sample by gender and age in order to gain homogeneity between treated and non-treated individuals. We build three age groups: younger than 30 years old, aged between 30 and 45, older than 45 years old. Our specification also includes many personal and labor characteristics to control for differences between treated and non treated individuals that could affect the outcome under study such as *age, gender, wage category, firm size, new activity firm, layoff, full time job, sector of activity, same firm between two contracts*. Besides, we include the regional unemployment rate and the national production growth rate to capture the impact of regional and macro shocks affecting the transition probability of getting a permanent job. The duration dependence of the exit probability is specified as two degree polynomial. Besides since the empirical hazards shows spikes at certain durations we include several dummy variables that control for these spikes. We

²² The inclusion of these variables comes from the fact that we are not working with a truly randomised experiment. Note that in a randomised experiment, where subjects are randomly selected into treatment and control groups, β_i should be zero, as both groups should be nearly identical.

also control whether the worker has a short term contract and we build a dummy variable that takes value one when job tenure is shorter than three months.

In the case of workers with a temporary contract, wage subsidies only exist for the conversion of this contract into a permanent one. This restriction implies that workers directly hired by a temporary help agency can not be benefited from this policy unless they become unemployed. Therefore, to get a closer definition of a potentially treated worker we have estimated the model without considering workers through a temporary help agency in the case of the sample formed by workers with a temporary contract.

Given we have not only the information about whether the policy has been implemented or not but also the exact maximum amount of each subsidy in each region and for different personal characteristics, we will estimate two versions of equation (1). In the first one, the variable D_{ijt} will be a binary variable being equal to one for those workers potentially treated in the corresponding year and region. With this model we test whether the existence of the policy has any causal effect on the type of labor market transition experienced by the worker. Nevertheless, this model can offer incomplete information. For instance, we could get that the policy variable is not statistically significant or that the incidence is pretty low. This result could arise for two main reasons. Firstly, one can argue that the labor demand by type of contract is highly inelastic to wage subsidies. This situation can arise when jobs covered by fixed-term contracts are in fact of temporary nature. Secondly, it could be that the amount of the wage subsidy does not outweigh the gap of unit labor costs between permanent and temporary workers²³. Therefore, we estimate a second version of the previous model where the policy variable measures the maximum amount of the wage subsidy for each eligible individual. Furthermore, we will introduce the exact amount of the subsidy and its square term in order to capture any nonlinear pattern in the treatment effect. With this second model we can check whether the wage subsidy fosters permanent contracts and whether the amount of the wage subsidy is relevant to explain its effect. Moreover, we argue that with this second specification will take advantage of the additional variation in the quantities even within eligible individual groups, along time and across regions to estimate the response of eligible individuals to the change in incentives. This issue can be relevant when we estimate the model by age and gender –since our policy variable it also varies among these two dimensions-. From this point of view we consider that this second model captures better the causal effect of the wage subsidy over the transition rate to a permanent contract.

5.1.1 The Transition Rate from a Temporary Contract

We start presenting the results relative to the transition rate from a temporary to a permanent contract. Since we are estimating a competing risk model we obtain a specific vector of parameters for each alternative. Besides we have estimated two kind models and each one by

²³ The composition of labour demand by type of contract is highly related to the gap of unit labor costs between temporary and permanent contracts (García-Pérez and Rebollo, 2006). Unit labour costs depend positively on total labor costs and negatively on productivity. Temporary regional wage subsidies may compensate the lower productivity related to new matches.

age and gender and each model contain a large number of covariates. We have also estimated the model with and without unobserved heterogeneity. Therefore we have opted not to present all the results but just the most relevant ones. Anyway those results not presented will be provided upon request. We present the general results of Model II –the policy variable is the maximum amount of the wage subsidy-, for men and women in Tables 12 and 13 respectively. Since we did not find relevant differences on the policy parameter between the model without and with unobserved heterogeneity we show the results of the first case. The first idea to highlight is that the policy variable together with the rest of “D” covariates are statistically significant and differ between alternatives. This result supports the need to specify a competing risk model to correctly identify the effect of the wage subsidy over the transition rate to a permanent contract. Besides, it puts forward the fact that there are permanent and time varying differences between eligible workers and treated regions that the researcher must control for to get an unbiased estimate of the causal effect of the policy.

The analysis of the effect of regional wage subsidies over the transition rate to a permanent contract from a temporary one is based in subsequent Tables. In Tables 14 and 15 we present the results relative to the policy variable for models I and II respectively by gender. In Table 14 we show the value of the policy parameter, the t-statistic and the odd ratio of exiting to a permanent contract. These odd ratios are computed as the probability ratio of exiting to a permanent contract relative to the rest of alternatives. Therefore if it shows a positive sign it means that the probability of getting a permanent contract increases. Firstly, we can observe that there are differences by gender. The average duration of the temporary contract held by female eligible workers is larger than non-eligible ones. That is, since the estimated coefficient of the policy variable is negative and statistically significant –except for the alternative of a permanent contract-, the exit rate from a temporary contract of an eligible worker decreases. When we look at the odd ratios we can observe that the major incidence is over the transition rate to a permanent contract relative to a temporary one. This odd ratio increases by 38% while the others are lower in magnitude and negative. The results found for men temporary workers are similar but since the odd ratios are close to one, the magnitude of the effect seems to be irrelevant. Therefore, we can not affirm that wage subsidies have a significant effect on the labor market trajectory of workers with temporary contracts, especially in the case of men.

When we move into model II results differ slightly. Recall that with this second model we are not only measuring the existence itself of the policy but also its magnitude. The information offered in Table 15 is similar to the one showed in Table 14. The policy variable is modeled as a polynomial of degree two. Thus in the cases where it is relevant we compute the level of the subsidy that maximizes the impact of the policy for each transition. We obtain that there is a non linear relation between the exit rate from a temporary contract and the wage subsidy with the only exception of the alternative of unemployment in the group of men. This non-linear relationship implies that as the subsidy increases, the exit rate from a temporary contract increases but at a decreasing rate until it reaches a maximum where it starts decreasing. The odd ratios show that the incidence of regional wage subsidies is to increase the chances of entering

into a permanent contract independently of the reference alternative. Nevertheless, the values of the odd ratio are small what means that the change in the probability of getting a permanent contract for eligible workers is small. It is important to highlight that, since in this model the policy variable is continuous, the odd ratio will not be constant, as before. The odd ratios of this table are compute at the average wage subsidy -5.100 Euros for all workers.

We have also estimated model I and II by age and gender. The results relative to the policy variable of model II are displayed in Table 16. In terms of the odd ratio we get that old male workers get the largest increase in the probability of entering into a permanent contract due to a wage subsidy. These odd ratios are 34%, 9% and 27% when the alternative of comparison is unemployment, other temporary contract and remain in the same temporary contract. In the second place, we have male workers aged between 30-45 years old whose odd ratios are 13%, 13% and 10%. Interestingly young male workers do not benefit from wage subsidies. Though, there are differences in the odd ratios by age and gender, we again obtain that the value of these ratios are not high and therefore the incidence of the wage subsidy into the probability of getting a permanent contract is small.

In order to get a better understanding of these results we have computed in Table 17 the odd ratio at different levels of the wage subsidy. These levels are 3000, 5100 and 6000, which corresponds with the first quartile, the average and the third quartile of the wage subsidies. The first idea to point out is that the odd ratio tends to increase with the amount of the wage subsidy and therefore one could affirm that an increase in the amount of wage subsidies will lead to a growth in the transition rate to a permanent contract. This result arises for male and female workers. Yet, if we measure the change in the transition rate to a permanent contract we would see that this effect is low. So in the last column of Table 17 we display the maximum variation in the exit rate for each wage subsidy level. To compute this effect we analyze the behavior of the empirical odd ratios. For instance, when the wage subsidy changes from 1 to 3000 Euros, the change in the probability for men increases by 0.7 percentage points, at most. When the wage subsidy varies from 1 to 6000, the average change –maximum- is a bit larger but still small, 1.4 percentage points. That is, for men, when the policy increases from 3000 to 6000, the exit rate to a permanent contract increases by 0.7 percentage points, at most. This variation in the probability of accessing into a permanent contract is a bit lower for women. Therefore the elasticity of labor demand to wage subsidies for new permanent contracts tends to be lower than one.

One could argue that wage subsidies can not foster permanent job creation when temporary contracts are effectively created for temporary reasons. One way to check whether this could explain the results just found is restricting the analysis for a subsample composed by workers who end up into the same firm after the current temporary contract. As it is shown in Table 18, there are not significant differences between the odd ratios found with this sub-sample and those shown above. Therefore, even when job-to-job transitions take place at the same firm, wage

subsidies do not seem to effectively foster the conversion of temporary into a permanent contract.

5.1.2 The Transition Rate from Unemployment

In order to analyze the incidence of the wage subsidy over the transition rate from unemployment to a permanent contract we proceed in the same way as shown in previous section. In Tables 19 and 20 we present the general results of estimating the competing risk model when the policy variable is the maximum amount of the wage subsidy for male and female unemployed workers, respectively. As before, the coefficients of the policy variable and of the rest of “D” variables are statistically significant and differ between alternatives. In Table 21 we display the results relative to the policy variable for Model I and in Table 22 for Model II. The first idea to highlight is the fact that in both models the policy variable is statistically significant and shows that eligible workers increase their probability to get a permanent contract. Interestingly, the odd ratios seem to be larger meaning that the quantitative incidence of wage subsidies over the entrance to a permanent contract is larger when the worker is unemployed. For instance, the odd ratios of getting a permanent contract relative to a temporary one or to unemployment are 32.9% and 15.4% for women and 9.9% and 6.6% for men. While the effect of wage subsidies over the transition rate from a temporary to a permanent contract seem to be larger for men, we get the opposite result for the pooled of unemployed. When we move into the second model, which takes into account the maximum amount of the wage subsidy, we again obtain that there is a non-linear relationship between the exit rate and the wage subsidy. The exit rate starts increasing until the subsidy reaches a certain amount. In this model the odd ratios are 11.6% and 20.9% for women and 6.9% and 28.1% for men. Therefore, when we measure the odd ratio at the average wage subsidy we do not find significant differences between the sample of temporary and unemployed workers. One possible explanation for the differences encounter between model I and model II can be the fact that subsidies tend to be larger for unemployed workers. Recall that model I does not allow measuring the quantitative effect of the subsidy, this effect is measured with model II. That is, when we control for the quantity of the subsidy, the differences by the initial labor state of wage subsidies over the transition rate to a permanent contract fade away. When we compare the odd ratios by age and gender we obtain similar results to those presented for workers with temporary contracts. The results are displayed in Table 23. Again, we obtain that old male workers are more benefited from this policy while young male workers do not seem to be benefited.

