

Start-up subsidies for youth: Do they work?

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Abstract

The dramatic growth of unemployment figures in Spain during the economic downturn has increased policies fostering entrepreneurship, particularly among the youth. The aim of this paper is to evaluate the impact of a Spanish programme fostering self-employment among unemployed young workers. We use an administrative dataset (the Continuous Working Lives Sample) to study the survival of subsidized start-ups compared to those not subsidized. Using a differences-in-differences (DID) approach, our results suggest that the programme has no effect in terms of survival rates.

Keywords: Entrepreneurship, Evaluation, Youth unemployment, differences-in-differences

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1 Introduction

The dramatic growth of unemployment figures in Spain during the economic downturn has resulted in reforms of labour market policies and new active labour market programmes¹. One of the most used is the promotion of self-employment as a means of reducing unemployment and increasing entrepreneurship. Although the expenditure in active labour market policies in Spain decreased during the economic downturn, the proportion of spending targeting start-up programmes has increased. Therefore, while expenditure amounted to 770 million euros in 2006, it rose to 1,158 million euros in 2012, according to Eurostat, representing a 50.4% increase². Moreover, considering the high youth unemployment rates, which climbed to a maximum of 55.5% in 2013, these types of programmes have particularly targeted young individuals. In this paper, our aim is to evaluate the impact of a Spanish programme launched in 2013 on the survival probability of new firms.

Start-up programmes are particularly interesting because they have a double perspective. First, their aim is to improve the participants' labour market outcomes, returning them to employment and avoiding unemployment. Second, these programmes usually identify self-employment to entrepreneurship, suggesting that they have potential effects in terms of job creation due to the business growth. Therefore, the results of start-up programmes are particularly important. However, the evidence is scarce mainly because of data limitations (Caliendo et al. 2015). In general, the existing evaluations conclude positive effects, with improving participants' employment probabilities, but the results are limited in terms of job creation. For Sweden, Månsson and Delander (2011) state that start-up subsidies are one of the most successful labour market programmes. The authors evaluate a programme targeting unemployed persons (or individuals at risk of becoming unemployed). It consists of a supplementary income during the six months since the start-up. Participants should have some knowledge in starting and running a business, or they must participate in a training course. Additionally, they must present a business plan approved by an external expert. The results suggest that female participants have a higher success rate (in terms of being employed four years after participation) than male and female non-participants. In comparison to male participants, female participants are less successful. For France, (Désiage, Duhautois, and Redor 2010) found that tax cuts contribute to increase survival after two years and to turnover growth rate. The programme selected start-ups depending on the characteristics of entrepreneurs and businesses.

The majority of the existing evaluations correspond to German programmes. (Caliendo and Kritikos 2010) study the results of start-up programmes targeting unemployed individuals in Germany. Survival rates after 2.5 years are approximately 70%. The authors consider these rates considerable, although they note the possibility of deadweight losses. (Caliendo and Künn 2015) analyse the long-term effect of these programmes to foster self-employment among unemployed individuals. Compared to non-participation, both programmes contributed to improving employment probabilities and earnings of participants after 5 years. (Wolff and Nivorozhkin 2012) evaluate a German programme fostering entrepreneurship among welfare recipients. They find that the programme is effective in terms of unemployment and dependency on welfare. (Caliendo and Künn

¹ See (ILO 2014) for a summary of Spanish labour reforms in recent years.

² In the same period of time, expenditure in ALMP decreased 8.2%.

2011) find a similar result, concluding that start-up subsidies are more effective for disadvantage groups in the labour market.

The most comprehensive evaluation is that of (Caliendo et al. 2015) because they have a control group, and they can obtain indicators in terms of labour market outcomes and business performance. The authors evaluate a start-up subsidy launched in Germany in 2009, comparing subsidized business to regular business founders and focusing on the business trajectory during 19 months. They find that subsidized founders have less employment and industry-specific experience, and they have a higher probability of being necessity entrepreneurs than non-subsidized founders. In terms of business performance, survival rates 19 months after start-up are higher for subsidized start-ups from unemployment, but performance in terms of income, business growth and innovation is better for regular business founders. This result is especially interesting because, as the authors explain, the programme has a positive result in terms of improving the participants' labour market outcomes, but the impact in economic terms (job creation and innovation) is limited.

For the Spanish case, (Cueto and Mato 2006) analyse survival rates of participants in a self-employment programme, although there was no control group. From a macroeconomic point of view, (Mayor, Cueto, and Suárez 2015) evaluate the capitalization of unemployment benefits to become self-employed, concluding the existence of a high dead-weight effect. In general, Spanish programmes tend to be general, targeted to all kinds of unemployed individuals, limiting their impact. As (Congregado, Golpe, and Carmona 2010) state, “the new schemes of incentives approved by the Spanish Government for encouraging unemployed people to become own-account workers can only aspire, in the best case scenario, to reduce unemployment directly but not to create new employment.” Our aim in this article is to evaluate a Spanish programme targeted to young unemployed workers in terms of business survival.

2 Fostering self-employment among youth

The self-employment rate in Spain was 16.7% in 2014, which was greater than the European average (14.4% for the EU-28). The youth self-employment rate is generally low (below 5%), although in the case of Spain, it is also greater than the average. The self-employment rate for workers under 25 was 6.5% compared to the average of 4.2%. The low self-employment incidence amongst youth exhibits a significant and stable trend in the majority of advanced economies (Blanchflower and Meyer 1994).

