WORKING PAPER

N° 2024-7

EFFECTS OF A BUSINESS SUPPORT PROGRAM ON FIRM PERFORMANCES IN FRANCE

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TEPP – Theory and Evaluation of Public Policies - FR CNRS 2042

Effects of a business support program on firm performances in France

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August 2024

Abstract.

The public investment bank Bpifrance has launched a specific business support program targeted for SME firms since 2015, which has the rare feature of being strictly non-financial, combining advices, training and networking opportunities. We evaluate the effects of this program based on a panel dataset containing information on businesses over the period 2010-2017, considering an identification strategy based on differences-in-differences and instrumental variable estimators. For the first cohort, we hardly find any significant impact of the program, except on the firm employment level. For the last two cohorts, the program has a positive effect on revenue, as well as on corporate investment and firm employment level.

Keywords: business support program, panel data and instrumental variable methods.
JEL Codes: C23, C26, D21, L53.

This work has benefited from the support and follow-up of Bpifrance and in particular help from Matthieu Brun, Mathilde Le and Baptiste Thornary. We also thank participants to the 37th Journées de Microéconomie Appliquée (2021; Annecy, France), to the 69th Congress of the French Economic Association (2021; Lille, France), and to the 21st Journées Louis-André Gérard-Varet (LAGV, Marseille, France, 2022) as well as three anonymous reviewers for their helpful comments on a previous version of this article.

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1. Introduction

Since the mid-2000s, accelerators programs have become a prominent aspect of the entrepreneurship landscape. These selective and intensive programs help funders, usually grouped into cohorts, to develop their growth potential. In doing so, they reduce uncertainty about the quality of the business project and founders use this information to decide whether to continue or shut down (Yu, 2020). A growing number of articles evaluate the effects of business support programs and find empirical evidence for positive effect of these programs, but without always distinguishing by which mechanisms these effects are produced. For some studies, access to financial capital would be less important than access to entrepreneurial capital (Gonzalez-Uribe and Leatherbee, 2018; Hallen et al., 2020).

In this article, we assess the impact of a fully non financial program targeted on small and medium enterprises (SME) on their performances. This program has been created by the French public investment bank (*Bpifrance*) and is called "l'accélérateur PME". Launched in 2015, it is a selective program cosmbining business consulting activities (advices, mentoring), training of management teams and networking. This business support program has two interesting features. First, it focuses on ongoing French SMEs with the aim of expanding activities of considered companies, over 2015-2017 in a context without major economic crisis. Second, the *Bpifrance* SME program does not include any financial component. Participation in this program does not give firms preferential access to investment or equity schemes. Our paper evaluates a specific fully "non-financial" program, *i.e.* one that provides no funding but rather offers only education, mentorship and networking.

In order to evaluate the effect of this non-financial program, we consider firm accounting data provided by the French national statistical institute (*INSEE*) and the data provided by *Bpifrance* to identify the firms involved in the program over the period 2010-2017. We compare participating firms to a large set of businesses sharing similar characteristics that did not participate in the program. We apply differences-in-differences estimators and account for selection to participate to the program. Our estimates indicate that the Bpifrance support program allows increasing revenue, corporate investment and firm workforce.

This paper contributes to the existing literature in several ways. First, it focuses on the SME Bpifrance' s program that is less time intensive than the usual accelerators for early stage firms and provides education, mentorship and networking, but not any financial support to participating businesses. Second, it contributes to the hitherto relatively scarce literature on the effects of business support programs for SMEs in developed countries (Fairlie et al., 2015, Georgiadis and Pitelis, 2016; Schoonjans et al., 2013). Third, it shows programs to develop the human and social capital of entrepreneurs are potentially a highly effective seam to be mined.

The paper is organized as follows. Section 2 displays the literature review related to assessments of SME programs. Section 3 presents the Bpifrance non-financial SME program, as well as the (theoretical) hypotheses we want to test. Section 4 displays data and descriptive statistics. Section 5 explains how SME programs' effects on firm performance are identified. Section 6 reports and comments the results. Section 7 concludes.

2. Related literature

In view of the role recognized as preponderant played by SMEs (Ayyagari et al., 2007 or 2011), many business support programs for SMEs have been set up in developing countries since the beginning of the 2000s, with various issues. Some of these aids are financial based, others non-financial. They are also sometimes a combination of financial and non financial measures.

These programs are intended to help SMEs through six main areas (Cravo and Piza, 2019): access to credit, training and managerial practices, development of the local production system, support for innovation, access to external markets and for many to develop the formal economy by reducing the barriers posed by institutional constraints (simplification of taxation systems; registration of companies in the business register).

As a result, in view of the interest aroused by the development of SMEs in low and medium income countries, a growing strand of literature since the mid-2000s aims to assess the effects of a substantial number of these programs. Theses works had given rise to at least three meta-analyses (Cho and Honorati, 2014; Cravo and Piza, 2019; Grimm and Paffhausen, 2016) covering micro or small and medium firms that show positive but heterogenous effects of these programs.

Out of these measures, some of them often do not apply to SME in developed economies, like tax simplification or business registration (for instance: Cravo and Piza, 2019; Fajnzylber et al., 2011; Monteiro and Assunção 2012), given the informal economy is much less prevalent in high income countries. Moreover, some other are already documented in the literature on support to SMEs in high income countries, notably with regards to matching grants or credits (Brülhart et al., 2020), or to innovation (Bunel and Hadjibeyli, 2022) or R&D (Becker, 2014; Castellacci and Lie, 2015) policies.

In this article, we focus on a strictly non financial program called “acccélérateur PME” launched by *Bpifrance* that combines three types of supports: mentoring, networking and training. Until now, and to our knowledge, in high income countries, no article has focused on a policy combining these three types of exclusively non-financial measures within a same program. In the literature, there is little evidence on the effects only of each of the three elements in developed countries.

As for training, according to human capital theory (Blundell et al., 1999), increasing workers’ training should increase skills to contribute to their employability, individual productivity, wages, firm productivity (through the adoption of more efficient management practices) and maybe in turn firm profitability[4]. On the contrary, managerial human capital may impact firm’s output and productivity by improving the marginal productivity of not only managerial inputs but also that of other inputs, such as nonmanagerial labor and physical capital (Bruhn et al., 2010; Penrose, 1959). From an empirical point of view, Fairlie et al. (2015) use US data from a large randomized experiment in training CEOs (GATE program); they highlight short-term effects of the program on business ownership only for those unemployed, but not on revenue, wages and employment. Georgiatis and Pitelis (2016) study a random experimentation scheme in the UK aimed at training employers and employees; they find that non-managerial employees’ training had a large positive impact on labor productivity and profitability, whereas there was a weak or no effect of managerial and human resource management (HRM) training services on firm performance.

Then a large strand of theoretical research literature has also emerged about the potential effects of networking on firm success (Granovetter, 1973; Hite and Hesterly, 2001). According to Dyer and Singh

[4] It depends on the relative magnitude of training costs and the share of the returns to general training extracted by the firm and thus on the degree of firm’s labor market power (Acemoglu and Pischke 1998, 1999).

(1998), a firm's network can be an important source of knowledge and competitive advantage: the social network in which a firm is embedded contains resources and capabilities that are critical for firm success. Through social interaction, firms get access to knowledge and resources in a timely and cost-effective manner (Powell et al., 1996; Gulati and Higgins, 2003). Zaheer and Bell (2005) further claim that network resources can help firms to develop and strengthen their internal capabilities, which in turn may contribute to enhanced firm performance. On the empirical side, to our knowledge, Schoonjans et al. (2013) is the only study dealing with that matter in developed countries. They consider an unbalanced panel Flemish SMEs over the period 1992-2008 and analyse the consequence of the participation in a government-supported program aimed at providing small business managers with structured formal networking (PLATO); firms participating in the program have a net asset growth that is, ceteris paribus, 2.50 percentage points higher than the net asset growth of non-PLATO firms, and the added value growth of PLATO firms is, ceteris paribus, 3.07 percentage points higher than that of non-PLATO firms.

Finally, linkage between mentoring roles and behaviors with performance outcomes are presently only theoretically based (Bozionelos, 2004; Kram, 1985; Ramswami and Dreher, 2007). Mentoring has gained substantial attention in small and medium enterprises in recent years due to its high impact on business performance. Several studies have delineated the impact of mentoring on small and medium enterprises and found mentoring is helpful for improving organizational performance and transferring information from experienced entrepreneurs to inexperienced or less experienced entrepreneurs which leads to higher productivity of organization, better job satisfaction, and retention of workers. Up to now, there is little evidence on the impact of advices and mentoring on firm performance. One of the rare studies dealing with this matter is that of Bruhn et al. (2018) who through a randomized trial in Mexico[5] find that subsidized consulting and mentoring services for owners/managers of formal businesses lead to a persistent large increase (about 50 percent) in the number of employees and total wage bill, even 5 years after the program.

Thus, the program suggested by *Bpifrance* for SMEs which combines these 3 aspects of non-financial supports is a unique opportunity to assess them as a whole.

3. The Bpifrance SME program and testable hypotheses

3.1. The Bpifrance program and selection of supported firms

50 *BpiFrance* cohorts of firms supported by programs were effectively created from 2015 till 2019. Those programs, called "accélérateurs" by *Bbifrance*, involve 1,500 businesses that have benefited from the given program. There is a great diversity in *Bpifrance* support programs. Some of them are national, other are regional, industry specific or related to the status of the business (SME or MidCaps).

This SME program is the first proposed by *Bpifrance* in 2015. It does not concern early stage ventures but ongoing and established SMEs. It contains business consulting (Advisory Initiative team), training for business owners and their management teams (University team), networking, organization of events and access to a bundle of services (Support team). Contrary to many other SME programs, it does not provide any financial support such as access to equity and non-equity financing. Another

[5] The experiment consists in subsidized consulting and mentoring services for owners/managers of formal businesses. Consultants were asked to (1) diagnose the problems that prevented the enterprises from growing, (2) suggest solutions and (3) assist in implementing the solutions.

feature of the SME *Bpifrance* program is its duration: two years (see the schedule provided in Appendix 1).

In addition, *BpiFrance* offers to their clients a national business network (called "Excellence") with a selective access. The criteria to join this network are the following:

- 5 million euros revenue
- 1 million funds raised for startups
- A growth potential of the company
- International development
- A willingness of the leader to be part of a network and to interact with his peers

Almost all of the firms that have benefited from SME programs are members of the network Excellence. Once the firm has been selected in the Excellence network by *Bpifrance*, the CEO of the firm can apply to join a SME program. Most of the time, they are accepted. But, if a firm is solicited by *Bpifrance* to join a support program, *Bpifrance* can face refusals. So, the first step of the selection process is to join Excellence network. Both the supported firms (treated firms) and the firms belonging to the Excellence group but not supported (control group) are concerned by this selection.

In the second step (to join the SME program) the selection is driven by both the willingness of the CEO to apply to join the SME program, and by *Bpifrance*. One way to explain the fact a CEO decides to join or not a SME program is to suppose as in Yu (2020) that the CEO compares the fee of joining the program (about 22 000€ for PME3) to the expected gain of reducing uncertainty about the firm organization or the market on which they operate. If the former exceeds the latter, the CEO decides to join the program; otherwise, the CEO decides not to join the program.

The first SME program (PME1) is a special case. It is the first SME program proposed by Bpifrance with few advertisements on it and no fee applied to join this program. This explains probably the reason why PME1 program is the most populated program among the three programs considered here. If we have in mind the Yu model (Yu, 2020), we can conclude that most of the SME firms belonging to the *Excellence* group are potentially applicants. The net gain to join the program is strictly positive in the absence of fee and the number of applicants should be in this case much higher than for the next programs. However, this channel should be moderated by the lack of advertisement for PME1. Most of the firms were proposed by local agencies of *Bpifrance* to the department of business support that are in charge of the programs. For this reason, we can assume that *Bpifrance* has proceeded to selection for joining the PME1 program based on their performances. This is confirmed by the department of business support of *Bpifrance*.[6] For the following SME programs, much more advertisement has been made. The admission in the program PME2 or PME3 has been implemented through two channels: the application from firms belonging to *Excellence* network and the application made by local agencies.

3.2. Derivation of the testable hypotheses

In this Section, we derive a set of testable hypotheses that can be used as guidelines for what kind of findings can be expected when assessing the impact of the *Bpifrance* SME program on firm performances.

Such a program like that of Bpifrance combining mentoring, networking and training may help the supported firm to implement a new form of labor organization in order to improve firm efficiency. The

[6] In Section 4, we will see this is confirmed and by statistical comparisons between the performances of supported firms and non-supported firms one year before the program starting date.

given company may also want to implement a new project to position on new market. In that context, in the short run, the company may require new skills. Hence, the business may want to hire to achieve this goal.

It is feasible to adapt the Yu (2020) model to our case. Unlike with the uncertainty considered by this model on the feasibility and the quality of the project, in our case with *Bpifrance* program, the ongoing firms usually do not face uncertainty about the quality of the project, but rather on the firm organization or on their market positioning. The advices provided by the mentoring, the networking or the training may help to reduce these uncertainties. For instance, the networking and mentoring could imply the implementation of a new firm organization or new market positioning for supported firms (for instance considering upmarket). In the latter case, this information could increase the selling price and the gross operating surplus (or the net profit), the value added or the revenue (in current prices) of the firms that benefit from support program, especially in case of moved upmarket.

In the same perspective, the mentoring, the networking and the training could provide information to firms about organizational inefficiencies, for instance by applying new process of production reducing the unit production costs. For constant markup rate, this could reduce the selling price, increase the competitiveness of the supported firms and, as a consequence, imply a rise in sales (in constant prices). In the medium-long run, this could increase the employment level in supported firms in comparison to the situation where the firm would not have benefited from the support program. In this case we could also expect an increase in rrevenue for supported firms. Besides, improving firm organization or moving upmarket may involves increase in capital expenditures too.

Thus, the testable hypotheses as to the expected impacts of the SME program are the following:
- H1. In the short run, in order to improve the production efficiency, or the market positioning, the company may hire workers with skills required. As a consequence, the firm workforce may increase.
- H2. In the firms that benefit from the *Bpifrance* SME program, a value added, revenue or capital expenditures higher than for those that do not benefit from the program should be observed.
- H2a. Organizational improvements should lead to a significant positive revenue gap with non-supported firms.
- H2b. Market positioning and upmarket should lead to a significant positive value added and gross operating surplus gap and net profit with non-supported firms.
- H3. In the middle-long run a significant increase in employment should be observed in the supported firm - that improved its organization - compared the non-supported firms.

We will use this set of testable hypotheses to select the outcome variables and interpret our results.

4. Data and descriptive statistics

The first part of the Section is devoted to the presentation of data and the description of the supported firms, comparing the different cohorts of SME programs. The second part of the Section explains what kind of control group of firms we use.

4.1. Basic statistics on participating firms

Our study focuses solely on Bpifrance programs that are targeted at small and medium-size enterprises (SMEs). It covers the first three cohorts of supported companies in Bpifrance's programs for SME. As already mentioned, the first cohort (PME1) entered the program in March 2015 to exit in March 2017.[7]

[7] Note that the name PMEx comes from the French abbreviation for SME, with *x=1,2* or *3*.

The second cohort (PME2) started in March 2016 to end in March 2018, while the third cohort (PME3) joined in March 2017 and left in March 2019.

The three cohorts of SME supported businesses (PME1, PME2 and PME3) contain 171 firms (Table 1). For all these firms, we also use data from an exhaustive administrative source available at *INSEE* (*Institut National des Statistiques et des Etudes Economiques* - the French national institute of statistics and studies in economics), called *FARE* (*Fichiers Approchés des Résultats d'Esane*). The *FARE* dataset provides us with information on French companies at the firm level. It results from a comparison between tax sources and the results of annual business surveys. This information is available for all firms that are subject to the two major tax regimes. These regimes cover virtually the entire productive system, representing roughly 95 percent of taxable companies in terms of sales. The data are kept for the period 2010-2017. For each year, we have a sample of approximately 2,500,000 companies. They mostly contain various economic indicators, such as value-added, capital investment, and gross operating surplus. In particular, they allow to measure the labor productivity, capital intensity and the labor share income of companies. However, the supported businesses include some parent companies (belonging to a holding), equating to holding company activities. In the absence of consolidated financial statements, we decide to not include this group of firms. In addition, the sample also includes supported companies linked to mutual funds. As the performance metrics for such companies are very different from those of other companies, we also exclude them from the sample. The final sample of supported businesses (5th column of Table 1) includes 134 firms breaking down into 54 for PME1, 47 for PME2, and 33 for PME3.

Table 1. Description of the sample of supported businesses.

Feature / SME program	Start date of the program	End date of program	Number of supported businesses	Number of supported firms excluding parent companies and investment funds
PME1	March-15	Feb-17	60	54
PME2	March-16	Feb-18	59	47
PME3	March 17	Feb-19	52	33
Together	_	_	171	134

Source: Bpifrance.
Note: the last column reports the number of firms suuported over 2015-2017. Among those, firms have been supported through PME1, PME2 or PME3 but do not have been supported in another program (identification issue); they do not belong neither to a holding (we are not able to compute the aggregated accounts), nor to an investment fund (the account variables are meaningless in this case); they are observed on an enough historic dimension (at least one year before the first year of entry in the program).

4.2. Construction of a control group for supported companies

The program's effects are evaluated by comparing the performance of firms that have participated in the program, sometimes referred to as "treated" businesses, in line with the Rubin model (Rubin, 1974), with the performance they would have experienced would they have not been supported, which is counterfactual and is thus unobserved. This is the central difficulty in any impact evaluation. We have to construct the counterfactual situation for each supported company. In a purely experimental setting, the assignment of individuals (firms) to the treated group (supported firms) and to the non-treated group (non-supported) groups would be done on the basis of a simple random draw (Rubin, 1974). This is the best way to ensure that the two groups are perfectly comparable, because they are selected in exactly the same manner. In our quasi-experimental setting, to evaluate the average effect of *Bpifrance* SME non-financial support on firms that have benefited from it and to cope with selection bias, it is important to construct a "control group", *ie.* a group of companies that

contains non-supported firms sharing the same features as those from the "treated" group (supported firms).

We choose to form the control group of businesses from companies that are members of the *Excellence* network, which is an internal *Bpifrance* label designating companies that are clients with high performances. Several arguments justify this choice. Almost all firms participating in the program were selected from within this network (with one exception). These businesses were selected by *Bpifrance* on the basis of their performance: they outperform companies that are client of *Bpifrance*, but not member of the Excellence network. Interviews with *Bpifrance*'s management teams confirmed that *Bpifrance* viewed these businesses as having the same characteristics as supported businesses. Their performance is comparable to that of the supported businesses before their selection for the program, which is statistically verifiable. The businesses labeled *Excellence* are in fact the smallest group of businesses that present the closest characteristics to the supported businesses.

The *Excellence* database includes approximately 5,250 businesses. We exclude supported firms. As for the supported group of companies, we then exclude firm that are parent/holding companies or mutual funds. Since we wish to compare companies with identical characteristics, we have in particular to restrict our sample to businesses that were SMEs prior to the program entry date. Finally, we match the remaining part of *Excellence* dataset with *FARE*. We get a control group that includes 3,163 non-supported SME *Excellence* firms. Thus, the final sample used is an unbalanced panel of 3,297 firms over 2010-2017. Out of them, there are 134 supported businesses.