As before we compute the odd ratio for different wage subsidies and we compute the change in the probability of getting a permanent contract for an eligible worker. This is shown in Table 0. In this case, the change in the probabilities is slightly larger than in the case of temporary workers. The increase in the probability of getting a permanent contract is, at most, 2.3 and 1.7 percentage points for women and men when the wage subsidy increases from 0 to 3000. When the wage subsidy increases from 3000 to 6000 this probability only grows to 4.4 and 2.9 for women and men respectively. Therefore, though the incidence of wage subsidies seems to be

larger for unemployed workers its effects are still low. In fact, in this case we again obtain that the elasticity of the labor demand to wage subsidies tend to be lower than one.

5.1.3 The Exist Rate from Permanent Employment

To estimate the exit rate from permanent employment we follow the same approach applied in previous section. We again omit some of the estimations and we focus on the most relevant ones. In Table 25 we display the results relative to the exit rate from a permanent contract by gender. With this estimation we try to test for the existence of any substitutions effects between eligible and no eligible workers. We obtain that wage subsidies decrease the transition probability from a permanent to a temporary contract and increase the transition probability to unemployment for men and women. Meanwhile, the transition probability to other permanent contract increases in the case of women while decreases in the case of men. If we obtain the odd ratio between the alternative of exiting the current permanent contract and the others alternatives we do not get a clear evidence of the existence of substitution effects. This ratio is positive relative to the unemployment alternative for woman and man, but its value is small, around 5%. The odd ratio relative to other permanent contract is positive for woman and negative for men –though is not statistically significant. This might imply that substitution effects could arise in the case of woman, but since the value of the odd ratio is low, around 6%, the quantitative effect is not important. Finally, the odd ratio relative to a temporary contract is negative in both cases. It is -22% for woman and -7% for men. This implies that the policy reduces the transition from permanent to temporary contracts, especially for women. Overall, it seems that there are not substitution effects for the case of women either for men.

6 Conclusions

Spain is one of the countries with the highest rate of temporary contracts and given this might bring negative costs in terms of efficiency and equity conditions, national and regional governments have designed policies to foster the creation of permanent employment. Since the labor reform of 1997 the national government offered discounts in payroll taxes for new permanent contracts. Simultaneously, since 1997, different regional governments have also begun to encourage permanent employment by offering wage subsidies to new permanent contracts for certain type of workers, in some cases, and for all workers in others.

In this paper we use the information of these regional policies to measure the impact of wage subsidies on the creation of permanent employment. One interesting point of this exercise is that we take advantage from all the variability derived from these regional policies, that is, regional, time and individual eligibility criteria. Since we have longitudinal data we apply a Difference-in-Differences approach to estimate the effects of regional wage subsidies over the probability of getting a permanent contract. With this approach we control for observed and unobserved heterogeneity between control and treatment groups. To check the robustness of the results and

in order to gain homogeneity between the treated and non-treated individuals, we also estimate the model splitting the whole sample by age and gender. Two main empirical approaches are applied. Firstly we estimate the incidence of regional wage subsidies over the transition rate to a permanent employment from a temporary contract and from unemployment using as a policy variable a dummy indicator that takes value one for an eligible individual and zero otherwise. Secondly, we estimate a new model where the policy variable is the maximum amount of the wage subsidy for an eligible individual. We consider this second specification measures better the causal effect of wage subsidies over the transition rate to a permanent contract.

From our preliminary results, we can conclude that the policy of subsidizing permanent contracts shows a positive effect over the transition rate to a permanent job. Though, there are several differences by the initial labor state, by gender and age we can conclude that the effect is small. The elasticity of the demand for new permanent contracts relative to wage subsidies tends to be lower than one. For instance, when the wage subsidy increases from 3000 to 6000 the transition rate to a permanent contract increases only by two percentage points at most. The effect of being subject to this policy seems to be larger for unemployed workers and this might be related with the fact that subsidies tend to be larger in this case. Also, old male workers seem to be specially benefited from these subsidies. The opposite is found for young male workers.

To check whether this low elasticity of labor demand to wage subsidies is related to the temporary nature of new jobs we have also estimated the model restricting the analysis to the subsample of workers who enter into the same firm. Nevertheless, the value of the odd ratios hardly changes.

Finally we have estimated whether wage subsidies generate any substitution effect between eligible and non-eligible workers. The results obtained that not support the idea that this policy is increasing the exit rate from permanent contract of non-eligible workers.

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7 List of Tables

Table 1: Main Sample Characteristics for Unemployed Workers

| Variable | Women | | | Men | | |
|-----------------------------|----------|--------|--------|----------|--------|--------|
| | Censored | T.C | P.C | Censored | T.C | P.C |
| Unemployment Duration | 30.80% | 35.10% | 30.40% | 28.40% | 41.20% | 20.52% |
| Temporart Employment Agency | 10.75 | 5.03 | 5.90 | 10.13 | 4.51 | 5.47 |
| High Qualification | 6.4% | 8.3% | 8.8% | 6.5% | 7.8% | 9.4% |
| Medium-High Qualification | 6.9% | 11.7% | 6.0% | 4.9% | 4.1% | 4.9% |
| Medium Qualification | 12.6% | 14.9% | 14.2% | 8.9% | 6.9% | 10.7% |
| Medium-Low Qualification | 30.8% | 32.9% | 37.4% | 34.1% | 35.2% | 31.4% |
| Inmigrant | 49.8% | 40.5% | 42.4% | 52.1% | 53.9% | 53.0% |
| Part-time | 4.1% | 4.5% | 3.2% | 5.9% | 9.2% | 5.2% |
| Agriculture | 39.8% | 36.2% | 40.0% | 17.9% | 12.8% | 20.5% |
| Industry | 0.7% | 0.5% | 0.7% | 1.3% | 0.8% | 1.1% |
| Construction | 9.6% | 8.7% | 10.0% | 11.6% | 13.0% | 17.6% |
| Services | 3.2% | 2.2% | 1.8% | 32.0% | 39.6% | 17.7% |
| Unemployment Benefits (t=T) | 86.5% | 88.7% | 87.5% | 55.1% | 46.6% | 63.6% |
| Unemployment Benefits | 20.5% | 22.3% | 19.8% | 24.7% | 29.4% | 23.5% |
| Simple Size | 34.5% | 32.4% | 30.3% | 36.9% | 38.6% | 32.7% |
| | 47599 | 54202 | 52469 | 53093 | 77084 | 56865 |

Table 2: Main Sample Characteristics for Workers with a Temporary Contract

| | Women | | | | Men | | | |
|-----------------------------|----------|--------|--------|--------|----------|--------|--------|--------|
| | Censored | U | T.C | P.C | Censored | U | T.C | P.C |
| T.C Duration | 0.4355 | 0.4584 | 0.0810 | 0.0251 | 0.4678 | 0.4148 | 0.0325 | 0.0849 |
| Temporart Employment Agency | 8.94 | 4.22 | 3.00 | 4.75 | 9.64 | 4.64 | 4.33 | 5.49 |
| empigual | 3.5% | 8.7% | 13.7% | 13.8% | 2.9% | 9.2% | 10.5% | 13.5% |
| High Qualification | 3.9% | 24.0% | 56.7% | 29.8% | 2.6% | 19.2% | 39.9% | 22.9% |
| Medium-High Qualification | 15.7% | 6.2% | 13.8% | 5.9% | 8.1% | 4.1% | 3.7% | 4.2% |
| Medium Qualification | 14.5% | 14.1% | 15.6% | 14.0% | 8.8% | 9.5% | 6.0% | 10.1% |
| Medium-Low Qualification | 29.4% | 36.1% | 31.0% | 38.8% | 39.3% | 32.2% | 41.3% | 33.6% |
| Inmigrant | 40.4% | 43.6% | 39.7% | 41.3% | 43.8% | 54.2% | 49.1% | 52.1% |
| Part-time | 5.2% | 4.4% | 6.5% | 4.0% | 9.0% | 7.6% | 14.7% | 5.6% |
| Agriculture | 35.6% | 38.5% | 33.2% | 35.0% | 32.0% | 18.1% | 8.8% | 15.1% |
| Industry | 0.4% | 0.6% | 0.2% | 0.4% | 0.9% | 1.0% | 0.5% | 0.8% |
| Construction | 8.9% | 9.4% | 8.7% | 11.4% | 12.9% | 15.2% | 9.5% | 19.3% |
| Services | 3.6% | 2.0% | 1.7% | 1.6% | 40.1% | 24.5% | 50.5% | 19.3% |
| N | 87.0% | 88.0% | 89.4% | 86.6% | 46.0% | 59.3% | 39.5% | 60.6% |
| | 75552 | 79519 | 14053 | 4358 | 100325 | 88961 | 6973 | 18200 |

Table 3: Unemployment Duration

| Unemployment Duration | Women | | Men | |
|-----------------------|-------|-------|-------|-------|
| | T.C | P.C | T.C | P.C |
| < 6 Months | 75.4% | 70.0% | 78.3% | 71.6% |
| 6-12 Months | 14.9% | 16.4% | 14.1% | 17.1% |
| 12-18 Months | 5.2% | 7.0% | 4.4% | 6.2% |
| 18-24 Months | 2.8% | 4.1% | 2.1% | 3.3% |
| 24-30 Months | 1.8% | 2.5% | 1.2% | 1.8% |

Table 4: Temporary Contract Duration

| T.C. Duration | Women | | Men | |
|---------------|-------|-------|-------|-------|
| | T.C | I.C | T.C | P.C |
| 6 | 90.3% | 79.9% | 81.5% | 75.5% |
| 12 | 7.0% | 12.9% | 12.9% | 15.0% |
| 18 | 1.2% | 3.4% | 2.1% | 4.4% |
| 24 | 0.6% | 1.9% | 1.4% | 2.2% |
| 30 | 0.2% | 0.7% | 0.7% | 0.8% |
| 36 | 0.2% | 0.7% | 1.0% | 1.3% |
| 42 | 0.7% | 0.6% | 0.5% | 0.7% |