During recent years, self-employment has been promoted as a means of reducing unemployment and increasing entrepreneurship. At the European level, in 2013, the European Commission launched the *Entrepreneurship Action Plan 2020* with a series of actions to remove obstacles to entrepreneurship, with special emphasis on youth entrepreneurship, such as the *Youth Entrepreneurship Strategies* (European Commission 2013). In the Spanish case, the objectives of the *Strategy of Entrepreneurship and Youth Employment 2013-2016*³ include developing corporate spirit, improving youth employability, and increasing quality and the establishment of work and equal access promotion in the labour market. The Spanish Government has launched several programmes to foster self-employment among the unemployed and particularly among (unemployed) youth.

³ See <http://www.empleo.gob.es/es/garantiajuvenil/informate.html>.

One of the main programmes is the one known as the ‘Flat rate for young self-employed workers’, launched in February 2013⁴, which comprises a reduction in the minimum contribution to the Social Security System. Self-employed workers have their own contributory system to Social Security. Workers aged under 47 can choose their contribution base between the limits of the minimum and maximum bases. The quota to be paid is the result of applying 26.5% to the contributory base. Young workers usually choose the minimum contribution base in order to pay the lowest amount⁵. Considering the minimum contribution bases for the period 2013-2015⁶, the quota amounts to € 234.4, € 232.1 and € 227.5 for each year. The programme includes a reduction over these quotas.

The evaluated programme has two main target groups distinguishing whether the individual had previous self-employment experience during the past five years. If applicants have not been self-employed during the previous five years, there is a discount of 80% in the minimum contribution to Social Security for the first six months. Subsequently, for the following six months, the reduction is 50%, and after the first year, participants will continue to enjoy a discount of 30% in their contributions for the next 18 months. As we mentioned, the target group is formed by men up to age 30 and women up to 35.

If applicants have been self-employed during the previous five years, there is a discount of 30% in the minimum contribution for common contingencies to Social Security for the first 30 months⁷ for men younger than 30 and women younger than 35.

The discounts are calculated for the minimum contribution bases. The following figure represents the contributions paid by workers entering self-employment in January 2013 for three years with and without the discounts.

For young workers without previous experience in self-employment during the past 5 years, considering the reductions, the contribution for the first six months is € 51 monthly, € 128 in the following six months and € 183 in the following 6 months (18 months for men up to age 30 and women up to 35). In summary, the savings amount to € 3,617 during a period of three years. In the case of young workers with previous experience in self-employment, the discount amounts to € 2,884.4.

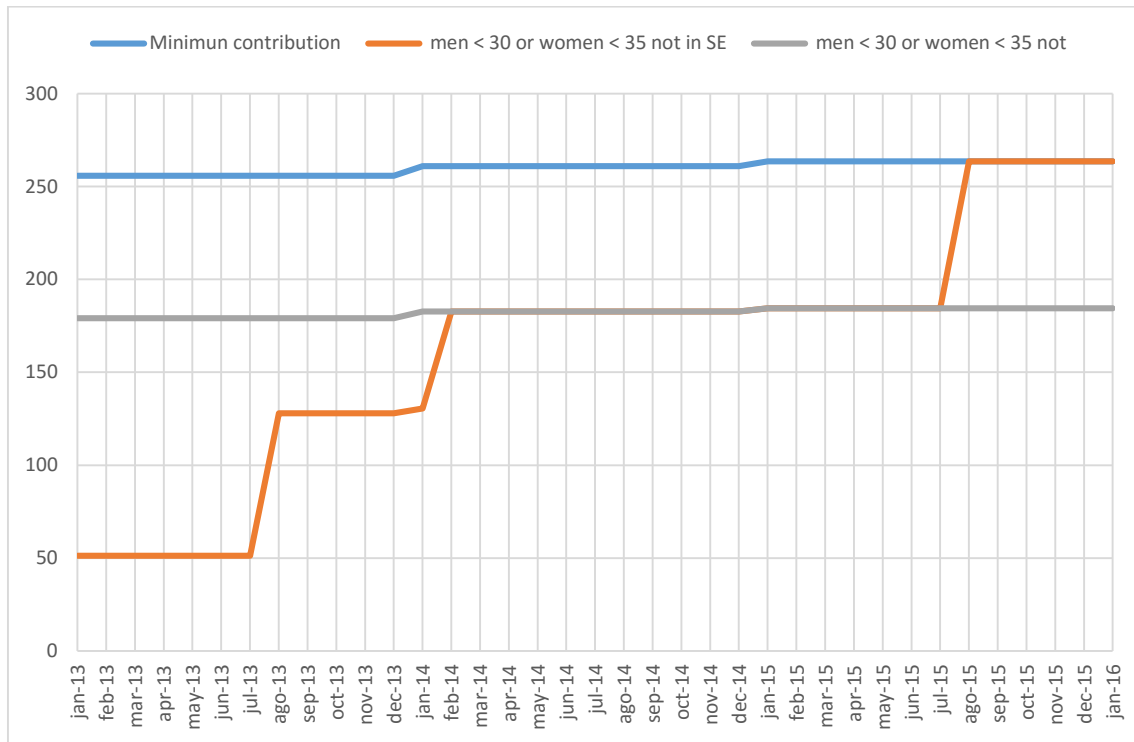
⁴ Royal Decree-Law 4/2013, of February 22, of measures to support entrepreneurship and fostering growth y job creation (BOE, February 23, 2013)

⁵ In fact, there are no advantages linked to higher contributory bases. It is valuable only for older workers because these contributory bases are used to calculate the retirement pension.