4.3. Descriptive statistics

4.3.1. Evolution in outcome variables before and after the entry into the program

Descriptive statistics are produced for the entire sample to show the difference between the supported businesses ("treated" group, 134 companies) and the set of benchmark *Excellence* businesses ("control" group, 3,163 companies) by selecting those SMEs that do not participate in any program.

Table 2 shows evolutions – for each cohort of supported firms or for their control group – for the following indicators: growth rate of revenue, value added, year-end firm workforce or labor productivity; absolute changes in capital expenditures or in gross operating surplus. The values are calculated for the year prior the entry into the program (2014 to 2016 depending on the cohort), and one-two or three years later or for the year following exit from the program, *i.e.* three years later (except for PME3, entry in 2017, where we observe only the second year in the program, *i.e.* 2018).

For revenue, there is considerable heterogeneity in the businesses both within and across the three cohorts, as well as between SME supported firms and non-supported ones. On average, in firms of all three cohorts, revenue increases between before entry and the year firms leave the program by about 14.82% (over 2014-2017, for PME1 program) to 16.9% (over 2016-2018, for PME2 program) and 19.43% (over 2015-2018, for PME3 program). It is mostly due to the increase observed the year following the entry, except for PME3 (year of entry). For all three cohorts, there is also an increase in the revenue for all three respective control groups, although it is smaller than for treated firms. This gap is greater for PME2 and PME3 than for PME1 programs, even if it is never statistically significant. What is interesting to mention is that this positive difference between supported and non-supported firms is maximum one year after entry in program for PME2 and the year of entry for PME1[8] and PME3,

[8] In this case, the difference remains large one year after entry (+2.83 percentage points in 2016).

even if only significant (at a 10 percent level) for PME3 (+7.18pp). To a lesser extent, the same kind of features can be observed for value added, but only for PME2 and PME3 cohorts.

The year-end firm workforce also increases between the entry in the program and the year the firm exits from the program. This is due to what happens in the second year of the program for the PME1 cohorts, and in the first year for PME2 or PM3 programs. As for revenue, the increase between before and after the program is also observed but to a lesser extent than in supported firms. As a consequence, year-end firm workforce increases in SME supported firms in comparison to firms provided by controls groups, except for PME1 firms, even if it is never statistically significant. For PME2 and PME3, what contributes mostly is this difference is mostly due to what is observed the first year (+8.52pp in 2017, for PME2; +1.14pp in 2017 for PME3). On the contrary, for PME1, what contributes mostly to the difference between the treated and non-treated is observed the second year after entry in the program, and this difference is positive (+3.56pp), in favor of participating companies.

Positive changes in capital expenditures as well as in gross operating surplus are observed in all three cohorts, as well as in their respective control group. This increase is greater in the former than in the latter (except for capital expenditures and PME1 program). Nevertheless, for these two variables, not any increase nor difference is statistically significant, except in some rare cases. One point has to be mentioned. For both PME1 and PME2 firms, yearly variations that contribute most to “before after" difference between participating and non-participating companies are observed the same year as for revenue, *i.e.* the year of entry for PME1 program, but the year after for PME2 and PME3 programs (for PME2: +229,758 euros in capital expenditures and +393,906 euros in gross operating surplus in 2017).

In conclusion, even if differences between SME firms participating in the program and firms from the control group are not systematically significant, the former seem to outperform the latter. Those descriptive statistics seem to confirm the assumptions we derive in Section 3.

Table 2. Evolution in the outcome variables over the period the SME program was implemented. Distinguishing the type of program under consideration.

		Supported firms				Control group				Difference (naïve estimator)			
	Outcome variable / Period	2015	2016	2017	2014-2017	2015	2016	2017	2014-2017	2015	2016	2017	2014-2017
PME 1	Revenue[a]	4.25%**	6.25%**	5.28%*	14.82%***	0.51%	3.42%***	5.31%***	8.15%***	3.73pp[e]	2.83pp	-0.30pp	6.67pp
	Value added[a]	3.53%	4.32%	-0.01%*	7.88%	-1.47%	4.06***	3.38***	7.42***	5.00pp	0.26pp	-4.35pp	0.46pp
	Change in capital expenditures[b]	284,617	369,921	-268,921	385,616	-52307	86777**	111609*	156883	336,924	283,144	-380,531	228,733
	Change in Gross Operating Surplus[b]	92,991	122,759	139,734	354,985	-60619	105499	56550	141364	153,111	17,260	83,184	213,621
	End-of-year employment level (31 December)[a]	1.39%	3.7%**	2.78%	7.07%**	3.13%***	0.15%	3.42%***	8.76%***	-1.74pp	3.56pp*	-0.64pp	-1.68pp
	Labor productivity[a,c]	2.83%	-0.48%	-2.04%*	1.55%	0.26%	5.95%***	2.31%***	4.92%***	2.57pp	-6.43pp*	-4.35pp	-3.36pp
PME 2	Outcome variable / Period	2016	2017	2018	2015-2018	2016	2017	2018	2015-2018	2016	2017	2018	2015-2018
	Revenue[a]	2.59%	9.65%***	8.97%***	19.43%***	3.47%***	5.26%***	4.43%***	12.19%***	-0.88pp	4.35pp	4.54pp	7.24pp
	Value added[a]	2.19%	8.77%**	4.10%	15.97%*	4.09%***	3.23%***	0.900	8.85***	-1.9pp	5.53pp	3.2pp	7.12pp
	Change in capital expenditures[b]	-123,675	332,080	-200,264	8,142	94737**	102323	12852	207184***	-218,412	229,758	-213,116	-199,041
	Change in Gross Operating Surplus[b]	-60,509	445,098	71,490	456,079	110472*	51192	-104721	42002	-170,981	393,906	176,211	414,077
	End-of-year employment level (31 December)[a]	8.59%***	1.11%	2.94%	11.3%**	0.08%	3.45%***	4.23%***	8.08%***	8.52pp**	-2.33pp	-1.29pp	3.22pp
	Labor productivity[a,c]	-5.24%	9.51%**	-2.11%	1.07%	6.01%***	1.84%***	1.17%**	6.74%***	-11.25pp***	7.66pp	-3.28pp	-5.67pp
PME 3	Outcome variable / Period	2017	2018	2019[d]	2016-2018[d]	2017	2018	2019[d]	2016-2018[d]	2017	2018	2019[d]	2016-2018[d]
	Revenue[a]	12.44%***	4.84%	-	16.9%***	5.27%***	4.48%***		9.52%***	7.18pp*	0.36pp		7.38pp
	Value added[a]	3.83%	3.87%	-	7.32%	3.3%***	0.92		4.45%***	0.53pp	2.94pp		2.86pp
	Change in capital expenditures[b]	137,862	99,581	-	237,713	105,124	9,131		111,617*	32,738	90,720		126,096
	Change in Gross Operating Surplus[b]	123,039	215,183	-	338,222	57,246	-105,441		-65,346	65,793	320,624*		403,568
	End-of-year employment level (31 December)[a]	4.55%	4%*	-	8.13%*	3.4%***	4.22%***		7.35%***	1.14pp	-0.21pp		0.78pp
	Labor productivity[a,c]	-0.9	8.34%**	-	6.48%	2.26%***	1.07%**		2.36%***	-3.2pp	7.26pp*		4.13pp

Sources: Bpifrance and FARE (INSEE).
Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.
*Notes: reported values are company-level averages. [a]Growth rates – percentage (averages weighted with the lagged level of the outcome variable). [b]Million euros. [c]Lagged level of end-of year employment. [d]Instead of 2016-2019 (because data are not available for 2019). [e]Percentage points (difference between). *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively. Caution: the growth rate over the last 3 years (or 2 years for PME 3) may not sum to the annual growth rate.*
Reading: in 2016, the difference in the growth rates of firm workforce between supported companies and their control group (8.59 and 0.07% respectively) is equal to 8.52 percentage points. It is significant at a 1 percent level.

4.3.2. Differences in outcome variables between treated and non-treated firms before the entry into the program

Nevertheless, those features may be due to existing differences distinguishing the two kind of firms before the beginning of the SME programs. In particular, those differences can be explained by differences in the same variables between recipients and non-recipients, before the implementation of the programs.

With regards to past levels and evolutions in outcome variables one year before entry in the program, two things can be mentioned (Table 3a). We can see there is no difference between supported and non-supported firms for the PME3 program. It is not the case for PME1 and PM2 programs, even to a lesser extent for PME2. This can be explained by the fact the selection of the firms was made from a different manner. For PME1 program, *Bpifrance* declares it chooses recipients among those firms characterized by the best performance, something we can see through positive (and significant) differences in variations of outcome variables. With PME2 and PME3 programs, things are quite different. After the creation of the PME1 program, *Bpifrance* SME programs begin to be well-known: firms – that need a help to boost their activity – can choose to apply to the program and Bpifrance can accept or not; alternatively, *Bpifrance* can select firms for their performance. Thus, differences in the past variations of outcome variables are less often significant, and are positive or negative. For PME3 firms, no difference in the variation of outcome the year preceding the entry into the program is observed, probably because the selection – more mixed – leads to a sample of firms that need to be helped, or are characterized by large performance. Looking two years before the entry in the support program (Table 3b), differences in variations in outcome variables exhibit the same patterns, but for all five variables and are often not significant, considering all three programs (except for PME1 and the value added). Even if it would be great to have more in more information, like three or four years before the beginning of the programs, it could be stated that differences in variations of outcomes variables tend to decrease as we go farther in the past.

Looking at the level of the given outcome variable the year before entry, we can see systematic positive differences, either statistically significant (PME1 or PM2 programs) or not (PME3). This can be explained by the fact supported firms are larger companies, whatever the considered indicator: revenue, value added, capital expenditures, gross operating surplus and workforce. Descriptive statistics displayed two years preceding the beginning of the programs confirm these conclusions.

Table 3a. Descriptive statistics. Evolutions and levels in outcome variables before entering the SME non-financial programs. Part 1: one year before.

	2014			2015			2016		
	PME1 (1)	Control Group PME1 (2)	**Difference (1)-(2)**	PME2 (1)	Control Group PME2 (2)	**Difference (1)-(2)**	PME3 (1)	Control Group PME3 (2)	**Difference (1)-(2)**
Change in:									
the logarithm of revenue	8.00%	3.15%	**4.85pp****	1.11%	2.22%	**-1.10pp**	4.54%	3.66%	**0.88pp**
the logarithm of value added	7.18%	2.15%	**5.03pp****	-3.25%	-0.24%	**-3.01pp**	8.18%	2.22%	**5.96pp**
capital expenditures[a]	-206.969k€	-37.121k€	**-244k€**	433.97k€	52.61k€	**381.37k€****	50.43K€	49.52k€	**0.91k€**
Gross Operating Surplus[a]	44.55k€	82.28k€	**-37.73k€**	-376K€	-30K€	**-346K€***	98.43K€	-2.26K€	**100.69K€**
the logarithm of year-end employment	7.37%	3.07	**4.30pp****	7.04%	3.64%	**3.41pp**	4.64%	-1.54%	**6.18pp**
the logarithm of labor productivity	8.45%	1.86%	**6.59pp****	-7.82%	0.43%	**-8.25pp***	3.22%	7.28%	**-4.06pp**
Revenue [b]	24.28M€	13.05M€	**11.23M€*****	21.16M€	13.07M€	**8.09M€*****	16.78M€	13.32M€	**3.46M€**
Value Added [b]	8.28M€	€3.87M€	**4.41M€*****	6.12M€	3.82M€	**2.30M€*****	5.08M€	3.86M€	**1.22M€**
Capital Expenditures [a]	648k€	484k€	**164k€**	1003k€	502k€	**501k€*****	642K€	544K€	**98K€**
Gross Operating Surplus[b]	1.78M€	0.82M€	**0.96M€****	1.07M€	0.74M€	**0.33M€**	1.06M€	0.68M€	**0.38M€**
Workforce	118	60	**58*****	101	60	**41*****	75	60	**15K€**
Labor productivity[a]	70.46K€	64.60K€	**5.86K€**	62.03K€	64.67K€	**-2.64K€**	69.58K€	68.71K€	**0.87K€**

Sources: Bpifrance and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: reported values are company-level averages. [a]in thousand €; [a]in million €. Average value of the metrics on each of the two groups of companies. *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table 3b. Descriptive statistics. Evolutions and levels in outcome variables before entering the SME non-financial programs. Part 2: two years before.

	2014			2015			2016		
	PME1 (1)	Control Group PME1 (2)	**Difference (1)-(2)**	PME2 (1)	Control Group PME2 (2)	**Difference (1)-(2)**	PME3 (1)	Control Group PME3 (2)	**Difference (1)-(2)**
Change in:									
the logarithm of revenue	6.31%	2.33%	**3.97pp**	6.95%	3.22%	**3.79pp**	3.47%	2.17%	**1.30pp**
the logarithm of value added	-9.16%	2.53%	**-11.69pp*** **	4.03%	2.31%	**1.72pp**	-8.13%	-0.20%	**-7.92pp**
capital expenditures[a]	132.170k€	21.971k€	**-110.199k€**	-178.059k€	35.919k€	**-213.978k€**	181.772K€	57.718k€	**124.055k€**
Gross Operating Surplus[a]	-107.989k€	53.167k€	**-161.466k€**	86.051k€	81.412K€	**4.639K€**	-241.522K€	-33.864K€	**-207.658K€**
the logarithm of year-end employment	2.49%	1.2%	**1.29pp**	5.77%	3.16%	**2.61pp**	0.53%	3.78%	**-3.25pp**
the logarithm of labor productivity	-8.51%	3.02%	**-11.54pp*** **	-0.06%	2.19%	**-2.79pp**	-7.71%	0.32%	**-8.03pp**
Revenue[b]	22.28M€	12.92M€	**9.36M€*** **	20.35M€	13.16M€	**8.19M€*** **	15.45M€	13.18M€	**2.27M€**
Value Added[b]	7.45M€	€3.80M€	**3.65M€*** **	7.18M€	3.92M€	**2.26M€*** **	4.59M€	3.85M€	**0.74M€**
Capital Expenditures[a]	855k€	483k€	**372k€***	569k€	485k€	**84k€**	591K€	510K€	**81K€**
Gross Operating Surplus[b]	1.73M€	0.78M€	**0.95M€** **	1.45M€	0.82M€	**0.62M€**	0.96M€	0.74M€	**0.22M€**
Workforce	107	58	**49*** **	92	60	**31*** **	67	61	**6**
Labor productivity[a]	68.59K€	64.96K€	**3.67K€**	68.93K€	65.15K€	**3.78K€**	67.01K€	64.56K€	**2.44K€**

Sources: Bpifrance and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: reported values are company-level averages. [a]in thousand €; [b]in million €. *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

4.3.3. Differences in features describing companies in the past

Differences in outcome variables between supported and non-supported SME firms, before and after the entry, can also be due to differences of features characterizing companies, like their size (firm workforce), industry or economic ratios (markup rate, capital intensity, apparent labor productivity, economic profitability or the share of the revenue generated from exports).

Tables 4a and b display these firms characteristics, one or two years before the beginning each of the three programs. Both tables exhibit almost the same features. Either one or two years before the beginning of the programs, the size of the workforce is greater in PME1 than in PME2, and in PME2 than in PME3 firms. This confirms that the selection of firms was different for the three kinds of programs and, in particular, that PME1 firms were selected according to their performance more often than the two other cohorts. Consequently, there were more workers in PME1 firms than in their respective control groups. The contrary is true for PME2 and PME3 companies. However, these differences are not significant, because of large standard errors. Otherwise, SME supported companies are more often found among companies that employ between 50 and 99 workers, than firms from the control group. This is also true for firms employing between 100 and 249 firms, except for PME3 program. Such a finding was expected because SME firms are characterized by the fact they employ fewer than 250 workers. SME supported firms do not seem to come from a particular industry, except in some rare cases. Economic ratios characterizing the economic situation of companies do not seem to exhibit any difference between supported and non-supported firms. The only exception is the share of revenue generated by sells on exports: it is systematically (and often statistically significantly) greater among supported than among non-supported firms. This can be explained by the fact that firms that export are often bigger firms, even not on workforce size point of view: Tables 3a and b reveals, in particular, greater revenue or value added in supported firms than in other firms. Finally, many of those differences between the two kinds of companies are often not statistically significant. This may be due both to a small number of supported firms but also to the fact considered differences are not given *ceteris paribus*, *i.e.* holding all other factors fixed.

To conclude with this Section, we can say that SME companies supported through PME1 to PME3 programs seem to outperform non-supported companies. However, those differences in firm performance can be, at least partially, explained by differences in features observed (or not) for companies before the beginning of the program. To disentangle between the two kinds of findings, we have to consider an econometric identification strategy that allows us to account both for selection on observed, as well as on unobserved variables.

Table 4a. Descriptive statistics. Firm characteristics before entering the program, comparing control variable values in the treatment and the control group. Part 1: information one year before entering the non-financial SME program.