Figure 1: Transition Rate to an Indefinite Contract

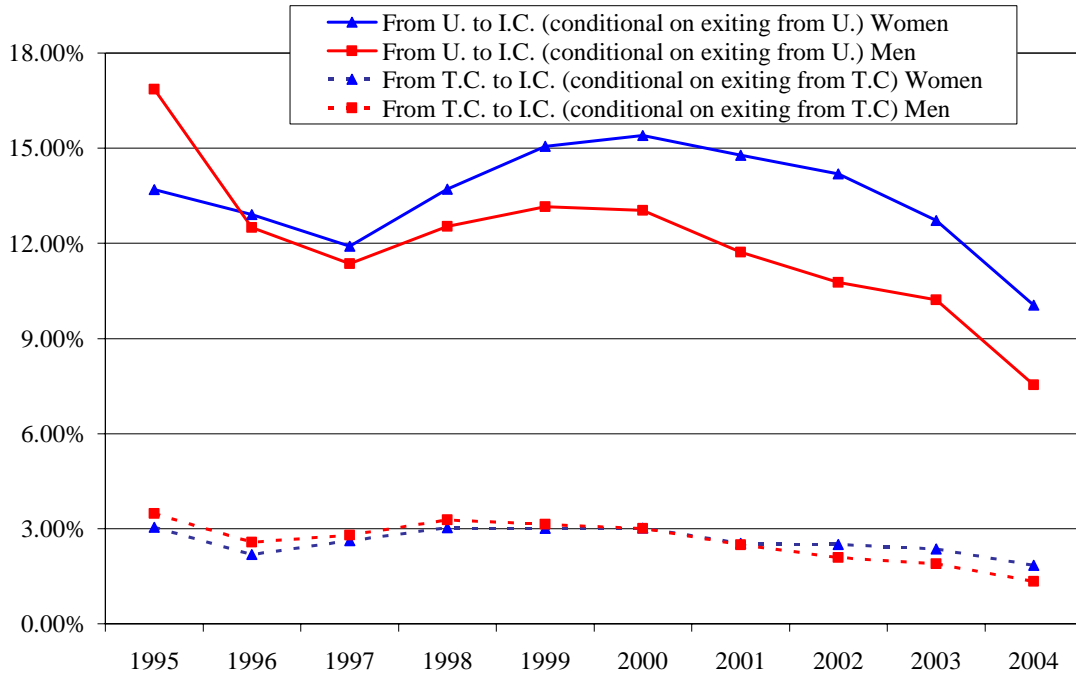


Table 5: Transition Rates by Region and Gender

| | U. - P.C. (cond.exit from U.) | | T.C -P.C. (cond. Exit. From T.C.) | |
|-----------------|-------------------------------|--------|-----------------------------------|-------|
| | Women | Men | Women | Men |
| Andalucía | 9.87% | 6.90% | 1.89% | 1.45% |
| Aragón | 12.75% | 12.75% | 2.52% | 2.96% |
| Asturias | 11.18% | 9.43% | 2.09% | 2.25% |
| Baleares | 15.45% | 11.89% | 2.05% | 2.12% |
| Canarias | 14.17% | 11.16% | 2.67% | 2.30% |
| Cantabria | 10.91% | 9.85% | 2.58% | 2.75% |
| Castilla-Mancha | 10.72% | 9.16% | 2.11% | 2.01% |
| Castilla-León | 12.02% | 11.06% | 2.23% | 2.47% |
| Cataluña | 16.60% | 15.13% | 3.46% | 3.63% |
| C. Valenciana | 12.92% | 11.92% | 2.48% | 2.89% |
| Extremadura | 9.61% | 8.13% | 1.95% | 1.55% |
| Galicia | 10.51% | 10.76% | 2.22% | 2.33% |
| Madrid | 17.18% | 15.63% | 3.13% | 3.25% |
| Murcia | 12.12% | 11.23% | 2.10% | 2.66% |
| Navarra | 13.63% | 12.50% | 2.81% | 3.17% |
| País Vasco | 11.11% | 11.30% | 2.21% | 2.72% |
| Rioja | 13.15% | 13.26% | 2.87% | 4.28% |
| Total | 13.43% | 11.33% | 2.59% | 2.54% |

Table 6: Transitions from Unemployment by Age and Gender (conditioned on exiting from unemployment)

| | U. - P.C. | | U. - T.C. | |
|---------|-----------|--------|-----------|--------|
| | Women | Men | Women | Men |
| Young | 14.14% | 12.39% | 85.86% | 87.61% |
| Medium | 12.00% | 9.66% | 88.00% | 90.34% |
| Old | 12.24% | 9.30% | 87.76% | 90.70% |
| Average | 13.43% | 11.33% | 86.57% | 88.67% |

Table 7: Transitions from a Temporary Contract by Age and Gender (conditioned on exiting from the Temporary Contract)

| | T.C -P.C. | | T.C -T.C. | | T.C -U. | |
|---------|-----------|-------|-----------|--------|---------|--------|
| | Women | Men | Women | Men | Women | Men |
| Young | 2.72% | 2.63% | 19.75% | 22.45% | 77.53% | 74.92% |
| Medium | 2.34% | 2.46% | 22.46% | 26.91% | 75.19% | 70.63% |
| Old | 2.33% | 2.25% | 22.70% | 26.33% | 74.97% | 71.42% |
| Average | 2.59% | 2.29% | 20.72% | 24.10% | 76.69% | 73.36% |

Table 8: Regional Incentives to the creation of Indefinite Contracts

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------------|------|------|------|------|------|------|------|------|------|------|
| Andalusia | | | | | | | | | | |
| Aragon | | | | | | | | | | |
| Asturias | | | | | | | | | | |
| Balearic Islands | | | | | | | | | | |
| Canary Islands | | | | | | | | | | |
| Cantabria | | | | | | | | | | |
| C. Leon | | | | | | | | | | |
| C. Mancha | | | | | | | | | | |
| Catalunya | | | | | | | | | | |
| Valencia | | | | | | | | | | |
| Extremadura | | | | | | | | | | |
| Galicia | | | | | | | | | | |
| Madrid | | | | | | | | | | |
| Murcia | | | | | | | | | | |
| Navarra | | | | | | | | | | |
| Basque Country | | | | | | | | | | |
| Rioja | | | | | | | | | | |

Table 9: Regional Incentives to the creation of Indefinite Contracts: eligibility conditions

| | MALES | | FEMALES | |
|------------------|--------------------|----------------------|----------|----------------------|
| Andalusia | all ages | 1997-2002 | all ages | 1997-2002 |
| Aragon | 40 or more | 1998-2004 | all ages | 1998-2004 |
| Asturias | all ages | 1997-1998, 2000-2003 | all ages | 1997-1998, 2000-2003 |
| Balearic Islands | NO | | all ages | 2000-2004 |
| Canary Islands | 16-25 | 1.998 | all ages | 1.998 |
| | all ages | 1.999 | all ages | 1.999 |
| Cantabria | all ages | 1998, 2000-2004 | all ages | 1998, 2000-2004 |
| C. Leon | all ages | 1998-2004 | all ages | 1998-2004 |
| C. Mancha | 16-30 | 1.998 | all ages | 1.998 |
| | 16-29 & 45 or more | 1999-2003 | all ages | 1999-2003 |
| Catalunya | NO | | NO | |
| Valencia | all ages | 1998-2001, 2003-2004 | all ages | 1998-2004 |
| Extremadura | all ages | 1997-2004 | all ages | 1997-2004 |
| Galicia | 16-30 & 45 or more | 1998 | all ages | 1.998 |
| | all ages | 2000-2004 | all ages | 2000-2004 |
| Madrid | all ages | 1998-2004 | all ages | 1998-2004 |
| Murcia | all ages | 1998-2003 | all ages | 1998-2003 |
| Navarra | all ages | 1998-2004 | all ages | 1998-2004 |
| Basque Country | all ages | 1998-2004 | all ages | 1998-2004 |
| Rioja | all ages | 1998-2004 | all ages | 1998-2004 |

Table 10: Regional Incentives to the creation of Indefinite Contracts

| | Minimum | Mean | Maximum |
|------------------|---------|--------|---------|
| Andalusia | 2.400 | 3.844 | 6.012 |
| Aragon | 1.200 | 3.684 | 5.160 |
| Asturias | 3.600 | 4.100 | 4.500 |
| Balearic Islands | 1.653 | 1.726 | 1.800 |
| Canary Islands | 3.000 | 3.300 | 3.600 |
| Cantabria | 1.803 | 3.604 | 4.808 |
| C. Leon | 1.800 | 3.605 | 5.115 |
| C. Mancha | 3.000 | 3.300 | 3.600 |
| Catalunya | 0 | 0 | 0 |
| Valencia | 1.800 | 4.513 | 7.466 |
| Extremadura | 4.166 | 10.076 | 14.028 |
| Galicia | 3.000 | 3.600 | 4.200 |
| Madrid | 3.600 | 7.971 | 12.000 |
| Murcia | 3.000 | 4.838 | 7.200 |
| Navarra | 3.000 | 3.900 | 4.800 |
| Basque Country | 3.273 | 4.459 | 7.512 |
| Rioja | 4.491 | 5.001 | 6.011 |

Table 11: Regional Incentives to the creation of Indefinite Contracts by personal characteristics

| | Minimum | Mean | Maximum |
|------------|---------|-------|---------|
| Males | 1.200 | 5.916 | 14.028 |
| Females | 1.200 | 6.411 | 14.028 |
| Aged 18-30 | 1.200 | 5.520 | 12.000 |
| Aged 31-44 | 1.200 | 5.652 | 14.028 |
| Aged 45-64 | 1.653 | 6.256 | 14.028 |