⁶ They were 884.40€ in 2013, 875.70€ in 2014, and 858.60€ in 2015.

⁷ During the first 15 months, the subsidy is a reduction in the contribution (paid by Social Security), while during the following 15 months, it is a bonus (paid by the PES).

Figure 1. Contribution to Social Security (Self-employed workers, €/month)



Finally, we must also consider that the Government approved an extension of the programme in September 2013 to include men older than 30 and women older than 35 who had not been self-employed during the previous five years. In this paper, we will focus our analysis on the first period of the programme, between March and September, i.e., during the period when the programme was available exclusively for young workers.

The aim of the programme is to foster self-employment among young individuals. However, this type of programmes usually has a high deadweight effect. Therefore, many of the beneficiaries of the programme would have become self-employed even if they had not received the subsidy. Unfortunately, the available data do not allow us to evaluate the effect of the programme in terms of inflows into self-employment.

A second aim of the programme is to facilitate survival in self-employment, and our paper focuses on this question. The subsidy is targeted to young individuals. The assumption behind it is that young workers face more disadvantages to become self-employed than older workers and, in fact, youth self-employment rates are usually lower than those corresponding to older workers. We have different explanations for this fact. First, young workers lack employment experience. This characteristic is a disadvantage in terms of business networks because young workers have little knowledge of potential customers, suppliers and competitors.

The literature on self-employment survival is extensive and notes personal characteristics, labour trajectory, business characteristics, and the economic, social and political environment as the main determinants of survival (Millán, Congregado, and Román 2012). Age is generally found to have a positive association with business survival (Millán, Congregado, and Román 2012; Taylor 2004; Block and Sandner 2009). Even in the analysis of survival of youth self-employment, the youngest group of workers has the lowest probability of survival (Van Praag 2003; Blanchflower and Meyer 1994).

Therefore, young workers face a disadvantage. The lack of labour experience and networks reduces their probability of becoming successful.

Moreover, young people usually have great financial constraints. Their financial means and wealth are small, which reduces the available resources for the business. Liquidity constraints and lack of financing are well-known problems for potential entrepreneurs. Extensive evidence found a negative correlation between the existence of problems to gain access to financing and the probability of entrepreneurship (Evans and Leighton 1989; Blanchflower and Oswald 1998). The difficulties to gain access to funding are higher for some groups of people, such as unemployed workers, women or minorities. Young workers also face more difficulties in obtaining access to funding.

The existence of these disadvantages justifies policies to help specific groups become entrepreneurs, overcoming their weaknesses. The analysed subsidy tries to lessen barriers to entrepreneurship faced by young workers. The reduction of social security contributions for three years helps to decrease costs during the first phase of the business, making survival easier.

At the same time, the subsidy can affect participants in several ways, not only by decreasing costs. The reduction of the costs associated with self-employment can change the profile of individuals entering self-employment. The risk of failure can prevent individuals from entering self-employment, particularly if the costs associated with the start-up are high and there is uncertainty about potential rewards. In this case, only individuals with access to funding would become entrepreneurs. This self-selection process means that individuals with entrepreneurial ability and good opportunities for business cannot become entrepreneurs if they do not have their own resources. If financial barriers to entrepreneurship were reduced by decreasing the costs associated with the start-up, more individuals would be able to become self-employed workers. On the one hand, those people with a project but without funding have the opportunity to start-up their own business. On the other hand, low-qualified individuals can try to become self-employed as a way to improve their situation in the labour market because the risks associated with entrepreneurship are reduced. The subsidy can change the survival-of-the-fittest mechanism, and low performing firms would be able to survive.

Under these assumptions, the subsidy could have a positive effect on survival. However, Caliendo et al. (2015) suggest the possibility of moral hazard in the short term. While receiving the subsidy, individuals can reduce their efforts for the success of the start-up, given that they have lower costs than non-subsidized people.

In summary, the effects of start-up subsidies could be either positive or negative, so evaluation is a key factor to understand the efficiency of the programmes. Institutional settings or the design of the programmes can also affect the efficiency, increasing their potential positive effects while reducing the negative ones.

3 Data and identification strategy

For the purpose of the paper, we use data drawn from the Continuous Sample of Working Lives (CSWL, *Muestra Continua de Vidas Laborales* in Spanish). The CSWL is an administrative dataset provided by the Spanish Ministry of Labour and Social Affairs. It contains information about a sample of individuals with any type of relationship to Social Security, including data on the employment periods of workers and on their entire previous labour market trajectory.

We use the 2013 edition of the CSWL, selecting individuals who entered self-employment during that year. We have no information about participation in the programme, but there are data on the requirements, so we can identify participants. Then, our estimates will be interpreted as the intention to treat, i.e., we focus on being eligible for the programme rather than on actual participation⁸. Using the 2014 edition, we have followed our sample to obtain updated information about the self-employment period.