Firm characteristics	PME1 firms (1)	PME1 control group (2)	Difference (1)-(2)[a]	PME2 firms (3)	PME2 control group (4)	Difference (3)-(4)[a]	PME3 firms (5)	PME3 control group (6)	Difference (5)-(6)[a]
Company size (delayed by one year):									
Overall firm size[a]	118.5094	115.3725	3.1369	101.0216	116.3866	-15.365	75.1818	116.9691	-41.7873
Between 20 and 49 employees	0.1111	0.3295	-0.2184**	0.2766	0.3188	-0.0422	0.3939	0.3164	0.0775
Between 50 and 99 employees	0.2778	0.1675	0.1103**	0.2979	0.1744	0.1235**	0.3636	0.171	0.1926**
Between 100 and 249 employees	0.463	0.1444	0.3186***	0.3191	0.1447	0.1744**	0.1515	0.1499	0.0016
Between 250 and 500 employees	0.0185	0.0517	-0.0332	0.0426	0.0538	-0.0112	0	0.0514	-0.0514
Indicators of belonging to a sector of economic activity:									
Agriculture	0.0185	0.0007	0.0178***	0	0.0006	-0.0006	0	0.0006	-0.0006
Extractive industry	0	0.0023	-0.0023	0	0.0019	-0.0019	0	0.0018	-0.0018
Manufacturing industry	0.4074	0.3434	0.064	0.5319	0.3403	0.1916***	0.3636	0.3339	0.0297
Energy	0	0.0023	-0.0023	0	0.0025	-0.0025	0	0.0024	-0.0024
Water and waste	0	0.0099	-0.0099	0.0213	0.0092	0.0121	0.0303	0.0109	0.0194
Building / public works	0.037	0.0695	-0.0325	0.0426	0.0681	-0.0255	0.0303	0.0662	-0.0359
Wholesale and retail trade. repair of motor vehicles and motorcycles	0.1481	0.1765	-0.0284	0.1702	0.1703	-0.0001	0.2727	0.1629	0.1098*
Transport	0	0.043	-0.043	0	0.0427	-0.0427	0	0.0426	-0.0426
Lodging and catering	0	0.0222	-0.0222	0	0.0209	-0.0209	0	0.0206	-0.0206
Information and communication	0.2037	0.1159	0.0878*	0.0851	0.1238	-0.0387	0.1515	0.1312	0.0203
Financial and insurance activities	0	0.0053	-0.0053	0	0.0063	-0.0063	0	0.006	-0.006
Real estate activities	0	0.0046	-0.0046	0	0.0051	-0.0051	0	0.0051	-0.0051
Specialized. scientific and technical activities	0.1667	0.1464	0.0203	0.1064	0.1488	-0.0424	0.1515	0.155	-0.0035
Administrative and support services activities	0.0185	0.0387	-0.0202	0.0426	0.0386	0.004	0	0.0402	-0.0402
Education	0	0.0033	-0.0033	0	0.0044	-0.0044	0	0.0042	-0.0042
Human health and social action	0	0.006	-0.006	0	0.0054	-0.0054	0	0.0057	-0.0057
Arts. entertainment and recreation	0	0.006	-0.006	0	0.007	-0.007	0	0.007	-0.007
Other services activities	0	0.004	-0.004	0	0.0041	-0.0041	0	0.0036	-0.0036
Ratios characterizing the economic situation of companies:									

Levels (delayed by one year):									
Mark up rate[b]	21.4426	24.4819	-3.0393	17.5666	23.5013	-5.9347	20.8642	23.9116	-3.0473
Capital intensity[c]	57.0992	89.3196	-32.2204	67.0087	91.7279	-24.7192	61.7074	92.7959	-31.0885
Apparent labor productivity[c]	78.1461	72.8272	5.3189	65.3627	71.7461	-6.3934	78.1813	73.1023	5.0790
Economic profitability[b]	12.3344	9.5624	2.7420	8.1908	8.5545	-0.3636	12.6484	7.7353	4.9131
Share of the revenue generated from exports[b]	31.5916	20.7772	10.8140***	31.4647	21.5359	9.9288**	25.2180	21.9039	3.3141
Variations (delayed by one year):									
- of the markup rate[d]	0.2219	-81.2004	81.4222	-5.3301	-4.8420	-0.4881	-1.3313	-50.3892	49.0579
- capital intensity[c]	-0.4049	-7.8742	7.4693	3.6507	-0.2671	3.9177	7.719	2.7419	4.9619
- apparent labor productivity[c]	1.3237	-1.9278	3.2515	-6.8922	-16.1573	9.2651	1.7964	1.7127	0.0837
- economic profitability [b]	-2.6149	-0.2032	-2.4118	-5.2200	-1.1757	-4.0439	-6.0407	2.9159	-8.9569
- of the share of revenue generated from exports[d]	0.9162	1.2632	-0.3470	0.4132	0.8428	-0.4295	0.6175	0.4650	0.1529
Number of firms	54	3,020	3,074	47	3,159	3,246	33	3,309	3,342

Sources: Bpifrance and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: reported values are company-level averages. [a]Number of workers; [b]percentage ; [c]thousand €; [d]percentage points. *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table 4b. Descriptive statistics. Firm characteristics before entering the program, comparing control variable values in the treatment and the control group. Part 2: information two years before entering the non-financial SME program.

Firm characteristics	PME1 firms (1)	PME1 control group (2)	Difference (1)-(2)[a]	PME2 firms (3)	PME2 control group (4)	Difference (3)-(4)[a]	PME3 firms (5)	PME3 control group (6)	Difference (5)-(6)[a]
Company size (delayed by two years):									
Overall firm size[a]	107.1154	111.6749	-4.5595	91.7021	112.2646	-20.5625	75.1818	116.9691	-41.7873
Between 20 and 49 employees	0.1296	0.3186	-0.189**	0.2553	0.3129	-0.0576	0.3939	0.3164	0.0775
Between 50 and 99 employees	0.2963	0.1585	0.1378**	0.3617	0.1598	0.2019***	0.3636	0.171	0.1926**
Between 100 and 249 employees	0.4259	0.1375	0.2884***	0.2553	0.142	0.1133**	0.1515	0.1499	0.0016
Between 250 and 500 employees	0.0185	0.0492	-0.0307	0.0213	0.0496	-0.0283	0	0.0514	-0.0514
Indicators of belonging to a sector of economic activity:									
Agriculture	0.0185	0.0007	0.0178***	0	0.0006	-0.0006	0	0.0006	-0.0006
Extractive industry	0	0.0023	-0.0023	0	0.0019	-0.0019	0	0.0018	-0.0018
Manufacturing industry	0.4074	0.3434	0.064	0.5319	0.3403	0.1916**	0.3636	0.3339	0.0297
Energy	0	0.0023	-0.0023	0	0.0025	-0.0025	0	0.0024	-0.0024
Water and waste	0	0.0099	-0.0099	0.0213	0.0092	0.0121	0.0303	0.0109	0.0194
Building / public works	0.037	0.0695	-0.0325	0.0426	0.0681	-0.0255	0.0303	0.0662	-0.0359
Wholesale and retail trade. repair of motor vehicles and motorcycles	0.1481	0.1765	-0.0284	0.1702	0.1703	-0.0001	0.2727	0.1629	0.1098*
Transport	0	0.043	-0.043	0	0.0427	-0.0427	0	0.0426	-0.0426
Lodging and catering	0	0.0222	-0.0222	0	0.0209	-0.0209	0	0.0206	-0.0206
Information and communication	0.2037	0.1159	0.0878*	0.0851	0.1238	-0.0387	0.1515	0.1312	0.0203
Financial and insurance activities	0	0.0053	-0.0053	0	0.0063	-0.0063	0	0.006	-0.006
Real estate activities	0	0.0046	-0.0046	0	0.0051	-0.0051	0	0.0051	-0.0051
Specialized. scientific and technical activities	0.1667	0.1464	0.0203	0.1064	0.1488	-0.0424	0.1515	0.155	-0.0035
Administrative and support services activities	0.0185	0.0387	-0.0202	0.0426	0.0386	0.004	0	0.0402	-0.0402
Education	0	0.0033	-0.0033	0	0.0044	-0.0044	0	0.0042	-0.0042
Human health and social action	0	0.006	-0.006	0	0.0054	-0.0054	0	0.0057	-0.0057
Arts. entertainment and recreation	0	0.006	-0.006	0	0.007	-0.007	0	0.007	-0.007
Other services activities	0	0.004	-0.004	0	0.0041	-0.0041	0	0.0036	-0.0036
Ratios characterizing the economic situation of companies:									

Levels (delayed by two years):									
Mark-up rate[b]	23.2520	23.0856	0.1664	23.4814	24.5609	-1.0795	20.9633	23.6011	-2.6378
Capital intensity[c]	58.8379	86.4761	-27.6383	67.5974	89.8072	-22.2097	55.5637	91.9556	-36.3919
Apparent labor productivity[c]	76.1542	71.3323	4.8220	73.6953	72.7251	0.9702	73.5962	71.8460	1.7502
Economic profitability [b]	14.9023	9.4697	5.4326	13.0443	9.5261	3.5143	13.0150	8.0849	4.9301
Share of the revenue generated from exports[b]	28.2025	19.1970	9.0055**	28.7589	21.6859	7.0729	27.9598	21.0998	6.8599
Variations (delayed by two years):									
- of the mark-up rate[d]	-1.8076	-121.3520	119.5444	0.1499	-82.5392	82.6891	-4.6813	-3.8956	-0.7857
- capital intensity[c]	4.1749	-10.6704	14.8453	2.8347	-7.9277	10.7624	3.2209	-0.2721	3.4929
- apparent labor productivity[c]	-6.6033	-31.1186	24.5153	-0.8301	-1.8890	1.0588	-5.6824	-15.9797	10.2974
- economic profitability [b]	-3.7478	-27.3862	23.6383	-1.2894	0.1932	-1.4826	3.8415	-1.1175	4.9590
- of the share of revenue generated from exports[d]	0.3678	-0.6827	1.0505	3.8494	1.2484	2.6010	6.6958	0.8138	5.8821**
Number of firms	54	3,020	3,074	47	3,159	3,246	33	3,309	3,342

Sources: Bpifrance and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: reported values are company-level averages. [a]Number of workers; [b]percentage; [c]thousand €; [d]percentage points. *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

5. Identification strategy

5.1. Econometric model

It should be mentioned that these figures are averages over a period between before and after the implementation of the programs, both for each of the SME cohorts – three groups of supported firms with quite different features – and for their respective control groups. Indeed, we are not reasoning here under the *ceteris paribus* assumption and we are probably comparing supported businesses with *Excellence* businesses with potentially different characteristics, as demonstrated in the last part of Section 4. One other difficulty in the assessment of the impacts of SME programs is the small number of supported firms considered by each program. Since the businesses within each cohort are very different, the average performance shown by a cohort can be very sensitive to the performance of a small number of businesses with a strong growth dynamic. The variance in performance indicators is high, making the performance gap between supported and control groups potentially less significant.

The choice of evaluation method will be guided largely by these elements. Our empirical strategy is based on the Rubin model (Rubin, 1974), within the framework of econometrics of evaluation. We won't consider propensity score matching because it requires a large number of observations and is thus little-suited to the size of our samples. We preferred a panel difference in differences method (Ashenfelter and Card, 1985), on an unbalanced panel of 3,297 firms over 2010-2017. It consists of comparing the changes in the performance of the businesses in the supported group with that of the control group, before and after implementation of the program. This approach has the advantage of considering all the businesses belonging to the *Excellence* network in the control group. In order to compare businesses that are comparable, we have adopted the *ceteris paribus* assumption by using control variables to account for differences in observed firm characteristics.

We model the given outcome variable that refers to the performance variable (revenue, value added, year-end workforce, labor productivity, capital expenditures, gross operating surplus) for firm *i* at time *t* as follows:

$$\begin{aligned} y_{i,t} = \beta_0 + \sum_{t_1=2015}^{2017} \beta_{\text{PME1},t_1}.I_{\text{i}\in PME1,\text{t}\geq \text{t}_1} + \sum_{t_2=2016}^{2017} \beta_{\text{PME2},t_2}.I_{\text{i}\in PME2,\text{t}\geq \text{t}_2} + \beta_{\text{PME3,2017}}.I_{\text{i}\in PME3,\text{t}\geq 2017} \\ + \delta_1.\text{markup\_rate}_{\text{i,t-2}} + \delta_2.\text{eco\_r\_rate}_{\text{i,t-2}} + \delta_3.\text{cap\_intens}_{\text{i,t-2}} \\ + \delta_4.\text{share\_revenue\_exported}_{\text{i,t-2}} + \delta_5.\text{labor\_productivity}_{\text{i,t-2}} + w_i + \eta_{i,t} \end{aligned} \quad (1)$$

$\eta_{i,t}$ is the usual error term of the econometric equation. $I_{\text{i}\in PME1,\text{t}\geq \text{t}_1}$ is a step dummy equal to 1 if firm *i* benefits from PME1 program and if year of observation is greater than or equal to starting year of PME1 (2015), and otherwise to 0. As well, $I_{\text{i}\in PME2,\text{t}\geq \text{t}_2}$ is a step dummy equal to 1 if firm *i* benefits from PME2 program and if year of observation is greater than or equal to starting year of PME2 (2016), and otherwise to 0. $I_{\text{i}\in PME3,\text{t}\geq 2017}$ refers to a variable that is equal to 1 if firm *i* benefits from PME3 program and if year of observation is equal to starting year of PME3, that is 2017. The β_{PME_j,t_j} 's (with j=1, 2 or 3) should measure the impact of SME program *j* at time *t*. To control for selection bias, we include as explanatory variables *markup_rate*, *eco_r_rate, cap_intens* and *share_revenue_exported* that correspond respectively to the markup rate, the economic rate of return, the capital intensity and the share of revenue from exports; they allow taking account for selection bias based on observed factors while attempting to evaluate the effect of SME programs. These variables are lagged twice to

avoid potential simultaneity bias. Since not all control variables are included nor observed, we also add in the equation a firm specific effect W_i that refers to all control variables that are unobserved to the econometrician and are time invariant. This unobserved heterogeneity can capture a lot of factors, such as managerial ability of the founder, its education level, the willingness to interact or co-operate with her/his peers. We assume W_i to be correlated with our control variables. To identify the programs' effects through $\beta_{\mathrm{PME_j},t_j}$ and Equation (1), the error term has to be independent from explanatory variables, but conditional on the firm unobserved component. This assumption has more chance to hold than the usual one without the firm fixed effect.

5.2. Estimated differentiated equations

To estimate Equation (1) we differentiate it. However, including the unobserved firm fixed effect may not be sufficient to take account for selection on unobserved variables because W_i is time invariant. To improve our model, we can take account for the fact the variation in the performance variable may depend on the industry the firm belongs to, by introducing in the differenced equation a set of 18 industry dummies, equal to one if firm *i* belongs to business sector *s*. Moreover, the variation in the performance variable may also rely on the firm size (in terms of number of employees); we thus include a set of 5 dummy variables for the size of the firm workforce. To account for the economic situation, we include a set of 4 year dummies. Finally, to account for potential effects of trends in the control variables, we add the levels of economic and financial ratios lagged by two years, thus obtaining an augmented differences-in-differences model.

Besides, as we try to evaluate the effect of a policy, it is usual to ensure that any effect detected is not an artifact related to the presence of different trends between businesses in the supported ("treated") group and those in the non-supported group ("untreated" or control group). We thus add as an explanatory variable in the augmented differences-in-differences model that corresponds to an artificial program that did not exist at 2013 ("placebo"). The augmented differences-in-differences model we consider is thus the following:

$$
\begin{aligned}
\Delta y_{i,t} = {} & \beta_0 + \beta_1 . I_{\mathrm{i\in placebo,t=2013}} + \sum_{t_1=2015}^{2017} \beta_{\mathrm{PME1},t_1} . I_{\mathrm{i\in}PME1\mathrm{,t=t_1}} + \sum_{t_2=2016}^{2017} \beta_{\mathrm{PME2},t_2} . I_{\mathrm{i\in}PME2\mathrm{,t=t_2}} \\
& + \beta_{\mathrm{PME3,2017}} . I_{\mathrm{i\in}PME3\mathrm{,t=2017}} + \sum_{j=2014}^{2017} \lambda_j I_{t=j} + \sum_{e=1}^{4} \gamma_e . \mathrm{employment\_size_{i\in}}e\mathrm{,t\text{-}2} \\
& + \sum_{b=1}^{18} \theta_b . \mathrm{b\text{-}sector_{i\in b}} + \tau_1 . \mathrm{markup\_rate_{i,t\text{-}2}} + \tau_2 . \mathrm{eco\_r\_rate_{i,t\text{-}2}} \\
& + \tau_3 . \mathrm{cap\_intens_{i,t\text{-}2}} + \tau_4 . \mathrm{share\_revenue\_exported_{i,t\text{-}2}} \\
& + \tau_5 . \Delta \mathrm{labor\_productivity_{i,t\text{-}2}} + \delta_1 . \Delta \mathrm{markup\_rate_{i,t\text{-}2}} + \delta_2 . \Delta \mathrm{eco\_r\_rate_{i,t\text{-}2}} \\
& + \delta_3 . \Delta \mathrm{cap\_intens_{i,t\text{-}2}} + \delta_4 . \Delta \mathrm{share\_revenue\_exported_{i,t\text{-}2}} \\
& + \delta_5 . \Delta \mathrm{labor\_productivity_{i,t\text{-}2}} + u_{i,t}
\end{aligned}
\qquad (2)
$$

$\Delta z_{i,t}$ is the first difference for all variables $z_{i,t}$ (either the outcome variable or the explanatory variables, including treatment variable). $\Delta I_{\mathrm{i\in}PME1\mathrm{,t\geq t_1}} \equiv I_{\mathrm{i\in}PME1\mathrm{,t=t_1}}$ is a dummy that is equal to one if firm *i* benefits from PME1 and is observed at time *t* equal to the starting year of PME1, *i.e.* 2015. The same holds for $\Delta I_{\mathrm{i\in}PME2\mathrm{,t\geq t_2}} \equiv I_{\mathrm{i\in}PME2\mathrm{,t=t_2}}$ for PME2 (t_2=*2016*), and for $\Delta I_{\mathrm{i\in}PME3\mathrm{,t\geq t_3}} \equiv I_{\mathrm{i\in}PME3\mathrm{,t=t_3}}$

for PME3 (t_3=*2017*). $I_{t=j}$ is a year dummy that is equal to one if year of observation *t* is equal to year *j*. $\text{employment\_size}_{\text{i}\in e,\text{t-2}}$ that is equal to one if the headcount of business *i* belongs to interval *e* at time *t-2*. $\text{b-sector}_{\text{i}\in\text{b}}$ is an industry dummy that is equal to one if firm *i* belongs to business sector *b*. $u_{i,t} = \Delta\eta_{i,t}$ is the new error term of the econometric model. $I_{\text{i}\in\text{placebo,t=2013}}$ refers to the placebo program is equal to one for all firms supported (in PME1, PM2 and PME3) at year 2013 and 0 otherwise. The β_1 coefficient should be not statistically significant different from zero if there is no placebo effect.

If, on the other hand, there is a significant effect from this dummy program, it indicates that the two groups of firms show distinct trends as regards performance variables. In this case, it is useful to estimate a differences-in-differences-in-differences model: to describe $y_{i,t}$, we introduce a firm-specific trend that refers to an additional source of heterogeneity. It is captured by introducing a fixed business effect in the variation of $y_{i,t}$. If $y_{i,t}$ is the natural logarithm of the outcome variable, this firm fixed effect corresponds to the average growth rate of the performance variable over the considered period (holding the explanatory variables fixed). This model refers to the random growth model (Heckman and Hotz, 1989; Polachek and Kim, 1994). In this context, we allow both the unobserved firm fixed effect and the firm specific trend to be arbitrarily correlated with the observed explanatory variables. In particular, since our indicators of participation to the SME program are part of the differences-in-differences-in-differences model, it allows the participation to SME program to depend both on firm-specific trends and level effects. In the random trend model, parameters $\beta_{\text{PME}_\text{j},t_j}$ identify the effect of Bpifrance SME programs if the error term of our model is independent of explanatory variables conditional on both the specific trends and level effect.

5.3. Expected effects and imposed restrictions on coefficients

The review of descriptive statistics in the previous section revealed (at least) two main characteristics of SME programs. The first was differences in business size (in terms of number of employees), with headcounts of 118, 101 and 75 employees for the PME1, PME2 and PME3 cohorts respectively. We can therefore see that the business size decreases for the most recent cohorts. On the contrary, the average level of the firm workforce in control groups is about 115 people.

The second important feature was the speed and scale of the appearance of increase in performance variables from the point a business enters a program. Examination of Table 2 suggests occurrence of increase in revenue in 2015 and 2016 for PME1, *i.e.* the year of entry into the SME program, or one year after. On the other hand, for PME2, the increase in revenue seems to appear later, *i.e.* one year to two years after the entry into the program, and is of greater magnitude. Finally, for PME3, the same increase is observed 2017, *i.e.* in the first year, as for PME1. In other words, these characteristics show that the PME2 and PME3 cohorts share a common date for the appearance of positive effects on sales, *i.e.* 2017. On the contrary, for PME1 there is a lower increase in revenue in 2017 than for the other cohorts, but there is also a more positive change specific to PME1 in 2015 or 2016.

