The Importance of Conducting Long-Term Evaluations of the EU's SME Policies: Lessons from the Czech Start-up Program

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Introduction

The impact evaluation of public policies aims to deliver crucial information: whether the implemented actions resulted in the expected changes of desired outcomes or not. It also helps to understand better the theory of change, i.e., the working mechanism of the intervention, and to obtain a unique lesson allowing key stakeholders to potentially adjust the policies and practice a so-called policy-informed approach towards policymaking to reach desired changes (Khandker et al., 2010[1]; Newcomer et al., 2015[2]).

Public policies aiming to enhance entrepreneurial behavior and firm competitiveness, i.e., entrepreneurship and SME policies, have a long tradition in all countries across the globe, no matter if allocating financial or non-financial aid. However, their effects are heterogeneous, and many characteristics impact their overall outcomes. Therefore, we need to carefully assess the effect of each of the interventions to see whether it met the expectations of the policymakers or not. The policymakers, internal evaluators and program representatives might thus be inspired by the best policy practices and past evaluations, ensuring a clear link between the applied methods and the rigorous evaluation outcome (Kersten et al., 2017[3]; Dvouletý et al., 2021[4]).

Nevertheless, it is essential to acknowledge that the political representatives, policymakers and program representatives do not live in a vacuum but in political and program cycles. Naturally, they all focus on the most urgent issues in their agendas, implementing one policy action after another. As a result, there is a time-inconsistency in orientation towards short-term evaluations because the long-term assessments related to the policies that were implemented years ago are almost forgotten in the context of up-to-date duties. However, some interventions take time to reveal actual effects, and the only way to capture them is through conducting long-term evaluations (Khandker et al., 2010[1]; Newcomer et al., 2015[2]).

Therefore, this article inspires and advocates for long-term impact assessments, showing that it may not be too challenging to implement evaluation methods even after some time to get essential information on the actual effects of the intervention. The following paragraphs describe the assessment procedures of the Czech program START that facilitated financial resources through financial instruments to those interested in pursuing a business. The added value for readers is in the relatively straightforward analysis of firms' survival and performance, which documents program outcomes even 10 years after its implementation. The obtained findings are interpreted within the context of the previous (short-term) program assessments ensuring triangulation of the evaluation methods.

Policy Context

For the deeper context, we add that the Czech Republic is a small open economy with a long tradition of entrepreneurship. During the last decade, the economically active population's rate of entrepreneurship and self-employment was about 15.2%, which was even higher than the average of all European Union member countries (Dvouletý, 2019[5]).

The particular policy of our evaluation interest is the Czech program START, funded from the EU structural investment funds, that facilitated financial resources through financial instruments, i.e., soft loans and credit guarantees, to individuals who intended to start a new business. The program applicants could benefit from a zero-interest rate loan of a maximum of 59,055 euro, covering up to 90% of the project costs or/and a credit guarantee covering up to an 80% loan with a maximum limit of 59,055 euro. Upon the successful implementation of the project, there was an additional one-time paid motivational bonus for supported firms, making up to 15% of the loan/guarantee. The supported projects aimed to increase the competitiveness of the supported firms, and the financial allocation to the program was 3.1 million euro. From the earlier collected descriptive evidence, we know that most of the supported firms were small companies and those doing business as self-employed individuals. The most common types of projects were the foundation of a store, wholesale activities, construction of a photovoltaic power plant or manufacturing of new products. The decision on granting the public aid was made by the Czech-Moravian Guarantee and Development Bank, based on the projects' quality (mainly its feasibility and cost structure) and the overall financial situation of the applicants (Czech Ministry of Industry and Trade, 2017[6]; Dvouletý, 2017[7]).

Data Sources

For the quantitative evaluation of the effects of public entrepreneurship and SME policies, we need good quality data of supported firms' survival and performance indicators. In the perfect

scenario, these data are available through the government's statistics of financial records, regularly collected via financial and statistical authorities for tax purposes and business demographics. Thus, they can be easily extracted for evaluation. If this is not the case, the program administrators and representatives could establish specific reporting duties for those applying for public aid. The applying business subjects would need to report their financial development during the project implementation regularly and even after it, agreeing that the collected data will be used for impact assessment.

Unfortunately, neither of these options is still available in the context of the Czech Republic. Therefore, the evaluation teams must rely on their data collections, mainly from the secondary databases provided by the commercial subjects, such as Bureau Van Dijk (2022[8]) or Bisnode (2022[9]). However, this approach implies that there are risks that not every supported enterprise will have data available. Thus, the overall power of the conducted analysis will decrease as some entities will be not represented there. We point out a clear trade-off between the representation of the supported firms in the empirical investigation and the possibility to generalize the obtained findings on the whole program. Furthermore, it is tough to verify the correctness and credibility of the data obtained from the secondary data providers if the official data from the public authorities are not available.

Considering these potential risks, we return to the program START, which has supported according to the Czech Ministry of Industry and Trade (2017) the foundation of 188 firms. Out of these, we managed to identify only 178 business entities (95% of the population) that were officially registered and obtained a business identification number. For these, we managed to get information from the Czech Business Register (2022[10]), whether they are still officially active or not. Additionally, we purchased data from the commercial provider Bisnode (2022) on the selected financial indicators (total sales and assets) of the supported firms during 2007-2020 to see how their performance developed 10 years after receiving public assistance. Given the long-term nature of the evaluation and the reliance on the secondary data providers, the key financials are available only for the 34-49 firms (18%-26% of the population), depending on the period and indicator.