Table 12: Exit rate from a temporary contract, Model II (Men By Age)

| | Full Sample | Age <30 | Age 30-45 | Age >45 |
|---|--------------|--------------|--------------|---------------|
| Alternative : Unemployment | | | | |
| U. Dur. (ln) | -1.154 -159 | -1.186 -130 | -1.180 -85.4 | -0.945 -43 |
| U. Dur. (ln)^2 | 0.143 69.46 | 0.154 57.05 | 0.148 39.63 | 0.099 16.91 |
| U. Dur < 3 months | -0.085 -11.3 | -0.008 -0.85 | -0.218 -15.9 | -0.121 -5.71 |
| Month 6 | 0.979 128.7 | 1.074 109.4 | 0.891 63.52 | 0.809 37.79 |
| Month 12 | 1.193 103 | 1.296 85.45 | 1.102 51.46 | 0.947 28.81 |
| Month 24 | 0.647 22.85 | 0.947 26.88 | 0.214 3.55 | 0.222 2.63 |
| Month 36 | 1.406 39.7 | 1.330 25.95 | 1.353 21.76 | 1.774 22.47 |
| D _{ijt} (Wage subsidy) | -0.005 -2.13 | -0.005 -1.34 | -0.004 -0.9 | -0.011 -1.5 |
| D _{ijt} ^ (Wage subsidy^2) | 0.000 -0.31 | 0.000 -0.29 | 0.000 -0.92 | 0.000 0.62 |
| D _{ij} | 0.038 4.06 | 0.012 0.82 | 0.041 2.95 | -0.079 -2.35 |
| D _{jt} | 0.046 6.11 | 0.040 3.41 | 0.043 3.54 | 0.085 3.85 |
| D _j | -0.132 -12.8 | -0.094 -6.07 | -0.146 -9.07 | -0.004 -0.12 |
| Age | -0.013 -10.2 | 0.055 5.81 | 0.276 16.69 | 0.438 17.66 |
| Age^2 | 0.000 1.18 | -0.001 -6.37 | -0.004 -15.7 | -0.004 -18 |
| Dempleo | 1.004 10.68 | 0.845 6.88 | 1.272 7.17 | 0.757 2.87 |
| Unemployment Rage (regional) | 0.002 4.38 | -0.003 -4.97 | 0.007 8.75 | 0.014 10.34 |
| T.c. GDP (National) | 0.004 1.15 | 0.003 0.72 | 0.006 0.92 | 0.004 0.44 |
| Part-time Job | 0.262 47.36 | 0.288 44.87 | 0.183 14.93 | 0.099 4.68 |
| High Wage Category | -0.615 -56.2 | -0.688 -50.5 | -0.545 -27.2 | -0.315 -9.24 |
| Medium-High Wage Category | -0.177 -23.5 | -0.157 -16.5 | -0.229 -15.8 | -0.163 -7.09 |
| Medium-Low Wage Category | -0.126 -28.2 | -0.156 -26.4 | -0.163 -20.5 | -0.016 -1.31 |
| Inmigrant | 0.037 4.59 | -0.058 -5.11 | 0.138 10.69 | 0.215 8.55 |
| Layoff | 0.786 151.5 | 0.591 96.12 | 1.042 93.04 | 1.335 65.05 |
| Big Firm | -0.088 -12.9 | -0.058 -7.02 | -0.143 -10.3 | -0.106 -4.33 |
| New Firm | 0.033 8.4 | 0.018 3.65 | 0.059 7.96 | 0.044 3.98 |
| Same Firm | 0.050 11.38 | 0.057 9.8 | -0.020 -2.56 | 0.121 10.49 |
| Cte | -0.771 -26.9 | -1.447 -12.7 | -7.350 -24.2 | -13.320 -20.7 |
| Alternative : Temporary Contract | | | | |
| U. Dur. (ln) | -1.540 -123 | -1.606 -95.1 | -1.506 -69.5 | -1.345 -39.5 |
| U. Dur. (ln)^2 | 0.222 61.52 | 0.241 47.93 | 0.213 34.96 | 0.173 18.67 |
| U. Dur < 3 months | -0.270 -20.8 | -0.252 -13.7 | -0.293 -13.4 | -0.272 -8.35 |
| Month 6 | 0.746 54.72 | 0.906 48.95 | 0.619 25.86 | 0.491 13.42 |
| Month 12 | 0.881 36.82 | 1.004 30.8 | 0.839 20.37 | 0.508 7.55 |
| Month 24 | 0.324 5.46 | 0.699 9.42 | -0.106 -0.9 | -0.226 -1.2 |
| Month 36 | 1.468 24.47 | 1.340 14.38 | 1.533 16.17 | 1.689 12.28 |
| D _{ijt} (Wage subsidy) | 0.016 3.3 | 0.003 0.44 | -0.002 -0.24 | 0.049 3.49 |
| D _{ijt} ^ (Wage subsidy^2) | -0.002 -4.55 | -0.001 -1.11 | -0.001 -1.43 | -0.004 -3.76 |
| D _{ij} | 0.168 8.8 | 0.192 5.76 | 0.177 6.8 | 0.124 1.81 |
| D _{jt} | -0.011 -0.75 | 0.008 0.36 | 0.020 0.97 | -0.031 -0.77 |
| D _j | -0.203 -9.46 | -0.247 -6.99 | -0.153 -4.83 | -0.198 -2.68 |
| Age | 0.047 18.4 | 0.291 15.62 | 0.248 8.93 | 0.382 8.2 |
| Age^2 | -0.001 -21 | -0.005 -13.9 | -0.003 -8.52 | -0.004 -8.48 |
| dempleo | 1.105 6.39 | 1.539 6.5 | 0.558 1.89 | 0.621 1.29 |
| Unemployment Rage (regional) | 0.001 1.13 | -0.002 -2.23 | 0.002 1.16 | 0.011 4.97 |
| T.c. GDP (National) | 0.020 3.45 | 0.018 2.23 | 0.029 2.89 | 0.005 0.32 |
| Temporary Job | -0.109 -8.83 | -0.081 -5.57 | -0.167 -6.55 | -0.265 -4.94 |
| High Wage Category | -0.378 -14.2 | -0.634 -18.7 | -0.186 -4.43 | 0.010 0.11 |
| Medium-High Wage Category | -0.114 -6.68 | -0.165 -7.68 | -0.115 -3.74 | -0.068 -1.24 |
| Medium-Low Wage Category | 0.098 12.08 | -0.023 -1.98 | 0.130 9.66 | 0.299 12.82 |
| Inmigrant | -0.008 -0.57 | -0.075 -3.64 | 0.021 0.97 | 0.214 4.6 |
| Layoff | 0.638 70.47 | 0.493 43.14 | 0.741 43.99 | 0.950 32.1 |
| Big Firm | -0.051 -3.58 | -0.073 -4.19 | -0.080 -2.95 | 0.103 2.02 |
| New Firm | 0.187 25.64 | 0.152 15.46 | 0.201 16.06 | 0.262 13.53 |
| Same Firm | 0.680 87.68 | 0.789 74.9 | 0.556 43.34 | 0.560 27.36 |
| Cte | -3.128 -57.7 | -5.972 -26.6 | -7.930 -15.6 | -12.824 -10.6 |
| Alternative : Permanent Contract | | | | |
| U. Dur. (ln) | -0.948 -28.4 | -0.991 -23.1 | -0.990 -15.6 | -0.616 -6.13 |
| U. Dur. (ln)^2 | 0.177 20.36 | 0.186 16.65 | 0.183 11.36 | 0.113 4.36 |
| U. Dur < 3 months | -0.124 -3.41 | -0.151 -3.2 | -0.184 -2.69 | 0.119 1.13 |
| Month 6 | 1.215 41.69 | 1.293 34.78 | 1.083 19.34 | 1.154 13.32 |
| Month 12 | 1.392 32.94 | 1.421 26.08 | 1.295 15.95 | 1.410 11.78 |

| | | | | | | | | |
|-------------------------------------|--------|-------|--------|-------|--------|-------|---------|-------|
| Month 24 | 0.867 | 9.35 | 1.233 | 11.54 | 0.007 | 0.03 | 0.439 | 1.42 |
| Month 36 | 1.532 | 14.79 | 1.405 | 9.42 | 1.163 | 5.52 | 2.371 | 11.48 |
| D _{ijt} (Wage subsidy) | 0.037 | 3.02 | -0.014 | -0.81 | 0.032 | 1.55 | 0.066 | 1.64 |
| D _{ijt} ^ (Wage subsidy^2) | -0.002 | -2.24 | 0.002 | 1.27 | -0.003 | -1.59 | -0.004 | -1.28 |
| D _{ij} | 0.227 | 5.61 | 0.338 | 4.73 | 0.077 | 1.33 | 0.247 | 1.53 |
| D _{jt} | -0.011 | -0.3 | 0.089 | 1.61 | 0.092 | 1.51 | -0.028 | -0.22 |
| D _j | -0.558 | -13.2 | -0.667 | -9.14 | -0.373 | -5.95 | -0.803 | -5.04 |
| Age | 0.070 | 12.88 | 0.477 | 11 | 0.334 | 4.6 | 0.441 | 4.55 |
| Age^2 | -0.001 | -14.4 | -0.009 | -9.65 | -0.004 | -4.52 | -0.004 | -4.81 |
| dempleo | 0.924 | 2.11 | 1.216 | 2.13 | 0.134 | 0.16 | 2.957 | 2.2 |
| Unemployment Rate (regional) | -0.043 | -23.1 | -0.039 | -16 | -0.047 | -13.6 | -0.047 | -7.36 |
| T.c. GDP (National) | 0.039 | 2.5 | 0.057 | 2.85 | -0.001 | -0.03 | 0.031 | 0.66 |
| Temporary Job | 0.092 | 3.78 | 0.071 | 2.42 | 0.197 | 3.93 | -0.024 | -0.26 |
| High Wage Category | -0.427 | -10.2 | -0.486 | -9.13 | -0.536 | -6.9 | -0.215 | -1.61 |
| Medium-High Wage Category | 0.093 | 3.19 | -0.017 | -0.44 | 0.150 | 2.82 | 0.263 | 2.97 |
| Medium-Low Wage Category | 0.052 | 2.73 | 0.007 | 0.27 | 0.029 | 0.81 | 0.151 | 2.71 |
| Inmigrant | 0.018 | 0.47 | -0.116 | -2.1 | 0.145 | 2.55 | 0.031 | 0.25 |
| Layoff | 0.309 | 14.26 | 0.192 | 7.16 | 0.380 | 8.89 | 0.591 | 7.45 |
| Big Firm | -0.201 | -6.92 | -0.160 | -4.55 | -0.242 | -4.05 | -0.377 | -3.42 |
| New Firm | 0.090 | 5.24 | 0.050 | 2.27 | 0.116 | 3.57 | 0.276 | 5.35 |
| Same Firm | 0.215 | 10.98 | 0.222 | 8.69 | 0.053 | 1.43 | 0.496 | 9.07 |
| Cte | -4.684 | -37.3 | -9.839 | -18.8 | -9.206 | -6.96 | -15.479 | -6.16 |