The same features are observed in the case of value added, capital expenditures, GOS for PME1 and PME2 programs, or in the case of year-end employment level for PME3 program. On the contrary, the increase in year-end firm level of employment is observed one year later than for other variables for PME1 program, whereas it is observed the year before the increase in the other outcome variables for PME2 program, even if we considered year-end company's workforce.

These characteristics as a whole suggest that the program's effects may appear sooner for PME1, at the entry in the program, or one year later, like for PME3, whereas it may appear the year following the entry in the program for PME2 program, except for year-end firm workforce (year of entry).

Viewed from the perspective of the change in business sizes with each cohort, this difference in the timing of effects could be attributed to the increased ability of smaller businesses to change their organization quickly: PME3 firms are far smaller firms than PME1 and PME2 firms. A further explanation is the probable improvement in the support and the advices given to businesses in each new cohort of the national SME program. Regarding the scale of the positive difference, which are larger for recent cohorts, this again suggests a link with the average business size per cohort, which decreased over the period studied.

As a consequence, we can first estimate Equation (2) considering the full set of treatment dummies. In a second specification, we drop dummies whose coefficients are far from being significantly statistically different from 0 (at conventional levels). In a last specification, we finally estimate the model given by Equation (2) where we can impose that coefficients for PME2 and PME3 are equal for 2017, notably for revenue, and that coefficients for PME1 and PME2 are equal in 2016 in the case of year-end firm workforce.

5.4. Modeling selection in the program

As far we consider estimation of equation (2) to assess the effects of Bpifrance SME programs, we may not have controlled for all (and potentially unobserved) factors that may explain why companies participate in the given program and are also correlated with performance. Hence, coefficients given by equation (2) may be more considered as "improved correlations with control variables" between benefiting from the SME program and firm performance.

Thus, while attempting to evaluate the effects of the three programs, as a first step, we may also want to model the selection in each of the PM1 to PME3 programs that may thus help to control for unobserved factors (Heckman, 1979).

Indeed, various factors may have a direct impact on the uncertainty. The age of the firm is one of them: as mentioned in Jovanovic (1982), firms acquire more information about their performances as they become older and have accumulated information on their own performances; in other words, the uncertainty about the firm performances declines with the firm age. Thus, the decision to join a SME program should decline with age of the firm. Past evolutions on the quantity produced may also "import": if the performances of the firm were bad, then as mentioned in Jovanovic (1982), a decrease in the output produced could be synonymous of a low firm performance. The program could improve the management "abilities" of the firm. As a consequence, low growth rate of revenue should increase the incentive to join a SME program. Finally, a low return on asset in the past could be related to an unsuitable market positioning or at least to an uncertainty about the market positioning: the lower the return on asset the higher is the intensive to join a SME program.

Table 5. Descriptive statistics on indicators considered as potential instruments for entering a SME program.

Indicator / Treatment group	PME1 2015	Control group for PME1 2015	PME2 2016	Control group for PME2 2016	PME3 2017	Control group for PME3 2017
Age of the firm	25.39	24.09	22.49	24.15	25.64	24.27
Lagged level of return on asset	3.82%	3.56%	2.73%	3.69%	4.69%	3.66%
Variation in lagged variation in return on asset[a]	-1.78	0.08	-2.90	0.09	-1.14%	-1.58%

First lagged variation in the logarithm of the revenue	7.24%	3.92%	26.23%	14.35%	4.54%	3.55%
Second lagged variation in the logarithm of the revenue[b]	6.31%	1.81%	1.11%	0.90%	3.47%	0.89%
Number of firms	54	3,020	47	3,159	33	3,309

Sources: Bpifrance and FARE (INSEE).
Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.
*Notes: [a]percentage points. *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table 5 shows evidence on several features for the three cohorts for firms that participate in the programs. First, PME2 firms are younger than those from the corresponding control group; it thus seems to confirm the first argument, for those companies but not for the two other cohorts[9]. Second, still for PME2 firms, there was a low return on asset one year before entering the program in comparison to the corresponding control group, but it is not the case neither for PME 1 nor for PM3 businesses. However, PME1 and PME2 experienced both a decrease in their ROA the year before the entry in the program. Third, the third argument does not seem to hold for any of the three cohorts. Nevertheless, we have to mention that all these descriptive statistics are not controlled for any other factor than may be correlated both with entry in the program.

Anyway, those statistics show that some features may explain why companies benefit from any of the Bpifrance SME programs, but without necessarily and directly affecting firm performance. Thus, to take account for selection on unobserved variables, we consider as exclusion variables the age of the firm, the past variation in ROA and in the logarithm of the revenue.[10]

In a first step, we estimate three equations using data provided for the year preceding the entry in each of the three programs (2014 for PME1, 2015 for PME2, and 2016 for PME3). For instance, for PME1, we consider the following equation with control variables provided (included instruments) by equation (2):

$$\text{PME1}_{2014} = 1 \text{ if } \text{PME1}^{*}_{2014} > 0 \text{ or } \text{PME1}_{2014} = 0 \text{ else,}$$

where:

$$\begin{aligned}\text{PME1}^{*}_{2014} = {} & \alpha_0 + \alpha_1.\text{age}_{2014} + \alpha_2.\Delta\text{ROA}_{2014} + \alpha_3.\Delta\text{revenue}_{2014} \\ & + \sum_{e=1}^{4} \gamma_e.\text{employment\_size}_{\text{i}\in e,2013} \\ & + \sum_{b=1}^{18} \theta_b.\text{b-sector}_{\text{i}\in\text{b}} + \tau_1.\text{markup\_rate}_{\text{i,2013}} + \tau_2.\text{eco\_r\_rate}_{\text{i,2013}} \\ & + \tau_3.\text{cap\_intens}_{\text{i,2013}} + \tau_4.\text{share\_revenue\_exported}_{\text{i,2013}} \\ & + \tau_5.\Delta\text{labor\_productivity}_{\text{i,2013}} + \delta_1.\Delta\text{markup\_rate}_{\text{i,2013}} + \delta_2.\Delta\text{eco\_r\_rate}_{\text{i,2013}} \\ & + \delta_3.\Delta\text{cap\_intens}_{\text{i,2013}} + \delta_4.\Delta\text{share\_revenue\_exported}_{\text{i,2013}} \\ & + \delta_5.\Delta\text{labor\_productivity}_{\text{i,2013}} + \varepsilon_{i2014}\end{aligned} \quad (3)$$

ε_{i2014} is the conventional error term. From these first steps, we compute inverse of Mills ratios.

[9] The difference of age is small between PME1 firms and the firms of the corresponding control group.
[10] Note that considering the first lagged level of ROA or the second lagged variation of revenue does not change our results. Corresponding Tables are available on request.

In a second step, we put them as additional control variables in the main equation that provides the coefficients for our variables of interest:

$$\begin{aligned}\Delta y_{i,t} = {} & \beta_0 + \beta_1.I_{\text{i}\in\text{placebo,t=2013}} + \sum_{t_1=2015}^{2017} \beta_{\text{PME1},t_1}.I_{\text{i}\in PME1,\text{t=t}_1} + \sum_{t_2=2016}^{2017} \beta_{\text{PME2},t_2}.I_{\text{i}\in PME2,\text{t=t}_2} \\ & + \beta_{\text{PME3,2017}}.I_{\text{i}\in PME3,\text{t=2017}} + \sum_{j=2014}^{2017} \lambda_j I_{t=j} + \sum_{e=1}^{4} \gamma_e.\text{employment\_size}_{\text{i}\in e,\text{t-2}} \\ & + \sum_{b=1}^{18} \theta_b.\text{b-sector}_{\text{i}\in\text{b}} + \tau_1.\text{markup\_rate}_{\text{i,t-2}} + \tau_2.\text{eco\_r\_rate}_{\text{i,t-2}} \\ & + \tau_3.\text{cap\_intens}_{\text{i,t-2}} + \tau_4.\text{share\_revenue\_exported}_{\text{i,t-2}} \\ & + \tau_5.\Delta\text{labor\_productivity}_{\text{i,t-2}} + \delta_1.\Delta\text{markup\_rate}_{\text{i,t-2}} + \delta_2.\Delta\text{eco\_r\_rate}_{\text{i,t-2}} \\ & + \delta_3.\Delta\text{cap\_intens}_{\text{i,t-2}} + \delta_4.\Delta\text{share\_revenue\_exported}_{\text{i,t-2}} + \delta_5.\Delta\text{labor\_productivity}_{\text{i,t-2}} \\ & + \mu_1.\overline{IMR}_{\text{PME1}} + \mu_2.\overline{IMR}_{\text{PME2}} + \mu_3.\overline{IMR}_{\text{PME3}} + u_{i,t}\end{aligned} \tag{4}$$

Where $\overline{IMR}_{\text{PMEx}}$ (with *x=1,2* or *3*) is the Mills ratio for each supported SME cohort *x*.

6. Results and discussion

In this Section we first display results for both DID ordinary least squares estimates and then DID instrumental variable estimates to take account for the selection of firms (in the SME programs) based on unobserved variables. Second, we provide a discussion of our results.

6.1. Findings

6.1.1. DID-OLS estimates

We consider the following set of outcomes variables, mainly suggested from the testable hypotheses of Section 3: revenue, value added, gross operating surplus, capital expenditures, and the salaried workforce. We report the results of the difference in differences estimates in Table 6, distinguishing traditional unweighted regressions for capital corporate investment and gross operating surplus (Table 6b), from weighted regressions for all other outcome variables to account for the size of the considered firms (Table 6a), so to uncover the overall effects, this way we compute averages over growth rates of the considered variables[11] (revenue, value added, and the salaried workforce[12]).

From Tables 6a and 6b, we see that no falsification test gives rise to a significant placebo effect[13]. We can thus interpret any of the coefficient of interest for revenue, value added and year-end firm workforce.

We find a positive significant effect of the PME1 program on firm workforce the year following the entry in the program: whatever the econometric specification, an increase of 4.4% in the year-end employment level is obtained for these companies in 2016. For both PME2 and PM3 programs, we also get a rise of revenue of 4.8 and 6.1% in 2017, even if both coefficients are statistically significant only at a 10 percent level. This is mainly because – as mentioned in Section 5 – there are few firms

[11] For each of the three outcome variables, we consider as a weight the first lag of the given outcome variable (for instance, first lag of year-end firm workforce when the dependent variable is the logarithm of the salaried workforce).

[12] Detailed results are shown in Tables A-2a and A-2b in Appendix 2).

[13] It is the case at least at a threshold smaller than the 10% significance level, except for the revenue, but only for the first specification and at the 9.8 percent level.

concerned by each of the programs, and particularly by PME2 or PME3 (47 and 33 participants respectively). Since coefficients for PME2 and PME3 are of the same size, we can impose coefficients for both effects to be equal; we then get an increase of 5.3 percent (at a 5 percent level). In PME2 firms, in 2017, corporate investment increases by 385 kEuros; this rise amounts to 250 kEuros imposing for PM2 and PME3 programs, if we impose the same coefficient for both cohorts (Table 6b). In PME2 firms, GOS would also have increased in 2017 by more than 450 kEuros, but it is only significant at a 11.4% level. Finally, firm year-end workforce increases by 11.4% in 2016 for companies that benefit from the PME2 program. Since this rise is obtained the same year as for PME1 firms, imposing the same coefficient for programs effect in 2016 implies an increase of 7.5% in firms benefiting from both PME1 and PM2 programs.

To conclude, our results tend to show positive effects of Bpifrance SME programs. This conclusion confirms expected impacts mentioned in Section 3.2.

Table 6a. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Differences in differences results – weighted OLS estimates. Part 1. Revenue, Value Added, Employment and Labor Productivity.

Explained variable / Explanatory variables	Variation in the logarithm of the revenue			Variation in the logarithm of the value added			Variation in the logarithm of the year-end firm workforce			Variation in the logarithm of the labor productivity		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Falsification test (effect of the program if it had been implemented in 2013 in all businesses supported later)	0.042* (0.098)	0.042* (0.100)	0.042* (0.100)	0.012 (0.688)	0.012 (0.685)	0.013 (0.685)	0.025 (0.191)	0.0254 (0.190)	0.025 (0.190)	-0.020 (0.556)	-0.020 (0.559)	-0.020 (0.557)
Effect of PME1 in 2015	0.023 (0.363)			0.040 (0.121)			-0.021 (0.174)			0.023 (0.402)		
Effect of PME1 in 2016	0.023 (0.409)			-0.002 (0.942)			0.044** (0.039)	0.044** (0.038)		-0.073* (0.063)	-0.072* (0.064)	
Effect of PME1 in 2017	0.002 (0.941)			-0.044 (0.454)			0.005 (0.819)			-0.048 (0.412)		
Effect of PME2 in 2016	-0.012 (0.703)			-0.013 (0.788)			0.116*** (0.002)	0.116*** (0.002)		-0.132** (0.025)	-0.132* (0.025)	
Effect of PME2 in 2017	0.049* (0.084)	0.048* (0.084)		0.062 (0.157)	0.064 (0.149)		-0.008 (0.722)	-0.010 (0.720)		0.276 (0.171)	0.277 (0.169)	
Effect of PME3 in 2017	0.061* (0.100)	0.061* (0.100)		0.002 (0.968)	0.003 (0.947)		0.018 (0.568)	0.018 (0.570)		-0.031 (0.438)	-0.030 (0.455)	
Effect of PME1 and PME2 programs in 2016									0.075*** (0.001)			-0.098*** (0.006)
Effect of PME2 and PME3 programs in 2017			0.053** (0.021)			0.042 (0.209)			-0.001 (0.998)			0.180 (0.201)
Number of observations (firms*years)	13,546	13,546	13,546	13,169	13,169	13,169	13,460	13,460	13,460	13,078	13,078	13,078
R-squared	0.027	0.027	0.027	0.023	0.023	0.023	0.033	0.033	0.033	0,029	0.028	0.027

Sources: Bpifrance, FARE (INSEE) and Table A1a.

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: differences-in-differences weighted regression where the weight is the lagged value of the outcome variable; percentage points; for each variable, the coefficient and the associated p-value are provided (based on robust standard errors). *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table 6b. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Difference in differences results – OLS estimates. Part 2. Corporate investment and Gross Operating Surplus.

Explanatory variables / Explained variable	Variation in corporate investment			Variation in gross operating surplus		
	(1)	(2)	(3)	(1)	(2)	(3)
Falsification test (effect of the program if it had been implemented in 2013 in all businesses supported later)	53957 (0.316)	51774 (0.334)	51736 (0.334)	4008 (0.969)	3920 (0.969)	3821 (0.970)
Effect of PME1 in 2015	191344 (0.160)			110556 (0.556)		
Effect of PME1 in 2016	542114 (0.116)			-4751 (0.985)		
Effect of PME1 in 2017	-194867 (0.546)			55567 (0.890)		
Effect of PME2 in 2016	-100423 (0.611)			-348337 (0.259)		
Effect of PME2 in 2017	381530* (0.100)	383571* (0.098)		459017 (0.113)	458402 (0.114)	
Effect of PME3 in 2017	96251 (0.382)	98963 (0.369)		43651 (0.838)	43031 (0.840)	
Effect of PME2 and PME3 programs in 2017			251219* (0.065)			284809 (0.146)
Number of observations (firms*years)	12,773	12,773	12,773	13,565	13,565	13,565
R-squared	0.1196	0.1187	0.1186	0.1019	0.1018	0.1019

Sources: Bpifrance, FARE (INSEE) and Table A1b.

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: differences-in-differences regression; for each variable, the coefficient and the associated p-value are provided are provided (based on robust standard errors). *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

6.1.2. Selection on unobserved variables

However, at this stage, we are not sure to have controlled for overall selection bias. Modeling the entry in the program may help to definitely control for selection on unobserved variables.

6.1.1. Modeling entry into programs

In Section 5.3, we display an identification strategy, that is uniquely based on a difference-in-difference approach combined with control on observed firms features. However, as mentioned in Section 5.4 and in Jovanovic (1982), some factors may explain the selection of firms in the program.

Table 7a provides the marginal effects for exclusion variables in the estimation of the selection either in PM1, PME2 or PME3 programs, considering a weighted probit regression. Table 7b does the same job, but considering an unweighted regression. [14]

Both Tables show the importance of age, lagged variation in ROA or in the lagged variation in the logarithm of the revenue to explaining the selection in PME1, PME2 and PME3 programs. The Fisher test for excluded instruments is always conclusive (with a p-value smaller than 5 percent), except for the PME3 program and considering the unweighted version of the selection modeling.[15]

Table 7a. First step of the IV estimation strategy to evaluate the effects of Bpifrance's national SME program on supported business cohorts (from 2015 to 2017). Measurement of the selection to join the Bpifrance program: IV marginal effects of exclusion variables. Weighted probit regressions estimation.

Exclusion variable / Program	PME1 (1)	PME2 (2)	PME3 (3)	PME3 (4)
Age of the firm	0.0001342*** (0.000)	-0.0006781*** (0.000)	0.0000396*** (0.000)	0.0000519*** (0.000)
Lagged variation in return on asset [a]	-0.0003025*** (0.000)	-0.0000001*** (0.000)	-0.0002118*** (0.000)	-0.0002140*** (0.000)
First lagged variation in the logarithm of the revenue[b]	0.0093310*** (0.000)	-0.0086722*** (0.000)	0.0014132*** (0.000)	
Second lagged variation in the logarithm of the revenue[b]				0.0043625*** (0.000)
Fisher test for excluded instruments (P-value)	0.000	0.000	0.000	0.000
Number of firms	3,074	3,206	3,342	3,254

Sources: Bpifrance, FARE (INSEE) and Table A3a.

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: p-value within parentheses; for each column, the weight is the revenue lagged by one year.[a] percentage points; [b]percentage. *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table 7b. First step of the IV estimation strategy to evaluate the effects of Bpifrance's national SME program on supported business cohorts (from 2015 to 2017). Measurement of the selection to join the Bpifrance program: IV marginal effects of exclusion variables. Probit regressions estimation.

Exclusion variable / Program	PME1 (1)	PME2 (2)	PME3 (3)	PME3 (4)
Age of the firm	0.0001949* (0.069)	-0.0001806 (0.175)	0.0000768 (0.429)	0.0000620 (0.547)
Lagged variation in return on asset [a]	0.0000152 (0.599)	0.0000001 (0.258)	0.0000149 (0.616)	-0.0000127 (0.542)

[14] The weight used is the revenue value lagged twice. The weighted version of the first step is considered when estimating the effects of SME programs for revenue, value added or firm workforce, whereas the unweighted version is used for outcome variables such as corporate investment or gross operating surplus.

[15] The full set of estimates for first stage estimations are given in Tables A3a and Table A3b.