The different conditions of the programme depend on sex, age of the beneficiaries and previous experience in self-employment for the past 5 years. In the case of men, we must distinguish by the age of 30 and whether they were self-employed workers during the previous five years. For women, the age threshold is 35. Thus, we can differentiate the treatment and control groups to estimate the effect of the tax-benefit on the stability of individuals as own-account workers. The dataset contains information about the employment situation of workers. Therefore, we are able to study the survival in self-employment of participants and non-participants.

For the year 2013, we have 3 different periods. In January-February, the programmes were not in force; in March-September, the programme was in force for men younger than 30 and women younger than 45. We exclude from the analysis the last quarter of the year because the programme was extended to all new self-employed workers.

3.1 Descriptive

In the following table, we present the main characteristics of new self-employed workers by sex, age, period and previous experience in self-employment for the past 5 years. First, we would like to stress that there are minor differences between the profiles of new self-employed workers in January-February compared to those in March-September. According to these data, the programme would slightly change the characteristics of individuals becoming self-employed. We can just state a decrease in the number of men entering self-employment after a short period of non-employment, while the number of unemployed men for more than one year increases. The proportion of men with some unemployment spell also increases⁹. In the case of women, there is an increase in the proportion of young women without experience in self-employment with a low level of education, while we have the opposite tendency in the case of women with experience in self-employment (the proportion of women with a university degree increases).

We would like to note some common characteristics to all groups of self-employed workers. The majority of them are individuals with low and medium levels of qualification, particularly in the case of men. Thus, less than 15% of them have a university degree. In the case of women, this percentage increases to less than 30%.

The subsidized firm is the first job for 17% of those young workers without previous experience in self-employment during the past 5 years and for less than 5% of workers over 29 also without previous experience in self-employment. Therefore, the majority of new self-employed workers have labour experience. Even in the case of workers under 30, almost two-thirds of them have worked for a period of 2-10 years. If we consider workers over 30, more than one-half have worked for more than 10 years. The majority of them report some period of unemployment.

⁸ However, given the conditions of the programme, it is probable that all the individuals fulfilling the requirements receive the tax-benefit.

⁹ Given the administrative character of the data, we cannot distinguish between unemployment and non-participation in the labour market (we do not have information about the job search). Therefore, when we refer to unemployment, we mean periods of unemployment receiving benefits or subsidies.

In our data, it is also possible to know the elapsed time since the end of the previous employment to the beginning of the self-employment period. In the case of workers with previous experience in self-employment (regardless of whether they are young workers), they enter into self-employment after a short period of unemployment (less than 6 months). Considering workers without previous experience in self-employment, there is a higher proportion of long-term unemployment (more than 2 years without a job). However, in the majority of the groups, they represent less than 15%.

Using the 2014 edition of the CSWL, we are able to follow the labour trajectory of self-employed workers. In the following sections, we will display the survival rates for all the groups.

Table 1. Statistical descriptives. Men

	Men	Men	Men	Men	Men	Men	Men	Men
	< 30	< 30	< 30	< 30	>30	>30	>30	>30
	not in SE	not in SE	in SE	in SE	not in SE	not in SE	in SE	in SE
	Jan-Feb	Mar-Sep	Jan-Feb	Mar-Sep	Jan-Feb	Mar-Sep	Jan-Feb	Mar-Sep
Age	25.5	25.1	25.7	25.7	41.3	41.2	42.9	43.5
Born in Spain	0.848	0.856	0.759	0.755	0.772	0.764	0.822	0.800
Level of education								
Primary	0.620	0.621	0.674	0.686	0.515	0.542	0.534	0.582
Professional secondary	0.127	0.147	0.116	0.130	0.234	0.200	0.241	0.209
Secondary	0.113	0.093	0.081	0.108	0.099	0.097	0.109	0.093
University	0.140	0.139	0.128	0.076	0.152	0.161	0.116	0.116
Previous employment experience								
first employment	0.172	0.177	0.000	0.000	0.035	0.049	0.000	0.000
< 1 year	0.217	0.211	0.233	0.163	0.026	0.028	0.013	0.017
1 - 2 years	0.121	0.122	0.156	0.158	0.037	0.024	0.021	0.019
2 - 5 years	0.217	0.278	0.300	0.331	0.095	0.114	0.095	0.089
5 - 10 years	0.261	0.195	0.311	0.318	0.229	0.225	0.214	0.207
> 10 years	0.013	0.017	0.000	0.031	0.578	0.560	0.658	0.668
Elapsed time since previous employment								
first employment	0.172	0.177	0.000	0.000	0.035	0.049	0.000	0.000
< 3 months	0.331	0.333	0.744	0.575	0.419	0.366	0.668	0.548
3 - 6 months	0.121	0.089	0.144	0.150	0.129	0.120	0.114	0.168
6 months - 1 year	0.159	0.126	0.067	0.181	0.124	0.151	0.079	0.160
1 - 2 years	0.102	0.133	0.022	0.059	0.126	0.144	0.075	0.079
2 - 3 years	0.045	0.045	0.011	0.028	0.053	0.058	0.043	0.025
3 - 5 years	0.051	0.066	0.011	0.008	0.068	0.059	0.021	0.020
> 5 years	0.019	0.033	0.000	0.000	0.047	0.053	0.000	0.000
No unemployment period	0.516	0.506	0.411	0.461	0.820	0.845	0.722	0.757
Industry:								
Agriculture	0.064	0.060	0.022	0.051	0.040	0.047	0.040	0.033
Industry	0.070	0.034	0.067	0.023	0.043	0.038	0.040	0.035
Construction	0.115	0.154	0.256	0.303	0.196	0.208	0.385	0.381
Retail trade	0.217	0.246	0.133	0.209	0.232	0.238	0.145	0.147
Hospitality	0.166	0.134	0.078	0.125	0.135	0.134	0.068	0.088
Transport	0.076	0.043	0.111	0.033	0.056	0.057	0.043	0.033
Health	0.032	0.017	0.000	0.003	0.016	0.016	0.008	0.007
Education	0.000	0.028	0.033	0.025	0.024	0.028	0.040	0.034
Financial services	0.032	0.027	0.022	0.013	0.027	0.020	0.013	0.010
Business services	0.089	0.143	0.078	0.084	0.150	0.140	0.115	0.135
Other services	0.140	0.115	0.200	0.132	0.079	0.074	0.102	0.097
Sample size	157	980	90	393	621	2187	719	3,085