* We also control for time and quarterly dummies and for sector of activity

Table 13: Exit rate from a temporary contract, Model II (Women, By Age)

| | Full Sample | | Age <30 | | Age 30-45 | | Age >45 | |
|---|-------------|--------|---------|--------|-----------|-------|---------|-------|
| Alternative : Unemployment | | | | | | | | |
| U. Dur. (ln) | -1.328 | -165.6 | -1.396 | -133.2 | -1.220 | -72.7 | -1.216 | -38.9 |
| U. Dur. (ln)^2 | 0.184 | 82.12 | 0.205 | 64.82 | 0.168 | 37.05 | 0.173 | 19.93 |
| U. Dur < 3 months | -0.149 | -20.74 | -0.073 | -6.51 | -0.215 | -13.1 | -0.320 | -10.7 |
| Month 6 | 1.174 | 129.1 | 1.279 | 113.4 | 1.055 | 63 | 0.941 | 29.08 |
| Month 12 | 1.596 | 121.5 | 1.658 | 98.63 | 1.535 | 64.03 | 1.454 | 32.2 |
| Month 24 | 0.964 | 30.87 | 1.356 | 37.48 | 0.189 | 2.47 | -0.022 | -0.14 |
| Month 36 | 0.853 | 16.16 | 1.190 | 19.11 | 0.273 | 2.48 | 0.516 | 2.96 |
| D _{ijt} (Wage subsidy) | 0.020 | 5.9 | 0.019 | 4.11 | 0.018 | 3.33 | 0.042 | 4.04 |
| D _{ijt} ^ (Wage subsidy^2) | -0.001 | -5.64 | -0.001 | -3.48 | -0.002 | -3.6 | -0.003 | -4.12 |
| D _{ij} | -0.090 | -10.35 | -0.087 | -9.46 | -0.057 | -3.93 | -0.164 | -6.4 |
| D _{jt} | -0.012 | -0.7 | -0.016 | -1.05 | 0.001 | 0.07 | -0.017 | -0.49 |
| Age | -0.048 | -32.14 | 0.051 | 4.46 | 0.251 | 12.86 | 0.218 | 6.52 |
| Age^2 | 0.000 | 21.05 | -0.002 | -6.75 | -0.003 | -12.3 | -0.002 | -6.83 |
| Dempleo | -0.368 | -2.55 | -0.242 | -1.7 | -0.633 | -3.05 | -0.469 | -1.23 |
| Unemployment Rage (regional) | -0.008 | -15.1 | -0.010 | -15.98 | -0.004 | -4.31 | -0.004 | -2.11 |
| T.c. GDP (National) | -0.013 | -3.21 | -0.014 | -2.8 | -0.006 | -0.85 | -0.032 | -2.47 |
| Temporary Job | 0.063 | 16.39 | 0.155 | 27.5 | -0.078 | -8.92 | -0.180 | -11.1 |
| High Wage Category | -0.405 | -47.36 | -0.426 | -39.92 | -0.373 | -23.6 | -0.230 | -5.34 |
| Medium-High Wage Category | -0.016 | -4.07 | -0.051 | -5.87 | -0.002 | -0.18 | 0.089 | 3.72 |
| Medium-Low Wage Category | 0.060 | 7.47 | 0.062 | 9.43 | -0.002 | -0.18 | 0.042 | 2.14 |
| Inmigrant | 0.010 | 0.47 | -0.086 | -4.97 | 0.151 | 7.61 | 0.137 | 2.99 |
| Layoff | 0.889 | 137.9 | 0.658 | 86.44 | 1.312 | 87.27 | 1.556 | 50.68 |
| Big Firm | -0.033 | -5.52 | -0.002 | -0.3 | -0.081 | -7 | 0.056 | 2.67 |
| New Firm | -0.026 | -5.53 | -0.038 | -6.66 | -0.002 | -0.21 | 0.022 | 1.34 |
| Same Firm | 0.314 | 88.56 | 0.242 | 39.18 | 0.319 | 38.27 | 0.568 | 37.01 |
| Cte | -0.429 | 64.46 | -1.367 | -10 | -6.431 | -17.9 | -7.969 | -9.25 |
| Alternative : Temporary Contract | | | | | | | | |
| U. Dur. (ln) | -2.159 | -4.05 | -2.176 | -98.8 | -2.115 | -65.7 | -2.182 | -33.7 |
| U. Dur. (ln)^2 | 0.374 | -130.1 | 0.380 | 54.98 | 0.375 | 39.36 | 0.381 | 19.52 |
| U. Dur < 3 months | -0.240 | 73.75 | -0.269 | -10.4 | -0.194 | -5.34 | -0.207 | -2.99 |
| Month 6 | 1.103 | -14.5 | 1.199 | 47.55 | 0.973 | 26.58 | 0.933 | 13.89 |
| Month 12 | 1.607 | 56.13 | 1.626 | 40.2 | 1.546 | 26.22 | 1.671 | 14.57 |
| Month 24 | 0.914 | 50.65 | 1.289 | 14.45 | 0.085 | 0.43 | 0.224 | 0.58 |
| Month 36 | 1.037 | 11.49 | 1.388 | 11.13 | 0.637 | 3.1 | -1.170 | -1.17 |
| D _{ijt} (Wage subsidy) | 0.033 | 9.78 | 0.025 | 2.62 | 0.011 | 0.92 | 0.103 | 4.45 |
| D _{ijt} ^ (Wage subsidy^2) | -0.002 | 4.46 | -0.001 | -1.37 | 0.000 | -0.55 | -0.008 | -4.79 |
| D _{ij} | -0.105 | -3.61 | -0.132 | -6.16 | -0.054 | -1.54 | -0.140 | -2.18 |
| D _{jt} | -0.056 | -6.11 | -0.057 | -1.72 | 0.031 | 0.77 | -0.188 | -2.43 |
| Age | -0.002 | -2.17 | 0.304 | 11.93 | 0.203 | 4.72 | 0.281 | 3.1 |
| Age^2 | 0.000 | -1.46 | -0.006 | -11.76 | -0.003 | -4.48 | -0.003 | -3.3 |
| dempleo | -2.171 | -6.77 | -1.556 | -5.22 | -2.767 | -6.41 | -3.819 | -4.53 |
| Unemployment Rage (regional) | -0.012 | -8.69 | -0.013 | -8.5 | -0.012 | -5.71 | -0.011 | -2.2 |
| T.c. GDP (National) | 0.000 | -10.5 | -0.001 | -0.11 | 0.009 | 0.69 | -0.028 | -1.12 |
| Temporary Job | -0.200 | 0.98 | -0.046 | -3.77 | -0.412 | -20.6 | -0.465 | -11.9 |
| High Wage Category | 0.014 | -17.24 | -0.076 | -3.2 | 0.075 | 2.14 | 0.189 | 2.01 |
| Medium-High Wage Category | 0.077 | -0.42 | 0.000 | 0.01 | 0.089 | 2.97 | 0.155 | 2.75 |
| Medium-Low Wage Category | 0.173 | 3.04 | 0.119 | 8.07 | 0.175 | 7.42 | 0.186 | 4.01 |
| Inmigrant | 0.067 | 11.12 | -0.062 | -1.62 | 0.197 | 4.79 | 0.249 | 2.4 |
| Layoff | 0.868 | 3.02 | 0.652 | 39.33 | 1.211 | 39.59 | 1.367 | 20.63 |
| Big Firm | 0.178 | 64.02 | 0.143 | 9.03 | 0.201 | 9.01 | 0.337 | 8.06 |
| New Firm | 0.063 | 12.51 | 0.020 | 1.63 | 0.118 | 6.05 | 0.136 | 3.58 |
| Same Firm | 1.167 | 5.67 | 1.166 | 98.99 | 1.109 | 61.53 | 1.234 | 35.19 |
| Cte | -2.720 | -93.18 | -6.290 | -20.43 | -6.768 | -8.56 | -10.454 | -4.46 |
| Alternative : Permanent Contract | | | | | | | | |

| | | | | | | | | |
|-------------------------------------|--------|--------|---------|--------|--------|-------|---------|-------|
| U. Dur. (ln) | -1.146 | -27.67 | -1.141 | -25.05 | -1.193 | -16.1 | -1.133 | -8.9 |
| U. Dur. (ln)^2 | 0.212 | 135.4 | 0.205 | 16.44 | 0.238 | 12 | 0.246 | 7.2 |
| U. Dur < 3 months | -0.126 | -34.23 | -0.157 | -3.02 | -0.105 | -1.24 | 0.022 | 0.15 |
| Month 6 | 1.355 | 22.11 | 1.411 | 33.75 | 1.252 | 18.09 | 1.282 | 10.42 |
| Month 12 | 1.761 | -3.44 | 1.744 | 28.26 | 1.729 | 17.7 | 2.010 | 12.33 |
| Month 24 | 1.291 | 40.11 | 1.768 | 16.12 | -0.127 | -0.35 | -1.032 | -1.03 |
| Month 36 | 1.244 | 35.43 | 1.529 | 8.69 | 0.389 | 1.07 | 1.487 | 3.88 |
| D _{ijt} (Wage subsidy) | 0.048 | 12.58 | 0.040 | 1.92 | 0.020 | 0.72 | 0.037 | 0.67 |
| D _{ijt} ^ (Wage subsidy^2) | -0.002 | 8.54 | -0.002 | -1.53 | 0.000 | 0.02 | -0.001 | -0.31 |
| D _{ij} | -0.369 | 3.4 | 0.037 | 0 | -0.499 | -8.29 | -0.402 | -3.89 |
| D _{jt} | -0.113 | -2.45 | -0.089 | -1.29 | 0.031 | 0.33 | -0.218 | -1.19 |
| Age | 0.020 | -14.39 | 0.598 | 11.82 | 0.093 | 1.08 | 0.353 | 2.26 |
| Age^2 | -0.001 | -1.99 | -0.012 | -11.34 | -0.001 | -1.09 | -0.004 | -2.56 |
| dempleo | 0.104 | -0.34 | -0.131 | -0.2 | -0.111 | -0.11 | 3.428 | 1.73 |
| Unemployment Rage (regional) | -0.028 | 2.24 | -0.031 | -11.64 | -0.021 | -4.99 | -0.028 | -3.32 |
| T.c. GDP (National) | -0.018 | 0.01 | 0.004 | 0.18 | -0.070 | -1.89 | -0.056 | -0.81 |
| Temporary Job | -0.007 | -13.78 | 0.025 | 0.625 | 0.016 | 0.4 | -0.015 | -0.2 |
| High Wage Category | -0.567 | -0.4 | -0.500 | -10.2 | -0.881 | -10.5 | -1.051 | -4.43 |
| Medium-High Wage Category | 0.078 | -0.85 | 0.048 | 1.31 | 0.032 | 0.57 | 0.016 | 0.16 |
| Medium-Low Wage Category | 0.262 | -13.86 | 0.283 | 10.19 | 0.143 | 3.24 | -0.035 | -0.43 |
| Immigrant | 0.340 | 3.19 | 0.226 | 3.24 | 0.413 | 5.14 | 0.717 | 4.66 |
| Layoff | 0.362 | 13.5 | 0.159 | 5.07 | 0.619 | 10.27 | 0.921 | 7.61 |
| Big Firm | -0.105 | 7.18 | 0.032 | 0.061 | -0.084 | -1.62 | -0.275 | -2.82 |
| New Firm | 0.132 | 17.17 | 0.024 | 0 | 0.148 | 3.8 | 0.254 | 3.72 |
| Same Firm | 0.419 | -2.15 | 0.394 | 14.8 | 0.387 | 9.09 | 0.523 | 6.76 |
| Cte | -3.973 | 5.72 | -11.050 | -18.05 | -5.593 | -3.55 | -12.655 | -3.21 |