First lagged variation in the logarithm of the revenue[b]	-0.0056528** (0.040)	-0.0069424* (0.088)	-0.0022455 (0.312)	
Second lagged variation in the logarithm of the revenue[b]				-0.0049225 (0.259)
Fisher test for excluded instruments (P-value)	0.041	0.039	0.539	0.576
Number of firms	3,214	3,323	3,398	3,302

Sources: Bpifrance, FARE (INSEE) and Table A3b.
Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.
*Notes: p-value within parentheses; for each column, the weight is the revenue lagged by one year. [a] percentage points; [b]percentage. *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Moreover, considering the weighted version of the selection modeling, results seem to confirm sometimes ceteris paribus the theoretical expectations. For instance, SME firms that enter PME2 program are younger on average than those companies from the control group. For all types of SME programs, firms that are selected into the program experience a worse variation in their return on asset than firms from the respective control groups. However, ceteris paribus, only PME2 companies see their revenue decrease before the beginning of the program.

6.1.2. IV estimates

Differences-in-differences estimates that take account for selection in SME programs are reported in Tables 8a and 8b.

Both tables confirm that taking account for selection into SME programs when evaluating the effects of program programs appears to be of importance for almost all outcome variables. Indeed, the coefficient of least one the three inverse of Mills ratio is significantly statistically different from 0 at a 5 percent level. It is the most pronounced for the year-end firm workforce, for the revenue, and corporate investment; for the two last, it depends on the considered specification.

In spite of the fact we control for selection on unobserved variables, our previous findings remain almost unchanged. In particular, the PME1 program implies an increase by 4.7 percent in the firm year-end workforce in 2016; as a consequence of the PME2 program, the employment level also rises by 11.2 percent in those considered firms. In 2017, the revenue increases by 4.7 percent through PME2 and PME3 programs[16], and corporate investment increases in 2017 in both types of firms entering PME2 and PME3 programs, even if it mainly due to PME2 firms (+385 kEuros). Finally, since both PME1 and PME2 programs induces an increase in the year-end workforce for both types of firms, we can try to constraint both coefficients to be equal; doing so, the impact of PME1 and PM2 programs on employment remains large, *i.e.* a rise of +7.5 percent for both kinds of firms.

[16] Because of a too small number of firms entering each of the PME2 and 3 programs (47 and 33 respectively), the coefficients for 2017 are not significant anymore, except for PME3 with a positive increase in the revenue of 3.6 percent at (hardly) a 10 percent level.

Table 8a. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Difference in differences results – instrumental variable estimates. Part 1. Revenue, Value Added, Employment and Labor Productivity. *Weighted regressions.*

Explained variable / Explanatory variables	Variation in the logarithm of the revenue			Variation in the logarithm of the value added			Variation in the logarithm of the year-end firm workforce			Variation in the logarithm of the labor productivity		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Falsification test (effect of the program if it had been implemented in 2013 in all businesses supported later)	0.0382 (0.149)	0.041 (0.108)	0.041 (0.108)	0.008 (0.795)	0.012 (0.712)	0.012 (0.713)	0.0132 (0.545)	0.013 (0.544)	0.0133 (0.542)	-0.013 (0.711)	-0.013 (0.715)	-0.013 (0.714)
Effect of PME1 in 2015	0.0214 (0.403)			0.031 (0.214)			-0.020 (0.166)			0.020 (0.456)		
Effect of PME1 in 2016	-0.0205 (0.444)			-0.004 (0.913)			0.047** (0.018)	0.0469** (0.017)		-0.075* (0.052)	-0.074* (0.053)	
Effect of PME1 in 2015	-0.023 (0.939)			-0.048 (0.409)			-0.0067 (0.714)			-0.054 (0.953)		
Effect of PME2 in 2016	-0.022 (0.502)			-0.0196 (0.965)			0.112*** (0.002)	0.112*** (0.002)		-0.139** (0.018)	-0.139** (0.018)	
Effect of PME2 in 2017	0.042 (0.122)	0.041 (0.135)		0.058 (0.177)	0.060 (0.170)		-0.0114 (0.619)	-0.0116 (0.615)		0.271 (0.176)	0.273 (0.173)	
Effect of PME3 in 2017	0.053 (0.107)	0.036* (0.100)		-0.004 (0.932)	0.001 (0.998)		0.0148 (0.618)	0.0147 (0.621)		-0.034 (0.387)	-0.033 (0.406)	
Effect of PME1 and PME2 programs in 2016									0.075*** (0.000)			-0.102*** (0.004)

Effect of PME2 and PME3 programs in 2017			0.047** (0.035)			0.039 (0.244)			-0.0033 (0.859)			0.177 (0.208)
Inverse of Mills ratio for PME1	-1.102*** (0.010)			-0.727 (0.266)			-1.700*** (0.000)	-1.700*** (0.000)	-1.702*** (0.000)	0.500 (0.319)	0.499 (0.320)	0.505 (0.315)
Inverse of Mills ratio for PME2	-0.166*** (0.000)	-0.069*** (0.002)	-0.069*** (0.002)	-0105** (0.045)	-0.041 (0.118)	-0.041 (0.118)	-0.184*** (0.000)	-0.184*** (0.000)	-0.184*** (0.000)	-0.015 (0.745)	-0.015 (0.748)	-0.015 (0.752)
Inverse of Mills ratio for PME3	0.689* (0.080)	0.079 (0.630)	0.079 (0.629)	0.306 (0.609)	-0.196 (0.404)	0.196 (0.404)	1.299*** (0.000)	1.299*** (0.000)	1.299*** (0.000)	-0.718* (0.084)	-0.715* (0.085)	0.715* (0.085)
Number of observations (firms*years)	13,543	13,543	13,543	13,165	13,165	13,165	13,446	13,446	13,446	13,074	13,074	13,074
R-squared	0.041	0.033	0.033	0.026	0.0233	0.0232	0.055	0.055	0.055	0.033	0.033	0.031

Sources: Bpifrance, FARE (INSEE) and Table A4a.

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: Instrumental variables combined with differences-in-differences weighted regression, where the weight is the lagged value of the outcome variable; percentage points; for each variable, the coefficient and the associated p-value are provided (based on robust standard errors). Considered exclusion variables for modeling entering the program: firm age, first lag of the variation in the revenue, and first lag of the variation in the return on asset (ROA). *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table 8b. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Difference in differences results –instrumental variable estimates. Part 2. Corporate expenditures, Gross Operating Surplus.

Explanatory variables / Explained variable	Variation in corporate investment			Variation in gross operating surplus		
	(1)	(2)	(3)	(1)	(2)	(3)
Falsification test (effect of the program if it had been implemented in 2013 in all businesses supported later)	49,280 (0.360)	53,706 (0.317)	53,673 (0.317)	28,554 (0.777)	25,839 (0.797)	25,739 (0.798)
Effect of PME1 in 2015	192,566 (0.159)			99,882 (0.593)		
Effect of PME1 in 2016	586,182 (0.120)			-12,735 (0.961)		

Effect of PME1 in 2017	-189,360 (0.558)			39,634 (0.921)		
Effect of PME2 in 2016	-96,249 (0.627)			-343,234 (0.265)		
Effect of PME2 in 2017	382,291* (0.100)	382,459* (0.100)		446,035 (0.125)	446,831 (0.125)	
Effect of PME3 in 2017	101,073 (0.363)	99,259 (0.368)		46,386 (0.830)	48,265 (0.823)	
Effect of PME2 and PME3 programs in 2017			250,731* (0.066)			280,214 (0.154)
Inverse of Mills ratio for PME1	5,552,967*** (0.009)			-2451866 (0.527)		
Inverse of Mills ratio for PME2	-104,973 (0.439)	-66,546 (0.606)	-68,109 (0.597)	-881,776*** (0.007)	-896,888*** (0.007)	-898,565*** (0.006)
Inverse for Mills ratio for PME3	-9,425,412*** (0.009)	-107,729 (0.689)	-10,624 (0.689)	2,404,049 (0.712)	-1,716,593*** (0.004)	-1,716,593*** (0.004)
Number of observations (firms*years)	12,759	12,759	12,759	13,550	13,550	13,550
R-squared	0.121	0.119	0.119	0.106	0.106	0.106

Sources: Bpifrance, FARE (INSEE) and Table A4b.

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: Instrumental variables combined with differences-in-differences regression, where the weight is the lagged value of the outcome variable; percentage points; for each variable, the coefficient and the associated p-value are provided (based on robust standard errors). Considered exclusion variables for modeling entering the program: firm age, first lag of the variation in the revenue, and first lag of the variation in the return on asset (ROA). *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

6.2. Discussion

How can we interpret these results in the light of our testable hypotheses?

Indeed, as mentioned in Section 3.2, and according to the theory, some expected effects were found, confirming the story.

We find an effect of PME1 program on year-end firm workforce the year following the entry into the program (in 2016), but no effect on revenue in the short run (in spite of a rise by more than 2-3 points in the revenue in 2015-2016, see Section 4). This may corroborate hypothesis H1 according to which the considered firm may want through this program improve the production efficiency, or the market positioning; thus the companies hire workers with required skills.

Then, for PME2 and PME3 firms, the implementation of the SME program implies a rise in the revenue, and in the corporate investment in 2017. It corroborates hypothesis H2a according to which organizational improvement should lead to a significant positive revenue gap with firms from the corresponding control group.

Otherwise, there is no significant impact of any of the programs on value added or on gross operating surplus, except perhaps in 2017 for PME2 firms for GOS, at a 12.5 percent level only. Thus, hypothesis H2b seems to be rejected, because new market positioning and upmarket does not have led to a significant increase either in value added nor in gross operating surplus.

Finally, for firms from PME2 programs, year-end workforce increases, almost at the same time as for revenue and corporate investment. This confirm hypothesis H1 and may be H3.

7. Conclusion

Accelerators programs first appeared in the mid-2000s in the United States and have since spread around the world. These selective programs consist in their non-financial part in coaching, training and networking for business owners. There are few quantitative evaluations of the impact of programs in high income countries and no such study has been conducted in France. It is not known whether access to financial capital is more important for firms than strengthening their entrepreneurial capital. For instance, Bruhn et al. (2010) found that access to advisory services and managerial capital is often lacking for many businesses and is ultimately more important than access to financial capital.

One interesting feature of the SME program implemented by Bpifrance since 2015 is that it is strictly non-financial. Participating businesses receive advice, training, support and networking in a group, making progress collectively, without their participation giving them preferential access to investments and equity schemes, as is the case for many other programs. Moreover, it focuses on existing firms that are already of a certain size, whereas most studies evaluate the effects of programs at an earlier stage of the business project. It thus allows us to check whether the positive effects of programs can also be applied to a scaling up in a company's development.

To evaluate the impact of the SME Bpifrance programs, we consider businesses' accounting data provided by the French national statistical institute and covering the period 2010-2017. We build an unbalanced panel of 3,297 firms and use difference-in-differences models that take account for selection in the program, so to compare the cohorts of SME supported businesses with businesses presenting the same characteristics but that do not participate in the program.

For the PME1 and PME2 programs, we find a positive impact on employment in 2016. Moreover, in 2017, PME2 and PME3 programs lead to an increase in the revenue and in corporate investment. These findings confirm at least theoretical predictions. They also suggest that a training and coaching program for entrepreneurs, without any financial component, can produce significant effects. To our knowledge, and more generally, no study of financial aid to businesses in France indicates any impact of a comparable magnitude. Our research indicates that measures to develop the human and social capital of entrepreneurs, rather than their financial capital alone, are potentially a highly effective seam to be mined.

This recommendation must, however, be viewed from the perspective of the limits of our study. In the absence of data on the structure of corporate groups, our study was conducted at the level of the legal unit (here, the business), without considering their membership of a group of companies and the potential effects induced on the other businesses in the group and on the group more generally. Thus, programs could exert an influence on the growth of the group via the extensive margin with the acquisition of other legal units. It should be noted that this finding would lead us to consider our results as a lower bound of SME program effects.

Our findings are based on heterogeneous observations, covering a small number of businesses and over too short a time-frame. It is clear that further evaluations of programs will have to be carried out in the future to confirm these initial findings. Over time, data from a growing number of supported businesses will become available and will allow more accurate impact assessments to be produced.

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Appendix 1. Company statuses and contents of Bpifrance SME programs.

Table A1a. Company statuses. Definitions.

SME	Mid-cap	Large business
(Employees <250) And (Revenue <€50m or balance sheet total <€43m)	[(250 <=number of employees <=4,999) And (Revenue <=€1,500m or balance sheet total <=€2,000m)] or [(Employees <250) And (Revenue >=€50m and balance sheet total >=€43m)]	(Number of employees >=5,000) Or (Revenue >€1,500m and balance sheet total >€2,000m)

Source: French National Statistical Institute (*INSEE*) nomenclature.

Table A1b. Design of a SME program. The PME3 program (description of the 2 years program).

2017 6 march 2017: Launch of the program	2018
Launch of the 360° diagnostic	Advices of a peer/Collective or individual Mentoring
Objectives - Identify growth issues in order to orient each SME towards the most appropriate tools best suited to their needs **Content** - Carrying out a complete panoramic diagnosis by a consultant led by the "Initiative Consulting" team of Bpifrance. This diagnosis aims to identify the stakes in terms of : Strategy Organization and Management Human resources Business performance Operational performance Structure & financial management Information systems Export External growth Innovation **Process** - Validation by each company of a partner consultant proposed by Bpifrance - Carrying out a 360° diagnosis: duration: 6 to 8 weeks - Proposal of the complementary modules of the SME program best suited to meet the needs identified **Schedule** - Start: March 2017 - End: Q3 2017	**Objectives** - Accompany the leaders in the growth of their company **Content** - Individual or group coaching by a volunteer peer(s) (an entrepreneur with a change of scale - from SME to ETI - or another major entrepreneurial success) **Process** - Connection with the mentoring structure: IME France (Association Française des Instituts du Entrepreneurial Mentoring), Réseau Entreprendre and WBMI (Women Business Mentoring Initiative) - Identification and proposal of a volunteer mentor - Coaching according to the terms and conditions defined between each manager and his/her mentor(s) **Planning** - Module available at the beginning of the program. The manager can activate it at his or her convenience at the moment that seems appropriate. - Accompaniment during 18 months from the constitution of the pairs
4 conferences of 2 days - March 7th: Strategy and new business models - March 8th: Strategic Management -May 3rd: Innovations -May 4th: Financing growth -September 13th: Leadership -September 14th: Organizational performance / Lean Management -November 8th: Marketing /Branding -November 9th: Commercial development	4 conferences of 2 days -February 21st: Governance -February 22nd: Advisory board -May 23rd: Purshasing -May 24th: Supply chain -September 12th: Recruitments -September 13th: Employer brand -November 7th and 8th: The challenges of the Midcaps of tomorrow

Other appendices. Detailed estimation results.

Table A2a. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Differences in differences results – weighted OLS estimates. Part 1. Revenue, Value Added, Employment and Labor Productivity. **Full specifications.**

Explained variable / Explanatory variables	Variation in the logarithm of the revenue			Variation in the logarithm of the value added		
	(1)	(2)	(3)	(1)	(2)	(3)
Acceleration indicators:						
Falsification (effect of the program if it had been introduced in 2013 in all businesses supported afterwards)	0.0418547*	0.0416899*	0.0416928*	0.0124768	0.0125894	0.0125763
	(0.098)	(0.100)	(0.100)	(0.688)	(0.685)	(0.686)
Effect of PME1 in 2015	0.0233104			0.0405465		
	(0.363)			(0.121)		
Effect of PME1 in 2016	0.0229428			-0.0025034		
	(0.409)			(0.942)		
Effect of PME1 in 2017	0.0021709			-0.0439707		
	(0.941)			(0.455)		
Effect of PME2 in 2016	-0.0121897			-0.0131958		
	(0.703)			(0.788)		
Effect of PME2 in 2017	0.0486785*	0.0484996*		0.0624696	0.0636884	
	(0.084)	(0.084)		(0.158)	(0.150)	
Effect of PME3 in 2017	0.0613376	0.0612302		0.0018025	0.0030460	
	(0.100)	(0.101)		(0.968)	(0.947)	
Effect of PME2 and PME3 programs in 2017			0.0529270**		0.0421582	
			(0.021)		(0.210)	
Control variables						
Time dummies (take into account the economic situation):						
For the year 2013	-0.0373243***	-0.0373909***	-0.0373939***	-0.0153568	-0.0141944	-0.0141705
	(0.006)	(0.005)	(0.005)	(0.146)	(0.178)	(0.179)
For the year 2014	-0.0254192***	-0.0254981***	-0.0255007***	-0.0161042*	-0.0149313	-0.0149098
	(0.004)	(0.004)	(0.004)	(0.097)	(0.123)	(0.123)
For the year 2015	-0.0354746***	-0.0346362***	-0.0346399***	-0.0422839***	-0.0392714***	-0.0392461***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.005)	(0.005)
For the year 2016	-0.0141582	-0.0139678	-0.0139691	0.0078906	0.0085865	0.0085916
	(0.196)	(0.193)	(0.193)	(0.542)	(0.498)	(0.498)
For the year 2017	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Company size (delayed by two years):						
Less than 20 employees	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Between 20 and 49 employees	0.0029101	0.0028320	0.0028488	0.0027127	0.0021014	0.0020326
	(0.800)	(0.805)	(0.804)	(0.839)	(0.875)	(0.879)
Between 50 and 99 employees	-0.0166865	-0.0165488	-0.0165525	-0.0143004	-0.0149754	-0.0149653
	(0.148)	(0.151)	(0.151)	(0.330)	(0.308)	(0.309)
Between 100 and 249 employees	-0.0336663***	-0.0332897***	-0.0332980***	-0.0089730	-0.0097215	-0.0096888
	(0.006)	(0.006)	(0.006)	(0.514)	(0.481)	(0.483)
Between 250 and 500 employees	-0.0529478***	-0.0528984***	-0.0529110***	-0.0262199	-0.0263602	-0.0262588
	(0.002)	(0.002)	(0.002)	(0.181)	(0.179)	(0.181)
Industry dummies:						
Agriculture	0.1155694**	0.1214951***	0.1214902***			
	(0.014)	(0.010)	(0.010)			
Extractive industry	0.0978558**	0.0978154**	0.0978155**	0.0152150	0.0173186	0.0172903
	(0.019)	(0.019)	(0.019)	(0.736)	(0.710)	(0.710)
Manufacturing industry	0.0752068**	0.0754304**	0.0754267**	-0.0247894	-0.0230095	-0.0230078
	(0.030)	(0.030)	(0.030)	(0.468)	(0.523)	(0.523)
Energy	-0.0744612	-0.0742913	-0.0742943	-0.3788254*	-0.3768840*	-0.3768976*
	(0.435)	(0.436)	(0.436)	(0.078)	(0.080)	(0.080)
Water and waste	0.0579923	0.0579328	0.0578906	-0.0621909	-0.0605674	-0.0606158
	(0.162)	(0.163)	(0.163)	(0.182)	(0.210)	(0.210)
Building / public works	0.0679444*	0.0681830*	0.0681835*	-0.0319311	-0.0301778	-0.0302122
	(0.079)	(0.078)	(0.078)	(0.424)	(0.467)	(0.466)
Wholesale and retail trade, repair of motor vehicles and motorcycles	0.0591136*	0.0593088*	0.0593212*	-0.0324710	-0.0306734	-0.0308323
	(0.091)	(0.090)	(0.090)	(0.366)	(0.417)	(0.414)
Transport	0.0594142	0.0594539	0.0594584	-0.0442300	-0.0423230	-0.0423723
	(0.113)	(0.113)	(0.113)	(0.255)	(0.296)	(0.295)
Lodging and catering	0.0503188	0.0504971	0.0504944	-0.0492054	-0.0473356	-0.0473490
	(0.171)	(0.169)	(0.169)	(0.230)	(0.268)	(0.268)
Information and communication	0.1281776***	0.1290693***	0.1290905***	0.0218030	0.0234296	0.0233421
	(0.001)	(0.001)	(0.001)	(0.552)	(0.545)	(0.547)
Financial and insurance activities	0.0546293	0.0548025	0.0548019	0.0138408	0.0159047	0.0158456
	(0.399)	(0.397)	(0.397)	(0.802)	(0.778)	(0.779)
Real estate activities	0.1230362**	0.1232937**	0.1232888**	-0.0551897	-0.0532113	-0.0532611
	(0.018)	(0.018)	(0.018)	(0.253)	(0.285)	(0.284)
Specialized, scientific and technical activities	0.0940350***	0.0943225***	0.0943260***	-0.0419066	-0.0402917	-0.0403356
	(0.009)	(0.008)	(0.008)	(0.281)	(0.326)	(0.325)
Administrative and support services activities	0.0664519*	0.0666456*	0.0666254*	-0.0279633	-0.0261891	-0.0261195
	(0.083)	(0.082)	(0.083)	(0.471)	(0.515)	(0.516)