Source: own elaboration from the CSWL

Table 2. Statistical descriptives. Women

	women	women	women	women	women	women	women	women
	< 35	< 35	< 35	< 35	>35	>35	>35	>35
	not in SE	not in SE	in SE	in SE	not in SE	not in SE	in SE	in SE
	Jan-Feb	Mar-Sep	Jan-Feb	Mar-Sep	Jan-Feb	Mar-Sep	Jan-Feb	Mar-Sep
Age	28.5	27.7	29.1	29.1	45.2	43.7	45.3	45.0
Born in Spain	0.779	0.783	0.811	0.820	0.824	0.803	0.797	0.797
Level of education								
Primary	0.371	0.437	0.459	0.408	0.460	0.457	0.452	0.416
Professional secondary	0.185	0.167	0.108	0.183	0.162	0.229	0.214	0.232
Secondary	0.132	0.127	0.108	0.105	0.122	0.121	0.086	0.109
University	0.312	0.269	0.324	0.303	0.255	0.194	0.248	0.243
Previous employment experience								
first employment	0.161	0.141	0.000	0.000	0.077	0.064	0.000	0.000
< 1 year	0.147	0.197	0.105	0.139	0.046	0.041	0.064	0.031
1 - 2 years	0.081	0.093	0.079	0.117	0.025	0.037	0.028	0.025
2 - 5 years	0.336	0.254	0.434	0.318	0.141	0.138	0.083	0.118
5 - 10 years	0.209	0.254	0.276	0.333	0.254	0.265	0.335	0.294
> 10 years	0.066	0.061	0.105	0.093	0.458	0.455	0.491	0.532
Elapsed time since previous employment								
first employment	0.161	0.141	0.000	0.000	0.077	0.064	0.000	0.000
< 3 months	0.379	0.379	0.711	0.622	0.303	0.336	0.647	0.551
3 - 6 months	0.118	0.092	0.079	0.146	0.063	0.099	0.110	0.136
6 months - 1 year	0.104	0.136	0.118	0.156	0.113	0.108	0.147	0.190
1 - 2 years	0.104	0.115	0.039	0.043	0.092	0.131	0.041	0.073
2 - 3 years	0.047	0.050	0.013	0.014	0.067	0.069	0.018	0.022
3 - 5 years	0.062	0.052	0.039	0.019	0.088	0.057	0.037	0.028
> 5 years	0.024	0.035	0.000	0.000	0.197	0.137	0.000	0.000
Any unemployment period	0.559	0.562	0.461	0.514	0.761	0.779	0.661	0.669
Industry:								
Agriculture	0.033	0.021	0.026	0.031	0.042	0.042	0.028	0.024
Industry	0.033	0.022	0.000	0.010	0.042	0.029	0.023	0.031
Construction	0.024	0.011	0.013	0.022	0.021	0.022	0.032	0.021
Retail trade	0.246	0.261	0.184	0.206	0.306	0.310	0.261	0.249
Hospitality	0.137	0.143	0.105	0.132	0.162	0.192	0.101	0.171
Transport	0.028	0.011	0.000	0.007	0.014	0.013	0.009	0.006
Health	0.066	0.080	0.105	0.091	0.035	0.041	0.037	0.016
Education	0.028	0.047	0.039	0.065	0.035	0.046	0.106	0.098
Financial services	0.047	0.041	0.039	0.026	0.021	0.036	0.046	0.020
Business services	0.190	0.173	0.237	0.208	0.194	0.146	0.248	0.232
Other services	0.166	0.189	0.250	0.203	0.127	0.122	0.110	0.133
Sample size	211	1136	76	418	284	972	218	1069

Source: own elaboration from the CSWL

3.2 Identification strategy

We use a diff-in-diffs strategy over different periods within 2013 (January-February vs. March-September) and different groups in terms of programme eligibility (young workers vs. older workers). We define two periods: in January and February 2013, there was no programme, while from March to September the programme was available for young workers. During the first period (January and February), there was no programme, so we observe the outcome without treatment for all the groups. We use this period to estimate the trend over periods of time. Then, the time effect for other groups is clear because we assume that the time trend is parallel across groups. In the second period, we observe the outcome with treatment. From this outcome, we can remove the time effect and the group effects to obtain the programme effect.

The results will be divided by gender and previous experience in self-employment to gain homogeneity between eligible and non-eligible individuals. Therefore, we will estimate the impact of the programme for each one. We use older workers as the control group to identify the differences across groups.