* We also control for *time and quarterly dummies and for sector of activity*

Table 14: Main Results Policy Variable Model I by Gender (Exit from a Temporary Contract)

| | | To U. | To T. C. | To P. C. |
|-------|------------------|---------|----------|----------|
| Women | Dijt | -0.0070 | -0.4019 | -0.0789 |
| | t statistic | -0.3780 | -12.2025 | -0.9519 |
| | Odd .Ratio (P.C) | -6.9% | 38.1% | -7.6% |
| Men | Dijt | 0.0015 | -0.0180 | -0.0056 |
| | t statistic | 0.1613 | -1.0277 | -0.1362 |
| | Odd .Ratio (P.C) | -0.7% | 1.2% | -0.6% |

Table 15: Main Results Policy Variable Model II by Gender (Exit from a Temporary Contract)

| | | To U. | | To T. C. | | To P. C. | |
|-------|---------------------------|---------|---------|----------|---------|----------|---------|
| | | Dijt | Dijt^2 | Dijt | Dijt^2 | Dijt | Dijt^2 |
| Women | coef. | 0.0202 | -0.0014 | 0.0335 | -0.0019 | 0.0481 | -0.0024 |
| | t statistic | 6.18 | -5.68 | 4.63 | -3.60 | 3.03 | -2.06 |
| | Max. Effect (€)/Odd Ratio | 14.418 | 12.41% | 15.352 | 6.42% | 10.215 | 20.21% |
| Men | coef. | -0.0054 | -0.0001 | 0.0157 | -0.0016 | 0.0368 | -0.0021 |
| | t statistic | -2.13 | -0.31 | 3.30 | -4.55 | 3.02 | -2.24 |
| | Max. Effect (€)/Odd Ratio | 10.407 | 17.65% | 21.414 | 9.94% | 8.805 | 14.26% |

Average Wage Subsidy=5.100

Table 16: Main Results by Age and Gender of the Policy Variable Model II (Exit from a Temporary Contract)

| | | To U. | | To T. C. | | To I. C. | |
|------------------|---------------------------|---------|------------|----------|------------|----------|------------|
| | | Dijt | Dijt^2 | Dijt | Dijt^2 | Dijt | Dijt^2 |
| Women-Young | coef. | 0.0186 | -0.0012 | 0.0254 | -0.0009 | 0.0401 | -0.0023 |
| | t statistic | 4.11 | -3.48 | 2.62 | -1.37 | 1.92 | -1.53 |
| | Test Joint Signif. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Max. Effect (€)/Odd Ratio | 9.273 | 8.28% | 5.330 | 4.00% | 8.623 | 15.50% |
| Men-Young | coef. | -0.0050 | -0.0001 | 0.0032 | -0.0006 | -0.0138 | 0.0016 |
| | t statistic | -1.34 | -0.29 | 0.44 | -1.11 | -0.81 | 1.27 |
| | Test Joint Signif. | - | 33.2 (0.0) | - | 16.8 (0.0) | - | 1.9 (0.4) |
| | Max. Effect (€)/Odd Ratio | - | -0.05% | - | -2.84% | - | -2.75% |
| Women-Medium Age | coef. | 0.0184 | -0.0015 | 0.0111 | -0.0005 | 0.0198 | 0.0000 |
| | t statistic | 3.33 | -3.60 | 0.92 | -0.55 | 0.72 | 0.02 |
| | Test Joint Signif. | - | - | - | 1.3(0.5) | - | 5.7(0.05) |
| | Max. Effect (€)/Odd Ratio | - | 4.89% | - | 5.96% | - | 10.70% |
| Men-Medium Age | coef. | -0.0041 | -0.0003 | -0.0018 | -0.0008 | 0.0323 | -0.0026 |
| | t statistic | -0.90 | -0.92 | -0.24 | -1.43 | 1.55 | -1.59 |
| | Test Joint Signif. | - | 28.6 (0.0) | - | 39.2 (0.0) | - | 2.7 (0.2) |
| | Max. Effect (€)/Odd Ratio | 7.920 | 13.42% | 9.504 | 13.58% | 6.169 | 10.15% |
| Women-Old | coef. | 0.0423 | -0.0030 | 0.1026 | -0.0078 | 0.0374 | -0.0011 |
| | t statistic | 4.04 | -4.12 | 4.45 | -4.79 | 0.67 | -0.31 |
| | Test Joint Signif. | - | - | - | - | - | 0.8(0.6) |
| | Max. Effect (€)/Odd Ratio | - | 2.39% | - | -14.82% | - | 17.48% |
| Men-Old | coef. | -0.0115 | 0.0003 | 0.0494 | -0.0036 | 0.0663 | -0.0037 |
| | t statistic | -1.50 | 0.62 | 3.49 | -3.76 | 1.64 | -1.28 |
| | Test Joint Signif. | - | 5.0 (0.08) | - | - | - | 4.9 (0.08) |
| | Max. Effect (€)/Odd Ratio | 9.765 | 34.06% | 238.297 | 8.91% | 9.085 | 27.55% |

Table 17: Odd Ratio by Gender and Amount of the Subsidy, Model II (Exit from a Temporary Contract)

| | | Odd Ratio | | | |
|--------------|-------------|-----------|-----------|-------------|--------------|
| Wage Subsidy | | P. C.-U | P.C-T. C. | P. C.-cens. | Var in Prob. |
| Women | 3000 | 7.9% | 4.0% | 13.1% | 0.6% |
| | 5100 | 12.4% | 6.4% | 20.2% | 1.1% |
| | 6000 | 14.2% | 7.3% | 22.6% | 1.2% |
| Men | 3000 | 11.4% | 6.1% | 9.6% | 0.7% |
| | 5100 | 17.6% | 9.9% | 14.2% | 1.2% |
| | 6000 | 19.8% | 11.5% | 15.7% | 1.4% |

Table 18: Main Results by Gender of the Policy Variable Model II (Exit from a Temporary Contract; Subsample: Workers that move into the same firm)

| | | To U. | | To T. C. | | To I. C. | |
|--------------|----------------------------------|---------|---------|----------|---------|----------|---------|
| | | Dijt | Dijt^2 | Dijt | Dijt^2 | Dijt | Dijt^2 |
| Women | coef. | 0.0297 | -0.0021 | 0.0556 | -0.0033 | 0.0813 | -0.0051 |
| | t statistic | 5.38 | -5.08 | 5.51 | -4.49 | 2.96 | -2.53 |
| | Max. Effect (€)/Odd Ratio | 8.450 | 20.17% | 6.932 | 8.64% | 7.894 | 32.39% |
| Men | coef. | -0.0051 | 0.0002 | 0.0371 | -0.0028 | 0.0405 | -0.0022 |
| | t statistic | -1.02 | 1.00 | 4.52 | -4.72 | 1.69 | -12.07 |
| | Max. Effect (€)/Odd Ratio | 9.631 | 18.65% | -2.732 | 3.42% | 9.235 | 16.12% |

Average Wage Subsidy=5.100

Table 19: Exit rate from Unemployment, Model II (Men by age)