Education	-	-	-	-0.1170229**	-0.1155345**	-0.1155668**
				(0.032)	(0.039)	(0.039)
Human health and social action	0.1147484***	0.1149197***	0.1149208***	0.0031336	0.0050856	0.0050493
	(0.002)	(0.002)	(0.002)	(0.940)	(0.906)	(0.907)
Arts, entertainment and recreation	-0.0190466	-0.0190431	-0.0190408	-0.0302762	-0.0282713	-0.0283130
	(0.899)	(0.899)	(0.899)	(0.685)	(0.709)	(0.708)
Other services activities	0.1019783*	0.1019795*	0.1019834*	-0.0008584	0.0010338	0.0009856
	(0.056)	(0.056)	(0.056)	(0.986)	(0.984)	(0.985)
Ratios characterizing the economic situation of companies:						
Levels (delayed by two years):						
Mark up rate	0.0000002	0.0000002	0.0000002	-0.0000001	-0.0000001	-0.0000001
	(0.118)	(0.125)	(0.125)	(0.951)	(0.952)	(0.951)
Capital intensity	-0.0000041***	-0.0000041***	-0.0000041***	0.0000001	0.0000001	0.0000001
	(0.002)	(0.002)	(0.002)	(0.908)	(0.915)	(0.915)
Apparent work productivity	0.0000009***	0.0000009***	0.0000009***	0.0000006***	0.0000006***	0.0000006***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Economic profitability	0.0000107	0.0000106	0.0000106	-0.0001556	-0.0001575	-0.0001572
	(0.953)	(0.953)	(0.953)	(0.252)	(0.249)	(0.251)
Percentage of revenue generated from exports	-0.0001935	-0.0001907	-0.0001909	-0.0006471**	-0.0006480**	-0.0006473**
	(0.213)	(0.218)	(0.218)	(0.024)	(0.023)	(0.023)
Variations (delayed by two years):						
- of the mark up rate	-0.0000002***	-0.0000002***	-0.0000002***	-0.0000014	-0.0000014	-0.0000014
	(0.003)	(0.003)	(0.003)	(0.440)	(0.439)	(0.439)
- capital intensity	0.0000223***	0.0000224***	0.0000224***	0.0000003	0.0000004	0.0000004
	(0.001)	(0.001)	(0.001)	(0.950)	(0.942)	(0.942)
- apparent labor productivity	-0.0000010***	-0.0000010***	-0.0000010***	-0.0000003*	-0.0000003*	-0.0000003*
	(0.000)	(0.000)	(0.000)	(0.067)	(0.058)	(0.058)
- economic profitability	0.0000607	0.0000609	0.0000609	0.0001366	0.0001374	0.0001371
	(0.615)	(0.615)	(0.615)	(0.191)	(0.192)	(0.193)
- of the share of revenue generated from exports	0.0003102	0.0003067	0.0003079	-0.0000958	-0.0000984	-0.0001039
	(0.593)	(0.597)	(0.596)	(0.868)	(0.865)	(0.857)
Intercept	0.0013255	0.0009746	0.0009782	0.0828222**	0.0805183*	0.0805258*
	(0.970)	(0.978)	(0.978)	(0.042)	(0.058)	(0.058)
Number of observations (firms*years)	13,546	13,546	13,546	13,169	13,169	13,169
R-squared	0.027	0.027	0.027	0.023	0.023	0.023

Sources: Bpifrance, and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: Differences-in-differences weighted regression where the weight is the lagged value of the outcome variable; percentage points; for each variable, the coefficient and the associated p-value are provided (based on robust standard errors). *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table A2a (continued). Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Differences in differences results – weighted OLS estimates. Part 1. Revenue, Value Added, Employment and Labor Productivity. **Full specifications.**

Explanatory variables / Explained variable	Variation in the logarithm of the year-end firm workforce		
	(1)	(2)	(3)
Acceleration indicators:			
Falsification (effect of the program if it had been introduced in 2013 in all businesses supported afterwards)	0.0246353	0.0246910	0.0247492
	(0.192)	(0.191)	(0.190)
Effect of PME1 in 2015	-0.0208602		
	(0.175)		
Effect of PME1 in 2016	0.0435917**	0.0436894**	
	(0.039)	(0.038)	
Effect of PME1 in 2017	0.0045661		
	(0.819)		
Effect of PME2 in 2016	0.1161227***	0.1161409***	
	(0.002)	(0.002)	
Effect of PME2 in 2017	-0.0082708	-0.0083186	
	(0.723)	(0.721)	
Effect of PME3 in 2017	0.0181639	0.0180635	
	(0.569)	(0.571)	
Effect of PME1 and PME2 programs in 2016			0.0746666***
			(0.001)
Effect of PME2 and PME3 programs in 2017			-0.0000109
			(1.000)
Control variables			
Time dummies to take into account the economic situation:			
For the year 2013	-0.0138497	-0.0139629	-0.0139844
	(0.187)	(0.181)	(0.180)
For the year 2014	0.0061749	0.0060679	0.0060571
	(0.429)	(0.432)	(0.433)
For the year 2015	0.0107604	0.0097898	0.0097811
	(0.175)	(0.205)	(0.206)
For the year 2016	-0.0311199***	-0.0312044***	-0.0312114***
	(0.006)	(0.005)	(0.005)
For the year 2017	*Ref.*	*Ref.*	*Ref.*
Company size (delayed by two years):			
Less than 20 employees			
Between 20 and 49 employees	-0.0221719**	-0.0220317**	-0.0219326**
	(0.022)	(0.023)	(0.024)
Between 50 and 99 employees	-0.0457060***	-0.0456582***	-0.0455610***
	(0.001)	(0.001)	(0.001)
Between 100 and 249 employees	-0.0357245***	-0.0357886***	-0.0359934***
	(0.000)	(0.000)	(0.000)
Between 250 and 500 employees	-0.0514471***	-0.0515090***	-0.0515800***
	(0.006)	(0.006)	(0.006)
Industry dummies:			
Agriculture	0.1070460*	0.1073153*	0.1071881*
	(0.075)	(0.074)	(0.074)
Extractive industry	0.0588544	0.0589532	0.0590052
	(0.303)	(0.302)	(0.302)
Manufacturing industry	0.0405745	0.0405670	0.0406251
	(0.434)	(0.434)	(0.434)
Energy	-0.1216932	-0.1217104	-0.1217065
	(0.408)	(0.408)	(0.408)
Water and waste	0.0063106	0.0063077	0.0066430
	(0.914)	(0.914)	(0.909)
Building / public works	0.0479442	0.0479464	0.0479386
	(0.354)	(0.354)	(0.354)
Wholesale and retail trade, repair of motor vehicles and motorcycles	0.0511986	0.0512261	0.0513072
	(0.316)	(0.316)	(0.315)
Transport	0.0238316	0.0238978	0.0239287
	(0.653)	(0.652)	(0.651)
Lodging and catering	-0.0037842	-0.0038020	-0.0038599
	(0.945)	(0.945)	(0.944)
Information and communication	0.0788418	0.0786327	0.0782117
	(0.142)	(0.143)	(0.145)
Financial and insurance activities	0.0611548	0.0611131	0.0610847
	(0.397)	(0.398)	(0.398)
Real estate activities	-	-	-
Specialized, scientific and technical activities	0.0495377	0.0495036	0.0495360
	(0.341)	(0.341)	(0.341)
Administrative and support services activities	0.0349143	0.0349085	0.0349459
	(0.515)	(0.515)	(0.515)
Education	0.0018768	0.0020163	0.0020082
	(0.975)	(0.974)	(0.974)
Human health and social action	0.0968363*	0.0968077*	0.0967612*
	(0.088)	(0.088)	(0.088)
Arts, entertainment and recreation	0.0489284	0.0489680	0.0489523
	(0.585)	(0.584)	(0.584)
Other services activities	0.0678136	0.0678820	0.0679020

	(0.226)	(0.225)	(0.225)
Ratios characterizing the economic situation of companies:			
Levels (delayed by two years):			
Mark up rate	0.0000002	0.0000002	0.0000002
	(0.545)	(0.541)	(0.540)
Capital intensity	-0.0000066	-0.0000066	-0.0000066
	(0.363)	(0.364)	(0.363)
Apparent work productivity	-0.0000289**	-0.0000288**	-0.0000288**
	(0.019)	(0.019)	(0.019)
Economic profitability	0.0002733	0.0002731	0.0002733
	(0.136)	(0.136)	(0.136)
Percentage of revenue generated from exports	-0.0002338	-0.0002353	-0.0002373
	(0.379)	(0.376)	(0.371)
Variations (delayed by two years):			
- of the markup rate	0.0000023***	0.0000023***	0.0000023***
	(0.000)	(0.000)	(0.000)
- capital intensity	-0.0000266*	-0.0000266*	-0.0000266*
	(0.062)	(0.062)	(0.063)
- apparent labor productivity	0.0000156	0.0000156	0.0000156
	(0.451)	(0.451)	(0.451)
- economic profitability	-0.0001734	-0.0001733	-0.0001731
	(0.221)	(0.222)	(0.222)
- of the share of revenue generated from exports	0.0001440	0.0001453	0.0001510
	(0.683)	(0.680)	(0.668)
Constant	0.0190427	0.0191690	0.0192353
	(0.716)	(0.714)	(0.713)
Number of observations (firms*years)	13,460	13,460	13,460
R-squared	0.034	0.033	0.033

Sources: Bpifrance and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: Differences-in-differences weighted regression where the weight is the lagged value of the outcome variable; percentage points; for each variable, the coefficient and the associated p-value are provided (based on robust standard errors). *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table A2b. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Differences in differences results – unweighted OLS estimates. Part 2. Corporate investment and Gross Operating Surplus. **Full specifications.**

Explanatory variables / Explained variable	Variation in corporate investment			Variation in gross operating surplus		
	(1)	(2)	(3)	(1)	(2)	(3)
Acceleration indicators:						
Falsification (effect of the program if it had been introduced in 2013 in all businesses supported afterwards)	53.9574203 (0.317)	51.7741318 (0.335)	51.7364006 (0.335)	4.0083423 (0.969)	3.9196303 (0.969)	3.8206728 (0.970)
Effect of PME1 in 2015	191.3443604 (0.161)			110.5561295 (0.557)		
Effect of PME1 in 2016	542.1143799 (0.116)			-4.7512250 (0.985)		
Effect of PME1 in 2017	-194.8666992 (0.546)			55.5667763 (0.890)		
Effect of PME2 in 2016	-100.4226913 (0.612)			-348.3369751 (0.260)		
Effect of PME2 in 2017	381.5303650 (0.101)	383.5709534* (0.099)		459.0173950 (0.114)	458.4022827 (0.114)	
Effect of PME3 in 2017	96.2510757 (0.383)	98.9629135 (0.369)		43.6515274 (0.838)	43.0306664 (0.840)	
PME23_17			251.2194824* (0.066)			284.8086853 (0.146)
Control variables						
SME*Lagged variation in corporate investment	-0.3613015*** (0.000)	-0.3613119*** (0.000)	-0.3613182*** (0.000)			
Time dummies to take into account the economic situation:						
For the year 2013	-37.6113892 (0.293)	-33.9884911 (0.346)	-33.9883003 (0.346)	-2.1826258 (0.972)	-3.0228391 (0.961)	-2.9537756 (0.962)
For the year 2014	-12.4908457 (0.728)	-9.0208158 (0.803)	-9.0249577 (0.803)	-25.3617783 (0.693)	-26.2160454 (0.681)	-26.1543961 (0.682)
For the year 2015	13.4227371 (0.697)	20.5575466 (0.553)	20.5616436 (0.553)	-96.8207397 (0.129)	-95.3991928 (0.130)	-95.3225327 (0.130)
For the year 2016	19.2241726 (0.560)	31.1497402 (0.351)	31.1464100 (0.351)	48.9288635 (0.572)	42.5870399 (0.616)	42.5905380 (0.616)
For the year 2017	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Company size (delayed by two years):						
Less than 20 employees	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Between 20 and 49 employees	11.5656281 (0.653)	11.5486479 (0.653)	11.4971189 (0.654)	-29.9505901 (0.646)	-30.4855824 (0.640)	-30.6510868 (0.638)
Between 50 and 99 employees	-9.0088129 (0.782)	-6.7273755 (0.835)	-6.5508647 (0.839)	-29.6889305 (0.720)	-30.8714943 (0.710)	-30.6834736 (0.711)
Between 100 and 249 employees	71.6982651 (0.182)	77.5457993 (0.149)	77.6756363 (0.149)	63.1927147 (0.463)	63.4158134 (0.463)	63.8934593 (0.460)
Between 250 and 500 employees	-357.4847107** (0.049)	-346.5786743* (0.056)	-346.6333008* (0.056)	85.1288757 (0.688)	86.5858307 (0.683)	87.6425095 (0.679)
Industry dummies:						
Agriculture	-1.25418e+03 (0.321)	-1.20074e+03 (0.341)	-1.20106e+03 (0.341)	1572.8720703 (0.146)	1589.0255127 (0.142)	1588.8013916 (0.142)
Extractive industry	304.8001709 (0.525)	303.4756470 (0.527)	303.3688965 (0.527)	1752.6009521 (0.110)	1752.7904053 (0.110)	1752.6972656 (0.110)
Manufacturing industry	407.5460510 (0.338)	407.3967896 (0.338)	407.3184814 (0.339)	1509.6541748 (0.161)	1509.0946045 (0.161)	1509.0867920 (0.161)
Water and waste	554.7287598 (0.200)	553.2044067 (0.201)	552.0258179 (0.202)	1471.1439209 (0.173)	1469.1444092 (0.174)	1468.6661377 (0.174)
Building / public works	394.3024292 (0.356)	393.7971497 (0.357)	393.7097778 (0.357)	1449.8841553 (0.180)	1449.7739258 (0.180)	1449.8234863 (0.180)
Wholesale and retail trade, repair of	398.2540283	398.6360168	398.3808594	1436.3566895	1436.2102051	1435.7685547

motor vehicles and motorcycles						
	(0.351)	(0.350)	(0.350)	(0.182)	(0.182)	(0.182)
Transport	466.0842285	463.4973755	463.3595581	1362.5081787	1362.7932129	1362.5659180
	(0.288)	(0.290)	(0.290)	(0.206)	(0.206)	(0.206)
Lodging and catering	485.9248352	484.8846130	484.8152771	1435.7370605	1436.1113281	1436.1121826
	(0.259)	(0.260)	(0.260)	(0.182)	(0.182)	(0.182)
Information and communication	401.9196472	404.3537903	404.0847473	1408.4815674	1409.0460205	1408.6413574
	(0.352)	(0.349)	(0.350)	(0.190)	(0.190)	(0.190)
Financial and insurance activities	445.4324646	444.7696838	444.8206787	1521.1632080	1521.7390137	1521.6816406
	(0.301)	(0.301)	(0.301)	(0.166)	(0.165)	(0.165)
Real estate activities	565.5870972	565.0048828	564.9785156	1632.9291992	1633.0310059	1633.0308838
	(0.416)	(0.416)	(0.416)	(0.130)	(0.130)	(0.130)
Specialized, scientific and technical activities	404.1701050	405.0553894	404.8159485	1280.1019287	1280.1881104	1279.9177246
	(0.341)	(0.340)	(0.340)	(0.234)	(0.234)	(0.234)
Administrative and support services activities	397.6186218	396.7905273	397.2564087	1425.8443604	1425.1414795	1425.7164307
	(0.341)	(0.342)	(0.342)	(0.185)	(0.186)	(0.185)
Education	415.0998840	413.4180603	413.3869934	1272.4741211	1272.6879883	1272.6523438
	(0.341)	(0.343)	(0.343)	(0.238)	(0.238)	(0.238)
Human health and social action	489.2306519	487.0393372	486.9305420	1701.8072510	1702.2958984	1702.1077881
	(0.270)	(0.272)	(0.272)	(0.119)	(0.119)	(0.119)
Arts, entertainment and recreation	636.7418823	635.3438110	635.2731934	1614.6368408	1615.0424805	1614.9730225
	(0.178)	(0.179)	(0.179)	(0.137)	(0.136)	(0.136)
Other services activities	371.2366638	368.7604980	368.7069702	1468.6374512	1469.1110840	1468.9958496
	(0.390)	(0.393)	(0.393)	(0.174)	(0.174)	(0.174)
Ratios characterizing the economic situation of companies:						
Levels (delayed by two years):						
Mark up rate	-0.0004046	-0.0004416	-0.0004452	0.0043427	0.0043508	0.0043464
	(0.258)	(0.211)	(0.208)	(0.322)	(0.321)	(0.321)
Capital intensity	0.0185852	0.0185289	0.0185764	-0.0849473***	-0.0849321***	-0.0849350***
	(0.894)	(0.894)	(0.894)	(0.002)	(0.002)	(0.002)
Apparent work productivity	0.1190994	0.1201790	0.1198237	0.5598509***	0.5598682***	0.5598639***
	(0.289)	(0.285)	(0.286)	(0.000)	(0.000)	(0.000)
Economic profitability	0.0157775	0.0187828	0.0189170	0.0088144	0.0067711	0.0067578
	(0.863)	(0.835)	(0.834)	(0.976)	(0.982)	(0.982)
Percentage of revenue generated from exports	0.5768105	0.5960281	0.6029530	-1.5338609	-1.5397305	-1.5314837
	(0.183)	(0.171)	(0.166)	(0.244)	(0.242)	(0.244)
Variations (delayed by two years):						
- of the markup rate	0.0007426***	0.0007709***	0.0007724***	-0.0099473**	-0.0099616**	-0.0099596**
	(0.003)	(0.002)	(0.002)	(0.011)	(0.011)	(0.011)
- capital intensity	0.1020875	0.1020360	0.1020344	0.1425971	0.1426072	0.1426130
	(0.586)	(0.586)	(0.586)	(0.404)	(0.404)	(0.404)
- apparent labor productivity	0.2345446*	0.2345650*	0.2345948*	-0.2980243***	-0.2980162***	-0.2980152***
	(0.098)	(0.098)	(0.098)	(0.000)	(0.000)	(0.000)
- economic profitability	0.0061826	0.0049231	0.0046935	0.1465116	0.1469425	0.1466422
	(0.863)	(0.890)	(0.895)	(0.532)	(0.531)	(0.532)
- of the share of revenue generated from exports	-0.1763585	-0.2204242	-0.2355454	3.4582930	3.4393699	3.4171426
	(0.810)	(0.763)	(0.747)	(0.243)	(0.246)	(0.249)
Constant	-388.3922424	-393.7261658	-393.6889648	-1.37811e+03	-1.37661e+03	-1.37669e+03
	(0.376)	(0.369)	(0.369)	(0.199)	(0.200)	(0.200)
Number of observations (firms*years)	12,773	12,773	12,773	13,565	13,565	13,565
R-squared	0.120	0.119	0.119	0.102	0.102	0.102

Sources: Bpifrance and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: Differences-in-differences regression; percentage points; for each variable, the coefficient and the associated p-value are provided (based on robust standard errors). *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table A3a. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Weighted instrumental variables estimator. Probit first step estimates for selection in PME1, PME2 and PME3 programs as modeled the year preceding the year before the entry in the given program.