We perform a graphical analysis, and we use a Cox-proportional hazard model for exits from self-employment. The hazard rate for the j th individual in the data is

$$h(t|x_j) = h_0(t) \exp(\beta_x x_j)$$

where h_0 is the baseline hazard, which accounts for any general duration dependence. As x_j variables, we include a dummy variable taking the value 1 for the period with the programme (March-September, D^{MS}) and a dummy variable taking the value 1 if the individual is young (men under 30 or women under 35, D^Y). The interaction ($D^{MS}D^Y$) allows us to estimate the eligibility effect.

$$h(t|x_j) = h_0(t) \exp(\beta_1 D^{MS} + \beta_2 D^Y + \beta_3 D^{MS}D^Y + \beta_x x_j)$$

Group composition can change over time. To reduce the impact of these questions, we run regressions adding a large set of covariates (age, level of education, sector of activity, country of birth, working time, unemployment experience, elapsed time from the last employment period to self-employment and region of residence).

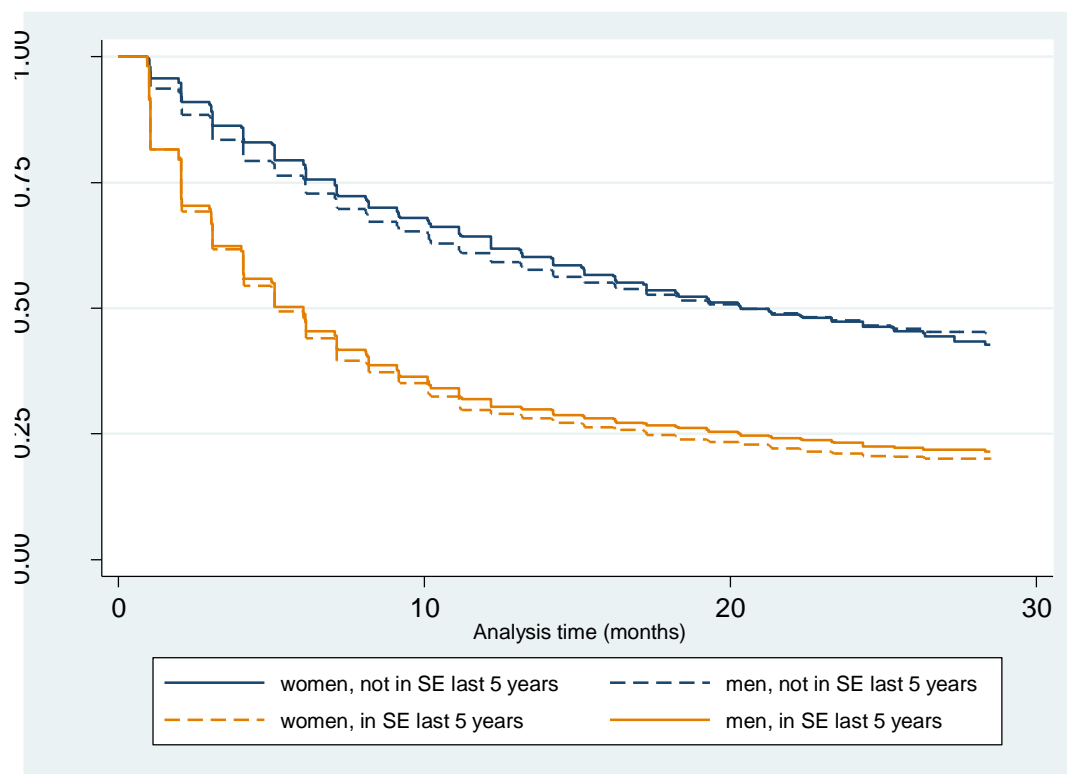
4 Results

Before presenting the results for the differences-in-differences DID analysis, we display the survival functions for different groups. Figure 2 shows the survival rate for men and women and for the population, according to their previous experience in self-employment in the past 5 years. We find that workers without previous self-employment experience have much lower survival rates than those with previous self-employment experience¹⁰. We obtain the same gap if we consider men, women, young workers and older workers. This result, together with the characteristics of the programme (supporting with a high reduction in taxes workers without previous experience in self-employment), leads us to estimate the effects separately for each group of workers.

Therefore, first, we present the results for individuals with previous experience in self-employment for the past 5 years and, after that, for individuals without previous experience in self-employment. We also present results for men and for women. In this sense, we must consider that the programme has a different age threshold for the former (30) and the latter (35).

¹⁰ Other authors who obtained a negative effect of previous self-employment experience on survival are (Oberschachtsiek 2012) and (Van Praag 2003).