| | Full Sample | | Age <30 | | Age 30-45 | | Age >45 | |
|--|-------------|---------|---------|---------|-----------|---------|---------|---------|
| | Coef. | t-S | Coef. | t-S | Coef. | t-S | Coef. | t-S |
| Alternative: Temporary Contract | | | | | | | | |
| Unemp. Dur (ln) | -1.219 | -249.73 | -1.059 | -169.68 | -1.115 | -114.53 | -0.921 | -60.06 |
| Unemp. Dur (ln) | 0.188 | 108.94 | 0.192 | 89.26 | 0.157 | 46.53 | 0.045 | 8.71 |
| D _{ijt} (Wage Subsidy) | 0.026 | 11.72 | -0.032 | -9.49 | -0.006 | -1.54 | 0.021 | 2.81 |
| D _{ijt} (Wage Subsidy) ² | -0.002 | -11.09 | 0.002 | 8.14 | 0.001 | 1.91 | -0.001 | -2.04 |
| D _{ij} | 0.076 | 9.86 | 0.030 | 2.24 | 0.090 | 7.68 | 0.108 | 3.40 |
| D _{jt} | -0.061 | -9.27 | 0.072 | 6.79 | 0.017 | 1.55 | -0.034 | -1.57 |
| D _j | -0.072 | -8.56 | -0.044 | -3.16 | -0.003 | -0.25 | -0.068 | -2.02 |
| Age | 0.220 | 238.68 | 1.697 | 315.99 | 1.762 | 204.29 | 1.916 | 141.83 |
| Age ² | -0.003 | -232.49 | -0.036 | -306.10 | -0.024 | -203.38 | -0.018 | -142.58 |
| Receive Unemp. Benefits | -0.887 | -166.27 | -0.875 | -103.48 | -1.016 | -113.26 | -0.982 | -70.46 |
| Duration of Unemp. Benefits | 0.187 | 43.83 | 0.246 | 32.84 | 0.283 | 38.86 | 0.266 | 25.59 |
| Dempleo | 0.419 | 4.94 | 0.869 | 7.68 | -0.129 | -0.78 | -0.519 | -1.94 |
| Regional Unemp. Rate | -0.005 | -16.18 | 0.000 | 0.16 | -0.005 | -7.88 | 0.000 | 0.04 |
| T.c. PIB | 0.000 | -0.13 | -0.003 | -0.80 | -0.009 | -1.51 | -0.012 | -1.16 |
| Part-time Job | -0.215 | -48.77 | -0.201 | -38.36 | -0.290 | -27.65 | -0.291 | -14.37 |
| Temporary Help Agency | 0.359 | 62.23 | 0.274 | 40.13 | 0.481 | 33.99 | 0.536 | 17.31 |
| High Wage Category | -0.232 | -24.98 | -0.164 | -12.00 | 0.012 | 0.77 | 0.039 | 1.37 |
| Medium-High Wage Category | -0.157 | -25.08 | -0.167 | -20.50 | -0.051 | -4.19 | -0.024 | -1.12 |
| Medium-Low Wage Category | 0.056 | 15.86 | -0.039 | -7.71 | 0.179 | 28.09 | 0.260 | 24.75 |
| Immigrant | -0.001 | -0.12 | 0.197 | 17.39 | 0.002 | 0.15 | 0.119 | 5.14 |
| Layoff | 0.103 | 24.12 | 0.067 | 12.80 | 0.131 | 14.00 | 0.140 | 7.87 |
| Big Firm | 0.020 | 3.92 | -0.035 | -5.58 | 0.064 | 5.70 | 0.119 | 5.84 |
| New Firm | 0.030 | 9.36 | 0.046 | 10.91 | 0.015 | 2.45 | 0.060 | 5.88 |
| Same Firm | 0.682 | 190.03 | 0.493 | 102.90 | 0.543 | 79.59 | 0.533 | 50.03 |
| Cte | -4.306 | -200.42 | -20.379 | -316.83 | -32.273 | -202.66 | -50.235 | -140.96 |
| Alternative: Permanent Contract | | | | | | | | |
| Unemp. Dur (ln) | -1.245 | -108.70 | -1.042 | -74.75 | -1.149 | -49.71 | -0.873 | -23.34 |
| Unemp. Dur (ln) | 0.220 | 54.66 | 0.208 | 43.76 | 0.182 | 22.60 | 0.058 | 4.59 |
| D _{ijt} (Wage Subsidy) | 0.066 | 12.44 | -0.029 | -3.93 | 0.018 | 1.86 | 0.068 | 3.55 |
| D _{ijt} (Wage Subsidy) ² | -0.003 | -8.28 | 0.004 | 6.79 | 0.000 | -0.63 | -0.003 | -2.50 |
| D _{ij} | 0.077 | 4.27 | 0.078 | 2.68 | 0.058 | 2.09 | -0.152 | -2.19 |
| D _{jt} | -0.141 | -8.64 | 0.099 | 4.16 | -0.042 | -1.57 | -0.135 | -2.40 |
| D _j | -0.331 | -17.45 | -0.342 | -11.33 | -0.251 | -8.47 | -0.240 | -3.43 |
| Age | 0.289 | 117.17 | 1.942 | 141.50 | 1.796 | 80.10 | 2.071 | 53.41 |
| Age ² | -0.004 | -112.78 | -0.040 | -135.77 | -0.025 | -80.36 | -0.020 | -53.68 |
| Receive Unemp. Benefits | -0.709 | -55.94 | -0.643 | -35.31 | -0.855 | -39.11 | -0.960 | -26.81 |
| Duration of Unemp. Benefits | 0.294 | 29.81 | 0.357 | 23.30 | 0.408 | 23.58 | 0.334 | 12.78 |
| dempleo | 0.377 | 1.87 | 0.733 | 2.88 | -0.339 | -0.85 | 0.451 | 0.67 |
| Regional Unemployment Rate | -0.045 | -52.62 | -0.033 | -30.18 | -0.049 | -29.37 | -0.058 | -18.40 |
| T.c. PIB | -0.007 | -0.95 | -0.004 | -0.43 | -0.037 | -2.58 | 0.003 | 0.12 |
| Part-time Job | -0.195 | -19.88 | -0.220 | -19.00 | -0.173 | -7.85 | -0.130 | -3.15 |
| Temporary Help Agency | -0.070 | -5.04 | -0.139 | -8.59 | 0.082 | 2.56 | 0.080 | 1.12 |
| High Wage Category | 0.262 | 15.21 | 0.386 | 16.56 | 0.421 | 13.95 | 0.418 | 7.42 |
| Medium-High Wage Category | 0.190 | 15.23 | 0.092 | 5.69 | 0.439 | 18.69 | 0.493 | 11.95 |
| Medium-Low Wage Category | 0.156 | 18.41 | 0.120 | 10.87 | 0.286 | 17.60 | 0.290 | 10.56 |
| Immigrant | -0.049 | -2.89 | 0.099 | 3.87 | -0.003 | -0.13 | -0.114 | -1.98 |
| Layoff | -0.200 | -21.87 | -0.213 | -19.40 | -0.244 | -12.52 | -0.283 | -7.69 |
| Big Firm | -0.038 | -3.20 | -0.056 | -4.06 | -0.015 | -0.60 | -0.207 | -3.94 |
| New Firm | -0.005 | -0.62 | 0.012 | 1.28 | -0.030 | -1.97 | 0.081 | 3.19 |
| Same Firm | 0.069 | 7.21 | -0.223 | -17.73 | 0.061 | 3.44 | 0.118 | 4.24 |
| Cte | -5.907 | -112.95 | -24.452 | -148.88 | -32.806 | -80.11 | -54.178 | -53.48 |

* We also control for time and quarterly dummies and for sector of activity

Table 20: Exit rate from unemployment, Model II (Women by Age)

| | Full Sample | | Age <30 | | Age 30-45 | | Age >45 | |
|--|-------------|---------|---------|---------|-----------|---------|---------|---------|
| | Coef. | t-S | Coef. | t-S | Coef. | t-S | Coef. | t-S |
| Alternative: Temporary Contract | | | | | | | | |
| Unemp. Dur (ln) | -0.996 | -181.14 | -0.810 | -117.24 | -0.777 | -73.06 | -0.592 | -29.89 |
| Unemp. Dur (ln) | 0.122 | 64.42 | 0.111 | 47.63 | 0.065 | 18.26 | -0.006 | -0.93 |
| D _{ijt} (Wage Subsidy) | 0.013 | 4.69 | -0.008 | -2.05 | 0.003 | 0.61 | 0.050 | 4.78 |
| D _{ijt} (Wage Subsidy) ² | 0.000 | -1.96 | 0.001 | 2.26 | 0.000 | 0.94 | -0.003 | -3.68 |
| D _{ij} | -0.070 | -11.91 | -0.064 | -8.47 | 0.000 | -0.02 | 0.054 | 2.49 |
| D _{jt} | -0.047 | -5.09 | 0.010 | 0.79 | -0.010 | -0.61 | -0.179 | -5.33 |
| Age | 0.248 | 196.84 | 1.925 | 296.85 | 1.895 | 197.91 | 1.918 | 100.45 |
| Age ² | -0.004 | -192.40 | -0.041 | -290.89 | -0.026 | -196.89 | -0.019 | -100.49 |
| Receive Unemp. Benefits | -0.960 | -145.22 | -0.941 | -94.17 | -0.905 | -83.83 | -0.812 | -40.60 |
| Duration of Unemp.Benefits | 0.189 | 35.83 | 0.261 | 31.22 | 0.257 | 29.58 | 0.189 | 11.50 |
| dempleo | -0.066 | -0.67 | 0.072 | 0.56 | -0.748 | -3.98 | -0.802 | -2.16 |
| Regional Unemployment Rate | -0.012 | -28.86 | -0.006 | -11.93 | -0.007 | -9.95 | -0.006 | -3.73 |
| T.c. PIB | -0.005 | -1.45 | -0.003 | -0.69 | -0.020 | -2.73 | 0.003 | 0.21 |
| Part-time Job | -0.142 | -38.47 | -0.101 | -21.38 | -0.174 | -23.75 | -0.150 | -10.80 |
| Temporary Help Agency | 0.312 | 50.35 | 0.255 | 33.90 | 0.401 | 29.16 | 0.419 | 14.51 |
| High Wage Category | 0.096 | 13.39 | 0.100 | 10.07 | 0.227 | 18.76 | 0.210 | 6.57 |
| Medium-High Wage Category | -0.002 | -0.40 | -0.076 | -10.52 | 0.045 | 4.42 | 0.029 | 1.55 |
| Medium-Low Wage Category | 0.038 | 9.47 | -0.058 | -11.17 | 0.094 | 11.69 | 0.079 | 5.08 |
| Inmigrant | -0.002 | -0.14 | 0.058 | 3.35 | 0.056 | 3.25 | 0.199 | 5.09 |
| Layoff | 0.202 | 37.16 | 0.094 | 14.25 | 0.235 | 19.52 | 0.237 | 9.26 |
| Big Fimr | 0.097 | 21.21 | 0.064 | 10.64 | 0.146 | 17.03 | 0.215 | 13.38 |
| New Firm | 0.026 | 7.02 | 0.026 | 5.42 | 0.029 | 4.03 | 0.048 | 3.56 |
| Same Firm | 0.869 | 226.20 | 0.620 | 121.37 | 0.667 | 93.57 | 0.755 | 55.59 |
| Cte | -4.782 | -178.60 | -23.326 | -295.51 | -35.044 | -197.83 | -50.210 | -100.95 |
| Alternative : Permanent Contract | | | | | | | | |
| Unemp. Dur (ln) | -0.942 | -79.27 | -0.779 | -53.99 | -0.610 | -26.45 | -0.349 | -8.23 |
| Unemp. Dur (ln) | 0.118 | 28.89 | 0.115 | 23.86 | 0.028 | 3.65 | -0.077 | -5.37 |
| D _{ijt} (Wage Subsidy) | 0.041 | 6.54 | 0.012 | 1.48 | 0.036 | 3.24 | -0.019 | -0.84 |
| D _{ijt} (Wage Subsidy) ² | -0.001 | -1.69 | 0.000 | 0.74 | 0.000 | -0.01 | 0.004 | 2.25 |
| D _{ij} | -0.342 | -26.98 | -0.299 | -18.83 | -0.361 | -14.75 | -0.226 | -5.04 |
| D _{jt} | -0.108 | -5.13 | 0.000 | 0.00 | -0.132 | -3.61 | -0.032 | -0.42 |
| Age | 0.328 | 108.77 | 2.192 | 141.00 | 1.944 | 88.81 | 2.140 | 47.16 |
| Age ² | -0.005 | -104.34 | -0.045 | -136.58 | -0.027 | -88.79 | -0.021 | -47.07 |
| Receive Unemp. Benefits | -0.723 | -51.00 | -0.660 | -33.49 | -0.764 | -30.81 | -0.513 | -11.77 |
| Duration of Unemp.Benefits | 0.290 | 27.20 | 0.369 | 24.01 | 0.352 | 18.86 | 0.291 | 8.62 |
| dempleo | 1.068 | 4.85 | 0.688 | 2.49 | 1.362 | 3.20 | 0.941 | 1.17 |
| Regional Unemployment Rate | -0.038 | -39.99 | -0.029 | -24.49 | -0.040 | -21.59 | -0.046 | -12.12 |
| T.c. PIB | -0.015 | -1.89 | -0.014 | -1.50 | -0.034 | -2.14 | 0.021 | 0.67 |
| Part-time Job | -0.089 | -11.07 | -0.177 | -17.53 | 0.058 | 3.69 | 0.273 | 9.59 |
| Temporary Help Agency | 0.051 | 3.58 | 0.030 | 1.80 | 0.051 | 1.58 | -0.177 | -2.42 |
| High Wage Category | -0.046 | -2.72 | 0.021 | 0.95 | -0.010 | -0.33 | -0.332 | -3.98 |
| Medium-High Wage Category | 0.116 | 9.98 | 0.079 | 5.28 | 0.168 | 7.72 | -0.105 | -2.47 |
| Medium-Low Wage Category | 0.191 | 22.14 | 0.146 | 13.49 | 0.179 | 10.38 | 0.031 | 0.96 |
| Inmigrant | 0.066 | 3.03 | 0.210 | 6.66 | 0.066 | 1.97 | 0.114 | 1.42 |
| Layoff | -0.233 | -22.96 | -0.298 | -24.41 | -0.301 | -14.13 | -0.283 | -6.43 |
| Big Fimr | -0.040 | -3.87 | -0.018 | -1.40 | -0.051 | -2.53 | -0.112 | -2.95 |
| New Firm | 0.054 | 6.87 | 0.060 | 6.09 | 0.070 | 4.52 | 0.083 | 2.87 |
| Same Firm | 0.172 | 18.70 | -0.221 | -17.55 | 0.204 | 12.46 | 0.259 | 8.86 |
| Cte | -6.790 | -112.76 | -27.590 | -145.70 | -36.326 | -90.07 | -56.594 | -48.22 |