Explanatory variables / Explained variable	PME1	PME2	PME3	PME3
	(1)	(2)	(3)	(4)
Industry dummies:				
Manufacturing industry	0.4649619***	0.3410250***	0.2554707***	0.2596787***
	(0.000)	(0.000)	(0.000)	(0.000)
Building / public work	0.1736050***	-0.5643332***	0.0635708***	0.0724311***
	(0.000)	(0.000)	(0.000)	(0.000)
Wholesale and retail trade, repair of motor vehicles and motorcycles	0.2162032***	-0.1186939***	0.3767904***	0.3775496***
	(0.000)	(0.000)	(0.000)	(0.000)
Information and communication	0.7590703***	-0.0308817***	0.5131671***	0.5089202***
	(0.000)	(0.000)	(0.000)	(0.000)
Company size dummies:				
Between 20 and 49 employees	-0.5970018***	-0.0894498***	0.1663557***	0.1599631***
	(0.000)	(0.000)	(0.000)	(0.000)
Between 50 and 99 employees	-0.1130169***	0.2882082***	0.0331937***	0.0240412***
	(0.000)	(0.000)	(0.000)	(0.000)
Excluded instruments				
Age of the firm	0.0019681***	-0.0128710***	0.0010941***	0.0014260***
	(0.000)	(0.000)	(0.000)	(0.000)
Lagged variation in return on asset [a]	-0.0044356***	-0.0000027***	-0.0058477***	-0.0058815***
	(0.000)	(0.000)	(0.000)	(0.000)
First lagged variation in the logarithm of the revenue[b]	0.1368276***	-0.1646149***	0.0390086***	
	(0.000)	(0.000)	(0.000)	
Second lagged variation in the logarithm of the revenue[b]				0.1198750***
				(0.000)
Constant	-2.1167188***	-1.8182914***	-2.5467265***	-2.5622666***
	(0.000)	(0.000)	(0.000)	(0.000)
Number of firms	3,074	3,206	3,342	3,254

Sources: Bpifrance, and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: weighted estimates; p-value within parentheses; for each column, the weight is the revenue lagged by one year.[a] percentage points; [b]percentage. *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table A3b. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Instrumental variables estimator. Probit first step estimates for selection in PME1, PME2 and PME3 programs as modeled the year preceding the year before the entry in the given program.

Explanatory variables / Explained variable	PME1	PME2	PME3	PME3
	(1)	(2)	(3)	(4)
Industry dummies:				
Manufacturing industry	0.2527750	0.4516558***	0.1929174	0.1968600
	(0.112)	(0.007)	(0.279)	(0.268)
Building / public work	-0.0520631	-0.1243193	-0.1032448	-0.1049056
	(0.851)	(0.743)	(0.783)	(0.780)
Wholesale and retail trade, repair of motor vehicles and motorcycles	0.1690043	0.3453774*	0.3933070**	0.3953626**
	(0.363)	(0.086)	(0.041)	(0.040)
Information and communication	0.3854154**	0.0858121	0.2577423	0.2855027
	(0.041)	(0.712)	(0.241)	(0.196)
Company size dummies:				
Between 20 and 49 employees	-0.3720147**	0.1115590	0.2281663	0.2175614
	(0.024)	(0.471)	(0.134)	(0.152)
Between 50 and 99 employees	0.1655190	0.5325126***	0.2564032	0.2491818
	(0.252)	(0.001)	(0.168)	(0.178)
Excluded instruments:				
Age of the firm	0.0051553*	-0.0056984	0.0030289	0.0023841
	(0.062)	(0.170)	(0.425)	(0.545)
Lagged variation in return on asset [a]	0.0004008	0.0000038	0.0005880	-0.0004888
	(0.599)	(0.247)	(0.614)	(0.541)
First lagged variation in the logarithm of the revenue[b]	-0.1495277**	-0.2190488*	-0.0885226	
	(0.033)	(0.081)	(0.302)	
Second lagged variation in the logarithm of the revenue[b]				-0.1893869
				(0.252)
Constant	-2.3846602***	-2.4949474***	-2.7101977***	-2.6780052***
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	3,214	3,323	3,398	3,302

Sources: Bpifrance, and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

*Notes: p-value within parentheses.[a] percentage points; [b]percentage. *, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table A4a. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Difference in differences results – instrumental variable estimates. Part 1. Revenue and Value Added. Full specification. *Weighted regressions.*

Explanatory variables / Explained variable	Variation in the logarithm of the revenue	Variation in the logarithm of the revenue	Variation in the logarithm of the revenue	Variation in the logarithm of the value added	Variation in the logarithm of the value added	Variation in the logarithm of the value added
	(1)	(2)	(3)	(1)	(2)	(3)
Acceleration indicators:						
Falsification (effect of the program if it had been introduced in 2013 in all businesses supported afterwards)	0.0381979 (0.149)	0.0412596 (0.108)	0.0412643 (0.108)	0.0082538 (0.795)	0.0115169 (0.712)	0.0115028 (0.713)
Effect of PME1 in 2015	0.0213677 (0.403)			0.0313129 (0.214)		
Effect of PME1 in 2016	0.0204619 (0.444)			-0.0037481 (0.913)		
Effect of PME1 in 2017	-0.0022683 (0.939)			-0.0484413 (0.409)		
Effect of PME2 in 2016	-0.0217704 (0.502)			-0.0196027 (0.695)		
Effect of PME2 in 2017	0.0419433 (0.122)	0.0411543 (0.135)		0.0583743 (0.177)	0.0602762 (0.170)	
Effect of PME3 in 2017	0.0534420 (0.107)	0.0583648 (0.101)		-0.0037810 (0.932)	0.0001356 (0.998)	
Effect of PME2 and PME3 programs in 2017			0.0471417** (0.035)			0.0389200 (0.244)
Control variables						
Time dummies:						
For the year 2013	-0.0416725*** (0.002)	-0.0418127*** (0.002)	-0.0418151*** (0.002)	-0.0174827 (0.105)	-0.0160564 (0.135)	-0.0160365 (0.135)
For the year 2014	-0.0296428*** (0.001)	-0.0293489*** (0.001)	-0.0293508*** (0.001)	-0.0183612* (0.066)	-0.0167852* (0.089)	-0.0167675* (0.089)
For the year 2015	-0.0387323*** (0.001)	-0.0376421*** (0.001)	-0.0376458*** (0.001)	-0.0375183*** (0.004)	-0.0347586*** (0.007)	-0.0347364*** (0.007)
For the year 2016	-0.0132234 (0.210)	-0.0144076 (0.173)	-0.0144096 (0.173)	0.0076701 (0.558)	0.0075222 (0.554)	0.0075276 (0.554)
For the year 2017	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Company size (delayed by two years):						
Less than 20 employees	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Between 20 and 49 employees	0.6982275** (0.014)	-0.0083685 (0.744)	-0.0083600 (0.744)	0.4378512 (0.315)	-0.0281294 (0.432)	-0.0281727 (0.431)
Between 50 and 99 employees	0.0697582 (0.149)	-0.0393966*** (0.007)	-0.0393989*** (0.007)	0.0435616 (0.565)	-0.0299588 (0.151)	-0.0299614 (0.151)
Between 100 and 249 employees	-0.0289986** (0.016)	-0.0334571*** (0.006)	-0.0334687*** (0.006)	-0.0078546 (0.599)	-0.0122161 (0.388)	-0.0121856 (0.389)
Between 250 and 500 employees	-0.0427088** (0.014)	-0.0466774*** (0.005)	-0.0466972*** (0.005)	-0.0229162 (0.286)	-0.0263752 (0.178)	-0.0262731 (0.180)
Industry dummies:						
Agriculture	-	-	-	0.1134470**	0.1104478**	0.1104897**

				(0.038)	(0.044)	(0.044)
Extractive industry	-0.0130923	-0.0107272	-0.0107244	0.1338974***	0.1412549***	0.1412805***
	(0.755)	(0.791)	(0.791)	(0.008)	(0.005)	(0.005)
Manufacturing industry	-0.3897521***	-0.0847719	-0.0847856	-0.1712762	0.0356591	0.0357242
	(0.001)	(0.107)	(0.107)	(0.322)	(0.621)	(0.621)
Energy	-0.1645403*	-0.1688685*	-0.1688740*	-0.2419993	-0.2447594	-0.2447156
	(0.089)	(0.096)	(0.096)	(0.259)	(0.266)	(0.266)
Water and waste	-0.0636501	-0.0674894*	-0.0675365*	0.0531305	0.0563893	0.0563727
	(0.124)	(0.087)	(0.087)	(0.294)	(0.264)	(0.265)
Building / public works	-0.0997588**	-0.0201894	-0.0201949	0.0463521	0.1018911**	0.1019331**
	(0.040)	(0.598)	(0.597)	(0.490)	(0.024)	(0.024)
Wholesale and retail trade, repair of motor vehicles and motorcycles	-0.0206654	-0.0795639	-0.0795743	0.0577593	0.0258016	0.0257498
	(0.785)	(0.207)	(0.206)	(0.578)	(0.767)	(0.768)
Transport	-0.0600361	-0.0577109*	-0.0576982*	0.0708826	0.0773871*	0.0773798*
	(0.105)	(0.097)	(0.097)	(0.105)	(0.072)	(0.072)
Lodging and catering	-0.0738462**	-0.0712956**	-0.0712904**	0.0669138	0.0723313*	0.0723546*
	(0.045)	(0.042)	(0.042)	(0.128)	(0.099)	(0.099)
Information and communication	-0.4200527***	-0.0357929	-0.0357972	-0.2086554	0.0488570	0.0488826
	(0.004)	(0.666)	(0.666)	(0.325)	(0.669)	(0.669)
Financial and insurance activities	-0.0772249	-0.0728857	-0.0728753	0.1240021**	0.1340500**	0.1340227**
	(0.228)	(0.252)	(0.253)	(0.037)	(0.021)	(0.021)
Real estate activities	-0.0120359	-0.0026060	-0.0025998	0.0576171	0.0630388	0.0630134
	(0.823)	(0.960)	(0.960)	(0.260)	(0.209)	(0.209)
Specialized, scientific and technical activities	-0.0388267	-0.0306345	-0.0306201	0.0760243*	0.0843563**	0.0843466**
	(0.276)	(0.359)	(0.360)	(0.080)	(0.046)	(0.046)
Administrative and support services activities	-0.0646660*	-0.0594833	-0.0595010	0.0833688*	0.0907737**	0.0908770**
	(0.093)	(0.103)	(0.103)	(0.052)	(0.032)	(0.032)
Education	-0.1214530**	-0.1281135***	-0.1281032***	-	-	-
	(0.011)	(0.006)	(0.006)			
Human health and social action	-0.0276563	-0.0200866	-0.0200715	0.1095634**	0.1189226***	0.1189098***
	(0.458)	(0.567)	(0.568)	(0.016)	(0.008)	(0.008)
Arts, entertainment and recreation	-0.1503190	-0.1437762	-0.1437640	0.0781372	0.0883109	0.0883037
	(0.307)	(0.332)	(0.332)	(0.310)	(0.250)	(0.251)
Other services activities	-0.0378019	-0.0287358	-0.0287184	0.1081516**	0.1169908**	0.1169707**
	(0.493)	(0.581)	(0.581)	(0.044)	(0.027)	(0.027)
Ratios characterizing the economic situation of companies:						
Levels (delayed by two years):						
Mark up rate	0.0000002	0.0000002	0.0000002	-0.0000001	-0.0000001	-0.0000001
	(0.245)	(0.284)	(0.283)	(0.967)	(0.976)	(0.975)
Capital intensity	-0.0000040***	-0.0000045***	-0.0000045***	0.0000002	0.0000001	0.0000001
	(0.004)	(0.002)	(0.002)	(0.879)	(0.903)	(0.903)
Apparent work productivity	0.0000010***	0.0000009***	0.0000009***	0.0000006***	0.0000005***	0.0000005***
	(0.000)	(0.000)	(0.000)	(0.005)	(0.007)	(0.007)
Economic profitability	-0.0000587	-0.0000092	-0.0000092	-0.0002467*	-0.0002112	-0.0002109
	(0.732)	(0.960)	(0.960)	(0.051)	(0.110)	(0.111)
Percentage of revenue generated from exports	-0.0001945	-0.0001772	-0.0001775	-0.0005286**	-0.0005335**	-0.0005328**
	(0.211)	(0.252)	(0.251)	(0.047)	(0.042)	(0.042)
Variations (delayed by two years):						
- of the mark up rate	-0.0000002***	-0.0000002**	-0.0000002**	-0.0000013	-0.0000013	-0.0000013
	(0.008)	(0.023)	(0.023)	(0.450)	(0.446)	(0.447)
- capital intensity	0.0000220***	0.0000245***	0.0000245***	0.0000003	0.0000004	0.0000004

	(0.003)	(0.002)	(0.002)	(0.953)	(0.940)	(0.940)
- apparent labor productivity	-0.0000009***	-0.0000011***	-0.0000011***	-0.0000002	-0.0000003*	-0.0000003*
	(0.000)	(0.000)	(0.000)	(0.255)	(0.055)	(0.055)
- economic profitability	0.0000873	0.0000724	0.0000724	0.0001753*	0.0001680*	0.0001677*
	(0.465)	(0.551)	(0.550)	(0.074)	(0.085)	(0.086)
- of the share of revenue generated from exports	0.0002013	0.0002569	0.0002586	-0.0001787	-0.0001426	-0.0001481
	(0.696)	(0.651)	(0.649)	(0.751)	(0.804)	(0.797)
Controlling for selection on unobservables:						
Inverse of Mills ratio for PME1	-1.1021061***			-0.7265226		
	(0.010)			(0.266)		
Inverse of Mills ratio for PME2	-0.1666907***	-0.0693565***	-0.0693381***	-0.1053933**	-0.0406356	-0.0406908
	(0.000)	(0.002)	(0.002)	(0.045)	(0.118)	(0.118)
Inverse of Mills ratio for PME3	0.6890059*	-0.0792009	-0.0792963	0.3061875	-0.1959610	-0.1957832
	(0.080)	(0.630)	(0.629)	(0.609)	(0.404)	(0.404)
Constant	1.2697538**	0.5297571	0.5299751	1.1285959*	0.6230103	0.6226237
	(0.012)	(0.293)	(0.292)	(0.094)	(0.385)	(0.385)
Number of observations (firms*years)	13,543	13,543	13,543	13,165	13,165	13,165
R-squared	0.041	0.033	0.033	0.026	0.023	0.023

Sources: Bpifrance, FARE (INSEE) and Table A4a.

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

Notes: Instrumental variables combined with differences-in-differences weighted regression, where the weight is the lagged value of the outcome variable; percentage points; for each variable, the coefficient and the associated p-value are provided (based on robust standard errors). Considered exclusion variables for modeling entering the program: firm age, first lag of the variation in the revenue, and first lag of the variation in the return on asset (ROA). **, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table A4a (continued). Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Difference in differences results – instrumental variable estimates. Part 1. Employment and Labor Productivity. Full specification. *Weighted regressions.*

Explanatory variables / Explained variable	Variation in the logarithm of the year-end firm workforce (1)	Variation in the logarithm of the year-end firm workforce (2)	Variation in the logarithm of the year-end firm workforce (3)	Variation in the logarithm of the labor productivity (1)	Variation in the logarithm of the labor productivity (2)	Variation in the logarithm of the labor productivity (3)
Acceleration indicators:						
Falsification (effect of the program if it had been introduced in 2013 in all businesses supported afterwards)	0.0131577	0.0132041	0.0132548	-0.0129134	-0.0127382	-0.0127949
	(0.545)	(0.544)	(0.542)	(0.711)	(0.715)	(0.714)
Effect of PME1 in 2015	-0.0203844			0.0203790		
	(0.166)			(0.456)		
Effect of PME1 in 2016	0.0468463**	0.0469086**		-0.0749383*	-0.0743046*	
	(0.018)	(0.017)		(0.052)	(0.053)	
Effect of PME1 in 2017	0.0066939			-0.0543506		
	(0.714)			(0.353)		
Effect of PME2 in 2016	0.1122239***	0.1122193***		-0.1390881**	-0.1386483**	
	(0.002)	(0.002)		(0.018)	(0.018)	
Effect of PME2 in 2017	-0.0114469	-0.0115579		0.2715209	0.2729644	
	(0.619)	(0.615)		(0.176)	(0.173)	
Effect of PME3 in 2017	0.0148174	0.0146619		-0.0345775	-0.0331745	
	(0.618)	(0.621)		(0.387)	(0.406)	
Effect of PME1 and PME2 programs in 2016			0.0748251***			-0.1019112***
			(0.000)			(0.004)
Effect of PME2 and PME3 programs in 2017			-0.0033181			0.1768769
			(0.859)			(0.208)
Control variables						
Time dummies:						
For the year 2013	-0.0160222	-0.0161853	-0.0162152	-0.0014080	-0.0001337	0.0000046
	(0.126)	(0.120)	(0.119)	(0.918)	(0.992)	(1.000)
For the year 2014	0.0044339	0.0042759	0.0042582	-0.0103007	-0.0090056	-0.0088913
	(0.560)	(0.570)	(0.572)	(0.347)	(0.408)	(0.414)
For the year 2015	0.0074829	0.0064792	0.0064637	-0.0227496**	-0.0205946*	-0.0204603*
	(0.338)	(0.395)	(0.396)	(0.045)	(0.064)	(0.066)
For the year 2016	-0.0296122***	-0.0297352***	-0.0297445***	0.0378245***	0.0388152***	0.0388494***
	(0.007)	(0.007)	(0.007)	(0.006)	(0.005)	(0.005)
For the year 2017						
Company size (delayed by two years):						
Less than 20 employees	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Between 20 and 49 employees	1.0860623***	1.0860016***	1.0870451***	-0.3613272	-0.3610315	-0.3647453
	(0.000)	(0.000)	(0.000)	(0.271)	(0.271)	(0.267)
Between 50 and 99 employees	0.1179688***	0.1179926***	0.1181607***	-0.0638915	-0.0643194	-0.0651290
	(0.000)	(0.000)	(0.000)	(0.268)	(0.265)	(0.259)
Between 100 and 249 employees	-0.0269384***	-0.0269601***	-0.0271437***	-0.0029600	-0.0038800	-0.0035054
	(0.006)	(0.006)	(0.006)	(0.830)	(0.777)	(0.798)