Figure 2. Kaplan-Meier Survivor function by sex and previous experience in self-employment



Source: own elaboration from the CSWL

4.1 Individuals with previous experience in self-employment

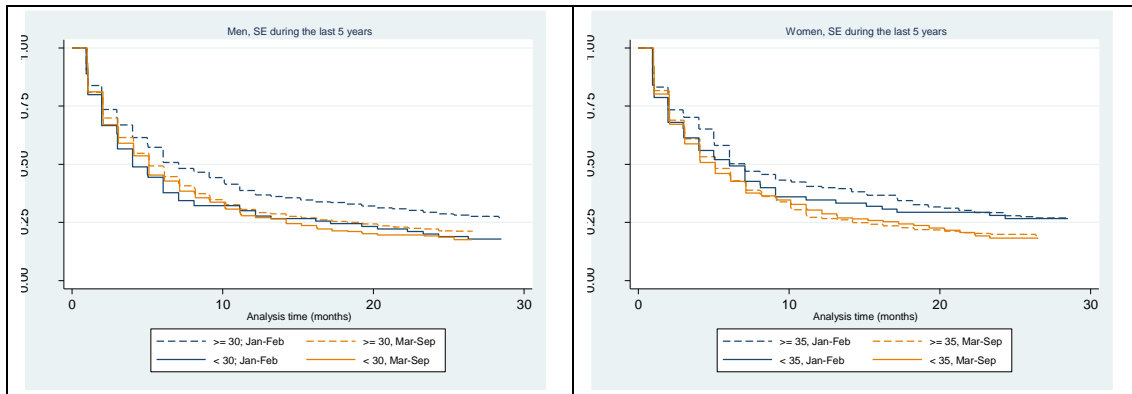
Figure 3 shows the survivor function for workers with previous experience in self-employment in the past 5 years. Regarding men, survival rates in the first period (January-February) are 50.8% six months after the start-up and 36.8% after one year in the case of older workers. The rates for young men are lower (37.8% and 27.8% for 6 months and 1 year after start-up, respectively). For the second period (March-September), the rates are more similar for older and young workers, with a gap of 5 pp six months after start-up (49% and 44.6%, respectively) and 2 pp after one year (29.2% and 27.1%, respectively).

The rates are quite similar for men and women. Therefore, we found similar gaps for older and young women during the two analysed periods. In January-February, the survival rates after six months are 50.2% for older women and 49.3% for young women, and the rates are 40% and 34.7%, respectively, one year after the start-up. In the second period, March-September, the figures are a bit smaller, but the gap between the groups is similar.

In the case of men, we observe that the trajectories overlap, and only older workers in January-February show a different pattern, with higher survival rates than the other groups. Therefore, the survival is lower for men in the second period than in the first one, but we do not observe a difference between periods in the case of young men.

For women, the survival rates for young and older workers overlap in the second period (March-September). The rates are higher for both groups in the first period (January-February), although a small gap in favour of older workers is also observed.

**Figure 3. Kaplan-Meier Survivor function by group and date of start-up.
Individuals with previous experience in self-employment**



The differences in differences estimation suggest similar results to those obtained with the graphical analysis. In the case of men, the impact is positive and statistically significant at 10%. Therefore, those young men who start their business being eligible for the programme (from March to September) have a higher probability of survival than non-eligible workers.

For women, our estimation is not significant. Thus, the survival rates of young self-employed women are not affected by the programme.

An unexpected result is the influence of the period. In all the estimations, those businesses started in March-September have a significantly lower survival probability than those started in January-February. As a sensitivity analysis, we have estimated the model, reducing our sample to inflows between January and May. With this restriction, we exclude all the businesses that commenced in summer. A significant proportion of these businesses can have a seasonal character, taking advantage of the summer. People involved in services related to tourism or other seasonal activities can work only during the summer so these businesses have low survival rates. By restricting our sample, we are reducing the possible heterogeneity between groups. In the new estimation (Table 4), the effect of period becomes not significant. Therefore, our supposition regarding the different character of the business beginning in summer seems to be correct.

If we focus on the effect of the programme, the estimation does not change, revealing no impact of the ‘flat rate’.

Table 3. Effect of the programme on survival probability. Individuals with previous experience in self-employment

	H.R.	Std. Err.	H.R.	Std. Err.
Men				
Age: < 30	1.362**	0.169	1.056	0.145
Period: March-September	1.162***	0.056	1.165***	0.058
Age*Period	0.792*	0.109	0.785*	0.112
Women				
Age: < 35	1.109	0.174	0.930	0.166
Period: March-September	1.220**	0.106	1.225**	0.111
Age*Period	0.918	0.156	0.881	0.155
Control variables		no		yes

* denotes significant at the 10% level (** at the 5% level and *** at the 1% level).

Source: own elaboration from the CSWL

Table 4. Effect of the programme on survival probability

	H.R.	Std. Err.	H.R.	Std. Err.
Men				
Age: < 30	1.369	0.170	1.036	0.150
Period: March-September	1.111	0.059	1.111*	0.062
Age*Period	0.827	0.125	0.929	0.148
Women				
Age: < 35	1.103	0.172	0.907	0.176
Period: March-September	1.133	0.108	1.171	0.118
Age*Period	1.045	0.045	0.994	0.194
Control variables		no		yes

* denotes significant at the 10% level (** at the 5% level and *** at the 1% level).

Source: own elaboration from the CSWL

4.2 Individuals without previous experience in self-employment

Figure 4 shows the survivor function for workers without previous experience in self-employment in the past 5 years. With respect to men, the survival rates in the first period (January-February) are 79.5% six months after the start-up and 67.4% after one year in the case of older workers. The rates for young men are higher after six months (80.8%) but smaller after one year (60.1%). For the second period (March-September), the rates are more similar for older and young workers, with a gap of only 1 pp six months after start-up (73.4% and 74.8%, respectively) and 4 pp after one year (59.1% and 60.1%, respectively).

In the case of women, the rates are similar to those of men. In January-February, the survival rates after six months are 81.6% for older women and 79.9% for young women, and the rates are 71.2% and 63.2%, respectively, one year after the start-up. In the second period, March-September, the figures are 78.4% and 63.1% at six months and one year after start-up, respectively, in the case of older women and 76.8% and 58.4% in the case of young women.