Table 21: Main Results by Gender of the Policy Variable Model I (Exit from Unemployment)

| | | To T. C. | To P. C. |
|--------------|------------------------|----------|----------|
| Women | Dijt | -0.1408 | 0.1440 |
| | t statistic | 0.0170 | 0.0459 |
| | odd ratio (P.C) | 32.95% | 15.49% |
| Men | Dijt | -0.0305 | 0.0646 |
| | t statistic | -3.4359 | 2.8336 |
| | odd ratio (P.C) | 9.98% | 6.68% |

Table 22: Main Results by Gender of the Policy Variable Model II (Exit from Unemployment)

| | | To T. C. | | To P. C. | |
|--------------|----------------------------------|----------|-------------|----------|---------|
| | | Dijt | Dijt^2 | Dijt | Dijt^2 |
| Women | coef. | 0.0135 | -0.0004 | 0.0412 | -0.0008 |
| | t statistic | 4.69 | -1.96 | 6.54 | -1.69 |
| | Test Joint Significance | - | 9.34 (0.00) | - | - |
| | Max. Effect (€)/Odd Ratio | - | 11.67% | 26.478 | 20.91% |
| Men | coef. | 0.0259 | -0.0019 | 0.0656 | -0.0033 |
| | t statistic | 11.72 | -11.09 | 12.44 | -8.28 |
| | Test Joint Significance | - | - | - | - |
| | Max. Effect (€)/Odd Ratio | 6.929 | 6.96% | 9.869 | 28.15% |

Table 23: Main Results by Gender and Age of the Policy Variable Model II (Exit from Unemployment)

| | | To T. C. | | To P. C. | |
|-------------------------|----------------------------------|----------|-------------|----------|-------------|
| | | Dijt | Dijt^2 | Dijt | Dijt^2 |
| Women-Young | coef. | -0.0082 | 0.0007 | 0.0124 | 0.0005 |
| | t statistic | -2.05 | 2.26 | 1.48 | 0.74 |
| | Test Joint Signif. | - | - | - | 15.4 (0.00) |
| | Max. Effect (€)/Odd Ratio | 6.185 | 14.37% | -13.625 | 7.78% |
| Men-Young | coef. | -0.0323 | 0.0021 | -0.0289 | 0.0037 |
| | t statistic | -9.49 | 8.14 | -3.93 | 6.79 |
| | Test Joint Signif. | - | - | - | - |
| | Max. Effect (€)/Odd Ratio | - | 18.29% | - | -4.99% |
| Women-Medium Age | coef. | 0.0031 | 0.0004 | 0.0360 | 0.0000 |
| | t statistic | 0.61 | 0.94 | 3.24 | -0.01 |
| | Test Joint Signif. | - | 2.33 (0.31) | - | 67.7 (0.00) |
| | Max. Effect (€)/Odd Ratio | -4.275 | 19.38% | - | 20.13% |
| Men-Medium Age | coef. | -0.0061 | 0.0006 | 0.0177 | -0.0005 |
| | t statistic | -1.54 | 1.91 | 1.86 | -0.63 |
| | Test Joint Signif. | - | - | - | 7.9 (0.0) |
| | Max. Effect (€)/Odd Ratio | 5.247 | 13.28% | 19.215 | 8.13% |
| Women-Old | coef. | 0.0496 | -0.0027 | -0.0191 | 0.0035 |
| | t statistic | 4.78 | -3.68 | -0.84 | 2.25 |
| | Test Joint Signif. | - | - | - | 18.0 (0.0) |
| | Max. Effect (€)/Odd Ratio | 9.307 | -27.99% | - | -0.58% |
| Men-Old | coef. | 0.0211 | -0.0011 | 0.0680 | -0.0034 |
| | t statistic | 2.81 | -2.04 | 3.55 | -2.50 |
| | Test Joint Signif. | - | - | - | - |
| | Max. Effect (€)/Odd Ratio | - | - | 9.880 | 29.35% |

Table 24: Odd Ratio by Gender and Amount of the Subsidy, Model II (Exit from Unemployment)

| | | Odd Ratio | | |
|--------------|-------------|-----------|--------|---------------|
| Wage Subsidy | | P.C-T.C. | P.C-U. | Var. In Prob. |
| Women | 3000 | 7.5% | 12.4% | 2.3% |
| | 5100 | 11.7% | 20.1% | 4.0% |
| | 6000 | 13.1% | 24.5% | 4.4% |
| Men | 3000 | 7.5% | 18.2% | 1.7% |
| | 5100 | 6.9% | 28.1% | 2.6% |
| | 6000 | 5.2% | 31.5% | 2.9% |

Table 25: Exit rate from a permanent contract (By Gender)

| | Unemployment | | Temporary Contract | | Permanent Contract | |
|----------------------------|--------------|-----------|--------------------|-----------|--------------------|-----------|
| | Coefficient | t-student | Coefficient | t-student | Coefficient | t-student |
| MEN | | | | | | |
| Constant | -1.71 | -17.4 | -3.16 | -13.7 | -4.23 | -13.6 |
| Employment Duration (ln) | -1.09 | -49.8 | -1.25 | -25.4 | -1.25 | -18.9 |
| Employment Duration^2 (ln) | 0.22 | 37.2 | 0.25 | 18.4 | 0.28 | 15.5 |
| Month 6 | 0.66 | 22.1 | 0.50 | 6.6 | 0.38 | 3.6 |
| Month 12 | 0.36 | 8.9 | 0.19 | 1.8 | 0.39 | 3.2 |
| Month 24 | 0.00 | 0.0 | -0.21 | -1.4 | -0.52 | -2.3 |
| Month 36 | -0.32 | -3.9 | -0.06 | -0.3 | -0.09 | -0.5 |
| D _{ijt} | 0.05 | 1.5 | -0.08 | -1.0 | -0.03 | -0.3 |
| D _{ij} | -0.14 | -4.8 | 0.15 | 0.1 | 0.24 | 2.3 |
| D _{jt} | -0.02 | -0.6 | 0.89 | 1.0 | 0.03 | 1.5 |
| D _j | 0.09 | -2.4 | 0.03 | 0.4 | -0.41 | -3.6 |
| Temporary Help Agency | 0.63 | 5.4 | 1.15 | 5.9 | 1.63 | 7.2 |
| Same Firm | 1.03 | 47.8 | 0.25 | 5.7 | 2.18 | 39.4 |
| Layoff | 1.79 | 120.1 | 1.16 | 4.6 | 0.85 | 18.6 |
| Big Firm | -0.32 | -12.8 | -0.43 | -7.4 | -0.51 | -6.9 |
| New Activity | 0.19 | 13.7 | 0.25 | 7.6 | 0.10 | 2.6 |
| Regional Unemployment Rate | -0.01 | -8.4 | -0.00 | -0.1 | -0.02 | -2.7 |
| T.c. PIB | -0.01 | -1.4 | -0.05 | -1.5 | -0.03 | -0.8 |
| WOMEN | | | | | | |
| Constant | -1.40 | -13.4 | -1.71 | -5.6 | -3.58 | -9.5 |
| Employment Duration (ln) | -0.90 | -40.8 | -1.28 | -21.4 | -1.33 | -18.8 |
| Employment Duration^2 (ln) | 0.19 | 31.5 | 0.24 | 14.9 | 0.28 | 14.5 |
| Month 6 | 0.51 | 17.6 | 0.27 | 2.6 | 0.25 | 2.6 |
| Month 12 | 0.28 | 6.2 | 0.27 | 2.1 | 0.34 | 2.2 |
| Month 24 | 0.04 | 0.8 | -0.01 | -0.6 | 0.06 | 0.6 |
| Month 36 | -0.12 | -1.3 | -0.28 | -1.3 | 0.14 | 0.1 |
| D _{ijt} | 0.05 | 0.7 | -0.25 | -1.9 | 0.06 | 1.5 |
| D _{ij} | -0.02 | -0.8 | -0.08 | -1.9 | -0.12 | -0.9 |
| D _{jt} | -0.03 | -0.5 | 0.20 | 1.5 | -0.05 | 1.5 |
| D _j | - | - | - | - | - | - |
| Temporary Help Agency | 0.54 | 5.8 | 0.92 | 5.9 | 1.01 | 4.7 |
| Same Firm | 1.36 | 73.8 | 0.13 | 4.7 | 2.13 | 38.4 |
| Layoff | 1.64 | 108.1 | 0.93 | 22.1 | 0.79 | 15.6 |
| Big Firm | -0.20 | -9.8 | -0.27 | -4.4 | -0.42 | -6.4 |
| New Activity | 0.15 | 10.7 | 0.18 | 4.4 | 0.19 | 4.6 |
| Regional Unemployment Rate | -0.02 | -12.7 | -0.02 | -3.0 | -0.02 | -3.7 |
| T.c. PIB | -0.07 | -14.4 | 0.00 | 0.0 | -0.04 | -0.9 |

* We also control for age, nationality, wage, hours of work and time dummies

Table 26: Main Results Policy Variable Model I by Gender (Exit from a Permanent Contract)

| | | To U. | To T. C. | To P. C. |
|--------------|------------------------------|-------|----------|----------|
| Women | Dijt | 0.05 | -0.25 | 0.06 |
| | t statistic | 0.7 | -1.9 | 1.5 |
| | Odd .Ratio (Censored) | 5.13% | -22.12% | 6.18% |
| Men | Dijt | 0.05 | -0.08 | -0.03 |
| | t statistic | 1.5 | -1.0 | -0.3 |
| | Odd .Ratio (Censored) | 5.13% | -7.69% | -2.96% |