Between 250 and 500 employees	-0.0414681**	-0.0415155**	-0.0415743**	0.0042468	0.0039858	0.0045104
	(0.026)	(0.026)	(0.025)	(0.845)	(0.854)	(0.835)
Industry dummies:						
Agriculture	0.1267986**	0.1270886**	0.1269924**	-0.1020100	-0.1026535	-0.1018722
	(0.025)	(0.024)	(0.024)	(0.346)	(0.342)	(0.346)
Extractive industry	0.0739786	0.0740725	0.0741641	0.0066874	0.0070151	0.0073217
	(0.184)	(0.184)	(0.183)	(0.935)	(0.931)	(0.928)
Manufacturing industry	-0.3991748***	-0.3991204***	-0.3997501***	-0.0109564	-0.0106983	-0.0084021
	(0.000)	(0.000)	(0.000)	(0.944)	(0.946)	(0.957)
Energy	-0.0947347	-0.0947457	-0.0946639	-0.0596891	-0.0594299	-0.0591975
	(0.506)	(0.506)	(0.506)	(0.572)	(0.573)	(0.575)
Water and waste	0.0188560	0.0188568	0.0191723	-0.0511647	-0.0510895	-0.0502950
	(0.737)	(0.737)	(0.733)	(0.467)	(0.468)	(0.477)
Building / public works	-0.0332980	-0.0332451	-0.0332653	-0.0062002	-0.0062751	-0.0054019
	(0.540)	(0.541)	(0.540)	(0.933)	(0.932)	(0.941)
Wholesale and retail trade, repair of motor vehicles and motorcycles	0.1953952***	0.1953835***	0.1953209***	-0.2007782**	-0.2000687**	-0.1999066**
	(0.001)	(0.001)	(0.001)	(0.029)	(0.030)	(0.030)
Transport	0.0349883	0.0350509	0.0351125	-0.0494182	-0.0491642	-0.0490317
	(0.497)	(0.496)	(0.495)	(0.431)	(0.433)	(0.434)
Lodging and catering	0.0066045	0.0065941	0.0065696	-0.0257354	-0.0256548	-0.0253103
	(0.901)	(0.901)	(0.901)	(0.697)	(0.698)	(0.702)
Information and communication	-0.4511193***	-0.4512202***	-0.4525434***	0.0064776	0.0064805	0.0099513
	(0.000)	(0.000)	(0.000)	(0.973)	(0.973)	(0.958)
Financial and insurance activities	0.0608946	0.0608521	0.0608391	-0.0195223	-0.0192351	-0.0191198
	(0.383)	(0.384)	(0.384)	(0.783)	(0.786)	(0.787)
Real estate activities	-	-	-	-	-	-
Specialized, scientific and technical activities	0.0479120	0.0478967	0.0479324	-0.0364238	-0.0366353	-0.0365817
	(0.344)	(0.344)	(0.343)	(0.565)	(0.562)	(0.563)
Administrative and support services activities	0.0408311	0.0408346	0.0408817	-0.0343570	-0.0343436	-0.0335953
	(0.434)	(0.434)	(0.433)	(0.589)	(0.589)	(0.597)
Education	0.0264061	0.0265369	0.0265545	-0.0864893	-0.0863941	-0.0862381
	(0.666)	(0.664)	(0.664)	(0.258)	(0.259)	(0.260)
Human health and social action	0.0911455*	0.0911149*	0.0910604*	-0.0939276	-0.0937520	-0.0935265
	(0.097)	(0.097)	(0.097)	(0.181)	(0.182)	(0.183)
Arts, entertainment and recreation	0.0455574	0.0455881	0.0455775	-0.0347041	-0.0343567	-0.0341273
	(0.598)	(0.598)	(0.598)	(0.702)	(0.705)	(0.707)
Other services activities	0.0660936	0.0661534	0.0661766	-0.0327767	-0.0325239	-0.0324383
	(0.215)	(0.214)	(0.214)	(0.665)	(0.667)	(0.668)
Ratios characterizing the economic situation of companies:						
Levels (delayed by two years):						
Mark up rate	0.0000001	0.0000001	0.0000001	0.0000007	0.0000007	0.0000007
	(0.799)	(0.796)	(0.795)	(0.434)	(0.433)	(0.434)
Capital intensity	-0.0000029	-0.0000029	-0.0000029	0.0000016	0.0000016	0.0000016
	(0.663)	(0.663)	(0.663)	(0.839)	(0.835)	(0.831)
Apparent work productivity	-0.0000271**	-0.0000271**	-0.0000271**	0.0000240**	0.0000240**	0.0000239**
	(0.022)	(0.022)	(0.022)	(0.045)	(0.045)	(0.045)
Economic profitability	0.0002835	0.0002834	0.0002836	-0.0004380	-0.0004395	-0.0004376
	(0.124)	(0.124)	(0.125)	(0.130)	(0.130)	(0.131)
Percentage of revenue generated from exports	-0.0002185	-0.0002198	-0.0002216	-0.0001749	-0.0001779	-0.0001735
	(0.405)	(0.402)	(0.398)	(0.538)	(0.531)	(0.541)

Variations (delayed by two years):						
- of the markup rate	0.0000023***	0.0000023***	0.0000023***	-0.0000048***	-0.0000048***	-0.0000048***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
- capital intensity	-0.0000294**	-0.0000294**	-0.0000294**	0.0000010	0.0000009	0.0000008
	(0.034)	(0.034)	(0.034)	(0.970)	(0.974)	(0.975)
- apparent labor productivity	0.0000132	0.0000132	0.0000132	-0.0000083	-0.0000082	-0.0000081
	(0.505)	(0.505)	(0.506)	(0.681)	(0.682)	(0.685)
- economic profitability	-0.0001653	-0.0001652	-0.0001650	0.0002076	0.0002076	0.0002056
	(0.239)	(0.239)	(0.240)	(0.265)	(0.266)	(0.270)
- of the share of revenue generated from exports	-0.0000052	-0.0000040	0.0000012	-0.0003401	-0.0003405	-0.0003794
	(0.988)	(0.991)	(0.997)	(0.586)	(0.586)	(0.544)
Controlling for selection on unobservables:						
Inverse of Mills ratio for PME1	-1.7003967***	-1.7000875***	-1.7017567***	0.5003190	0.4994953	0.5049887
	(0.000)	(0.000)	(0.000)	(0.319)	(0.320)	(0.315)
Inverse of Mills ratio for PME2	-0.1837175***	-0.1837348***	-0.1840900***	-0.0153042	-0.0151224	-0.0148465
	(0.000)	(0.000)	(0.000)	(0.745)	(0.748)	(0.752)
Inverse of Mills ratio for PME3	1.2986364***	1.2983310***	1.2986722***	-0.7176860*	-0.7154505*	-0.7169440*
	(0.000)	(0.000)	(0.000)	(0.084)	(0.085)	(0.085)
Constant	0.9122655***	0.9125645***	0.9165897***	0.9258803	0.9204781	0.9103653
	(0.001)	(0.001)	(0.001)	(0.130)	(0.131)	(0.135)
Number of observations (firms*years)	13,446	13,446	13,446	13,074	13,074	13,074
R-squared	0.055	0.055	0.055	0.033	0.033	0.032

Sources: Bpifrance and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

Notes: Instrumental variables combined with differences-in-differences weighted regression, where the weight is the lagged value of the outcome variable; percentage points; for each variable, the coefficient and the associated p-value are provided (based on robust standard errors). Considered exclusion variables for modeling entering the program: firm age, first lag of the variation in the revenue, and first lag of the variation in the return on asset (ROA). **, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

Table A4b. Evaluation of the effects of Bpifrance's national SME program on supported business cohorts from 2015 to 2017. Difference in differences results – instrumental variable estimates. Part 2. Corporate investment and Gross operating surplus.

Explanatory variables / Explained variable	Variation in corporate investment (1)	Variation in corporate investment (2)	Variation in corporate investment (3)	Variation in gross operating surplus (1)	Variation in gross operating surplus (2)	Variation in gross operating surplus (3)
Acceleration indicators:						
Falsification (effect of the program if it had been introduced in 2013 in all businesses supported afterwards)	49.2801514 (0.360)	53.7061806 (0.317)	53.6731491 (0.317)	28.5538864 (0.777)	25.8392048 (0.797)	25.7387047 (0.798)
Effect of PME1 in 2015	192.5660095 (0.159)			99.8822021 (0.593)		
Effect of PME1 in 2016	536.1820679 (0.120)			-12.7353287 (0.961)		
Effect of PME1 in 2017	-189.3600769 (0.558)			39.6345482 (0.921)		
Effect of PME2 in 2016	-96.2486115 (0.627)			-343.2344055 (0.265)		
Effect of PME2 in 2017	382.2915039 (0.100)	382.4592285* (0.100)		446.0347290 (0.125)	446.8306580 (0.125)	
Effect of PME3 in 2017	101.0731277 (0.363)	99.2591629 (0.368)		46.3864594 (0.830)	48.2650795 (0.823)	
Effect of PME2 and PME3 programs in 2017			250.7308807* (0.066)			280.2138367 (0.154)
Control variables						
Lagged variation in corporate investment in SME firms	-0.3605859*** (0.000)	-0.3609666*** (0.000)	-0.3609682*** (0.000)			
Time dummies:						
For the year 2013	-39.4382629 (0.277)	-35.1213570 (0.336)	-35.1372948 (0.336)	-14.8703356 (0.813)	-15.6840477 (0.801)	-15.6451216 (0.801)
For the year 2014	-13.4054041 (0.711)	-9.7739067 (0.789)	-9.7912550 (0.788)	-52.5707207 (0.397)	-53.1784935 (0.387)	-53.1445007 (0.388)
For the year 2015	12.0918770 (0.728)	19.9671307 (0.566)	19.9642410 (0.566)	-90.8420410 (0.146)	-89.6103592 (0.147)	-89.5545349 (0.147)
For the year 2016	21.6165333 (0.508)	31.0252171 (0.355)	31.0147781 (0.355)	36.5893669 (0.670)	31.4261799 (0.709)	31.4219494 (0.709)
For the year 2017	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Company size (delayed by two years):						
Less than 20 employees	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Between 20 and 49 employees	-3.80862e+03*** (0.010)	-20.3507233 (0.788)	-20.5314655 (0.786)	1158.7150879 (0.663)	-515.8437500*** (0.006)	-515.9653320*** (0.006)
Between 50 and 99 employees	-1.43480e+03** (0.013)	-67.3790817 (0.517)	-67.8921051 (0.514)	-311.3993530 (0.755)	-916.4590454*** (0.004)	-916.8132324*** (0.004)
Between 100 and 249 employees	66.8370743 (0.228)	74.2773895 (0.180)	74.4549637 (0.179)	14.1671638 (0.877)	12.7074442 (0.889)	13.2488518 (0.885)
Between 250 and 500 employees	-371.9191589** (0.046)	-352.9990234* (0.055)	-353.0302124* (0.055)	30.2341003 (0.890)	29.4760418 (0.893)	30.6232910 (0.889)
Industry dummies:						

Agriculture	-	-	-	-	-	-
Extractive industry	1563.8807373	1501.9158936	1502.1276855	152.4311066	143.3035126	143.4673767
	(0.198)	(0.215)	(0.215)	(0.534)	(0.554)	(0.554)
Manufacturing industry	1234.4848633	1559.8896484	1559.4783936	-585.5816040*	-766.8057861***	-767.1494751***
	(0.304)	(0.187)	(0.187)	(0.096)	(0.002)	(0.002)
Energy	1195.3381348	1195.9049072	1196.1687012	-1.61289e+03	-1.64558e+03	-1.64535e+03
	(0.345)	(0.343)	(0.342)	(0.139)	(0.129)	(0.129)
Water and waste	1808.4050293	1751.8060303	1750.8741455	-120.8282547	-134.5059204	-134.8395538
	(0.130)	(0.141)	(0.141)	(0.399)	(0.333)	(0.332)
Building / public works	2288.3249512*	1609.3138428	1609.6384277	-166.3968658	97.3955078	97.6881104
	(0.059)	(0.176)	(0.176)	(0.735)	(0.550)	(0.548)
Wholesale and retail trade, repair of motor vehicles and motorcycles	-876.6342773	1538.5844727	1538.1389160	46.6815376	-1.05780e+03***	-1.05827e+03***
	(0.571)	(0.193)	(0.194)	(0.979)	(0.001)	(0.001)
Transport	1725.1656494	1662.0576172	1662.1916504	-236.4116516	-245.1747284*	-245.2210693*
	(0.149)	(0.163)	(0.163)	(0.103)	(0.080)	(0.080)
Lodging and catering	1736.6384277	1681.8908691	1682.0377197	-177.2975464	-189.2496033	-189.1287079
	(0.145)	(0.157)	(0.157)	(0.157)	(0.113)	(0.113)
Information and communication	1369.5205078	1575.0291748	1574.8706055	-496.1118469*	-622.8687134***	-623.1162720***
	(0.251)	(0.183)	(0.183)	(0.061)	(0.001)	(0.001)
Financial and insurance activities	1694.8081055	1642.8073730	1643.0773926	-83.7013474	-93.9452820	-93.9016037
	(0.156)	(0.168)	(0.168)	(0.737)	(0.703)	(0.703)
Real estate activities	1816.8369141	1761.5443115	1761.7049561	9.4937754	-1.1831994	-1.0876048
	(0.144)	(0.156)	(0.156)	(0.977)	(0.997)	(0.997)
Specialized, scientific and technical activities	1662.2409668	1603.7976074	1603.7894287	-301.8812866***	-311.5127869***	-311.6706238***
	(0.162)	(0.176)	(0.176)	(0.009)	(0.006)	(0.005)
Administrative and support services activities	1655.1450195	1596.2641602	1596.9521484	-158.2058563	-168.5905304	-167.9376984
	(0.164)	(0.179)	(0.178)	(0.228)	(0.172)	(0.174)
Education	1670.0576172	1610.3099365	1610.4675293	-342.4743347**	-352.6597290**	-352.6355286**
	(0.161)	(0.175)	(0.175)	(0.020)	(0.013)	(0.013)
Human health and social action	1755.8555908	1686.3249512	1686.3992920	113.9396439	108.7681198	108.6258621
	(0.142)	(0.157)	(0.157)	(0.610)	(0.620)	(0.621)
Arts, entertainment and recreation	1898.9538574	1838.4086914	1838.5373535	32.3730049	23.5418911	23.5431900
	(0.116)	(0.127)	(0.127)	(0.866)	(0.900)	(0.900)
Other services activities	1635.6970215	1568.4698486	1568.6375732	-114.7385254	-121.0385132	-121.0688858
	(0.170)	(0.187)	(0.187)	(0.457)	(0.416)	(0.416)
Ratios characterizing the economic situation of companies:						
Levels (delayed by two years):						
Mark up rate	-0.0006060	-0.0004017	-0.0004053	0.0048925	0.0047934	0.0047890
	(0.183)	(0.259)	(0.255)	(0.281)	(0.289)	(0.289)
Capital intensity	0.0184676	0.0191919	0.0192587	-0.0858981***	-0.0857190***	-0.0857185***
	(0.895)	(0.891)	(0.891)	(0.002)	(0.002)	(0.002)
Apparent work productivity	0.1282477	0.1140280	0.1136325	0.5581061***	0.5582550***	0.5582517***
	(0.262)	(0.319)	(0.320)	(0.000)	(0.000)	(0.000)
Economic profitability	0.0379383	0.0220580	0.0221583	0.0647811	0.0722570	0.0721859
	(0.688)	(0.812)	(0.811)	(0.826)	(0.806)	(0.807)
Percentage of revenue generated from exports	0.5245285	0.5753112	0.5819981	-1.5721244	-1.5932260	-1.5855067
	(0.231)	(0.189)	(0.184)	(0.218)	(0.212)	(0.214)
Variations (delayed by two years):						
- of the mark up rate	0.0007074**	0.0007688***	0.0007706***	-0.0099569**	-0.0099855**	-0.0099832**
	(0.013)	(0.002)	(0.002)	(0.011)	(0.011)	(0.011)
- capital intensity	0.1015913	0.1020930	0.1021083	0.1452120	0.1444910	0.1444900
	(0.586)	(0.584)	(0.584)	(0.399)	(0.401)	(0.401)
- apparent labor productivity	0.2385238*	0.2348949*	0.2349371*	-0.2975271***	-0.2975588***	-0.2975585***

	(0.093)	(0.097)	(0.097)	(0.000)	(0.000)	(0.000)
- economic profitability	0.0044942	0.0035107	0.0033129	0.1327424	0.1326076	0.1323705
	(0.888)	(0.920)	(0.924)	(0.588)	(0.587)	(0.588)
- of the share of revenue generated from exports	-0.0548273	-0.2028975	-0.2180690	1.6259791	1.6536061	1.6319412
	(0.942)	(0.786)	(0.770)	(0.465)	(0.458)	(0.464)
Controlling for selection on unobservables:						
Inverse of Mills ratio for PME1	5552.9667969***			-2.45187e+03		
	(0.009)			(0.527)		
Inverse of Mills ratio for PME2	-104.9734802	-66.5462723	-68.1087646	-881.7763062***	-896.8883057***	-898.5653076***
	(0.439)	(0.606)	(0.597)	(0.007)	(0.007)	(0.006)
Inverse of Mills ratio for PME3	-9.42541e+03***	-107.7288742	-107.6238708	2404.0495605	-1.71659e+03***	-1.71568e+03***
	(0.009)	(0.689)	(0.689)	(0.712)	(0.004)	(0.004)
PME23_17			250.7308807*			280.2138367
			(0.066)			(0.154)
Constant	1.19738e+04**	-1.07368e+03	-1.06958e+03	2185.9645996	7996.5625000***	7998.6074219***
	(0.030)	(0.453)	(0.454)	(0.816)	(0.003)	(0.003)
Number of observations (firms*years)	12,759	12,759	12,759	13,550	13,550	13,550
R-squared	0.121	0.119	0.119	0.106	0.106	0.106

Sources: Bpifrance and FARE (INSEE).

Scope: 134 (respectively 3,163) companies participating (or not) in Bpifrance's national SME program between 2015 and 2017.

Notes: Instrumental variables combined with differences-in-differences regression; percentage points; for each variable, the coefficient and the associated p-value are provided (based on robust standard errors). Considered exclusion variables for modeling entering the program: firm age, first lag of the variation in the revenue, and first lag of the variation in the return on asset (ROA). **, ** and *** stand for significance at the 10%, 5% and 1% levels, respectively.*

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