The DID regressions (Table 5) confirm the findings. According to our estimations, the programme does not affect survival in self-employment. The estimated effects are not significant for either the men or women.

As in the previous group, we have a significant effect from the period. Businesses started in March-September have a significantly lower survival probability than those started in January-February. Again, we have estimated a new model restricting the sample to businesses that commenced in January-May. The period becomes a non-significant variable, and the effect of programme is also non-significant.

Figure 4. Kaplan-Meier Survivor function by group and date of start-up. Individuals without previous experience in self-employment

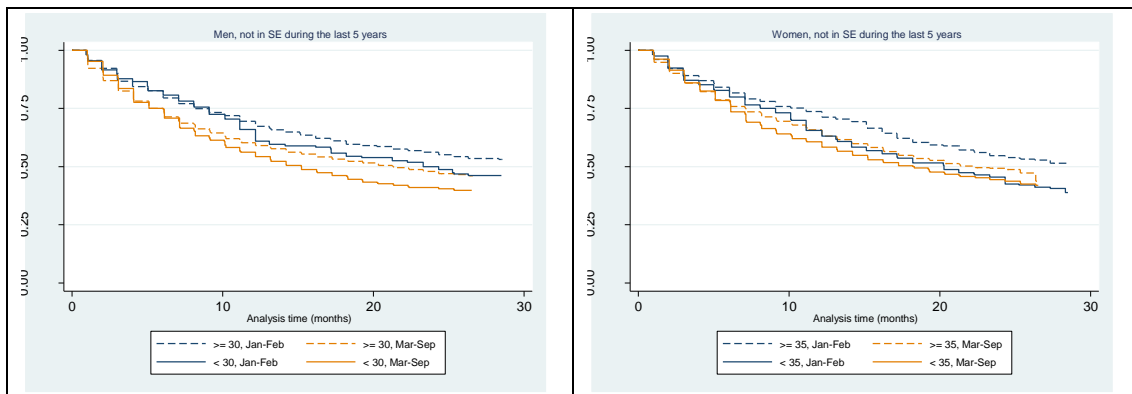


Table 5. Effect of the programme on survival probability. Individuals without previous experience in self-employment

	H.R.	Std. Err.	H.R.	Std. Err.
Men				
Age: < 30	1.181	0.147	0.984	0.139
Period: March-September	1.260***	0.084	1.261***	0.087
Age*Period	0.994	0.133	0.972	0.135
Women				
Age: < 35	1.345**	0.167	1.195	0.249
Period: March-September	1.229**	0.120	1.209*	0.123
Age*Period	0.838	0.115	0.827	0.118
Control variables		no		yes

* denotes significant at the 10% level (** at the 5% level and *** at the 1% level).

Source: own elaboration from the CSWL

Table 6. Effect of the programme on survival probability. Individuals without previous experience in self-employment

	H.R.	Std. Err.	H.R.	Std. Err.
Men				
Age: < 30	1.184	0.147	1.117	0.172
Period: March-September	1.123	0.083	1.106	0.186
Age*Period	1.058	0.155	0.995	0.152
Women				
Age: < 35	1.351**	0.167	1.362*	0.235
Period: March-September	1.183	0.128	1.170	0.132
Age*Period	0.840	0.127	0.835	0.133
Control variables		no		yes

* denotes significant at the 10% level (** at the 5% level and *** at the 1% level).

Source: own elaboration from the CSWL

5 Conclusions

During this economic crisis, the Spanish Government has launched a number of programmes to improve the employment probabilities of unemployed workers. In this context, self-employment policies have become a major part of these programmes. The reduction in Social Security contributions is a common measure.

The aim of this paper was to evaluate the ‘flat rate for self-employed workers’, comprising a reduction of Social Security contributions for three years, initially targeting young workers. Using the Continuous Sample of Working Lives, an administrative dataset of Social Security registers, we have selected new entrants into self-employment in 2013. Considering the characteristics of the programme, we are able to identify the participants and compare them to non-participants to estimate the impact on business survival.

Our estimations show as a general pattern that the programme had no effect on the survival of new businesses. There is only an exception showing a positive effect in the case of young men with previous self-employment experience.

Although the programme reduces the costs associated with self-employment significantly, it does not affect survival. Contrary to the evidence for countries such as Germany or Denmark, we do not find evidence of a positive effect from the programme on business survival. In this sense, it should be noted that (a) the institutional settings can affect programme effectiveness, and (b) the programmes have different characteristics. For instance, in the programme evaluated in (Caliendo, Künn, and Weißenberger 2015), participants must ‘provide a business case and financing plan to the Employment Agency, which is evaluated by a competent external institution’ (p. 5). In the case of (Wolff, Nivorozhkin, and Bernhard 2015), participants must also submit a business plan, and there is a screening by job centres.

Therefore, the explanation of the result for the Spanish programme can be related to the lack of profiling of the policy. In fact, it is available for all new self-employed young workers, and there are no requirements linked to training or business viability plans. It exclusively involves a reduction in Social Security contributions, without elements of training or counselling. According to our results, a recommendation is to change the requirements, moving to highly selective incentives (Román, Congregado, and Millán

2013), or complement the subsidy with support in terms of supervision (business and financing plans).

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