Firm Survival Analysis

The firm survival analysis is an evaluation tool that can be easily incorporated into the program monitoring, especially in the case of programs focusing on newly established entities and start-ups. It provides us with information on whether supported firms discontinued the business or ended up in bankruptcy, in other words whether they are still economically active (Caselli et al., 2021[11]). This is particularly important when assessing long-term program effects, as established firms contribute to the public budget through social security contributions, taxes, and also to the development of the local entrepreneurship ecosystem (Stam, 2015[12]). The *Chart* documents the survival of firms up to 13 years. The vast majority (86.5%) of the newly founded companies that were identified are still active on the market. The average annual default rate was about 1%, and then to make a reasonable judgment on whether it is a lot or not, we can use the official business demography statistics. According to the Czech Statistical Office data (2022[13]), the long-term ratio (years 2008-2020) of business closures on new business registrations was 82%, and the proportion of business closures on the economically active population was 5%, making the default rate of the supported firms much lower than that of the whole economy.
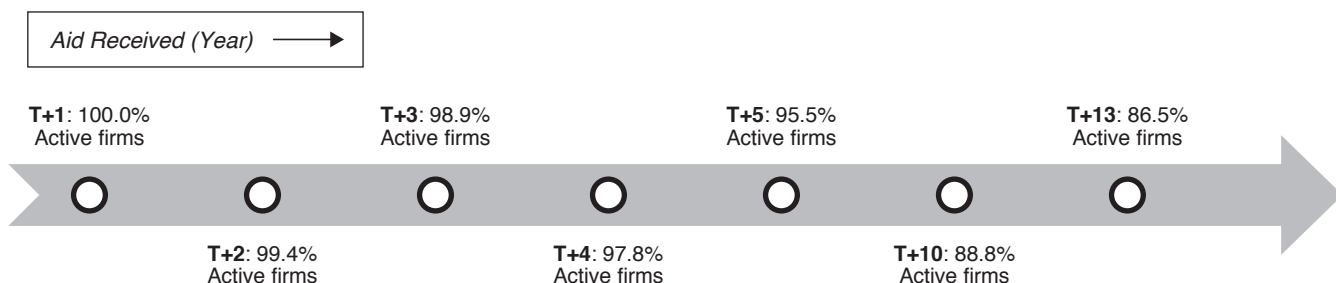
Firm Performance Analysis

We proceed with the firm performance analysis. The crucial question is how the critical financial indicators developed after the business start-up over the years. As this is intended to be a rather simple-to-understand evaluation, we work with the two most commonly used performance measures. The first reflects the firm size and property, measured as total assets size, and the second is overall firm sales (Kersten et al., 2017[3]; Dvouletý et al., 2021[4]). Both variables are denominated in thousands of Czech crowns (CZK). For an international readership we further note that the nominal exchange rate was, according to Eurostat (2014[14]), between 2007-2013, i.e., the project implementation period, 25.8 CZK to the euro.

As the analysis is based only on supported firms, we concentrate on the changes in the subsequent three-year average time windows,

CHART
Firm survival analysis (N=178)

Aid Received (Year) ⟶

T+1: 100.0% Active firms
T+3: 98.9% Active firms
T+5: 95.5% Active firms
T+13: 86.5% Active firms

T+2: 99.4% Active firms
T+4: 97.8% Active firms
T+10: 88.8% Active firms

Source: The author's calculations based on the Czech Business Register (2022[10]) and the Czech Ministry of Industry and Trade (2017[6]) data.

allowing us to see a more stable overview of firm performance. We intend to monitor the short-term effects (first to third year), middle-term effects (fourth to sixth year) and long-term effects (eighth to 10th year). The application of comparative statistical techniques allows us to test the differences between the early-stage performance (short-term outcomes) and the middle-term and long-term indicators.

The theory of change implies that the resources allocated to the newly founded enterprises should increase their financial performance (Dvouletý, 2017[7]; Caselli et al., 2021[11]). As there were no data before the program implementation, we use the initial, i.e., short-term financial records, as a comparative baseline because we analyze the newly established companies. The calculation of the growth rates indicates that the average total assets growth was in the middle term 13.2% and in the long term even 69.5% when compared with the initial first three years. The positive prospects are visible also in the total sales growth, indicating an increase of 43% in the middle term and 237.3% in the long term. Besides calculating the relative growth rates, we can also test the differences of absolute values more formally with the help of statistical paired t-tests. The results reported in the *Table* confirm a statistically significant positive increase in the middle- and long-term effects across both implemented indicators of performance.

Finally, we were interested in whether the increase in assets and sales was higher for firms receiving higher financial support. We calculated bivariate correlations between both indicators and the aid size to investigate this. We found statistically significant positive associations with both total assets (correlation coefficient = 0.52) and sales (correlation coefficient = 0.34) at the 10% level of statistical significance.

Discussion & Conclusions

When summarizing the obtained empirical evidence, the firms receiving support from the financial instruments allocating program START reported, even after 10 years, high survival rates, and experienced a considerable growth in their property measured as total assets and sales. Notably, the conducted evaluation was based on the rather basic methods (survival analysis, paired t-tests and correlation coefficients) for the sake of simplicity, but it clearly showed how the evaluation teams could relatively straightforwardly obtain the information on the long-term effects. The described findings can further be interpreted together with the other available evaluations that were conducted in the short term. A rigorous counterfactual impact evaluation analysis (CIE) conducted in the short term compared the financial performance of supported and non-supported companies. It provided somewhat inconclusive program outcomes indicating that the financial performances of the supported firms were lower than those without public aid (Dvouletý, 2017[7]). A follow-up survey among the program participants (N=45) two years after the end of intervention (Dvouletý et al., 2018[15]) indicated that their business is making enough money to survive

TABLE

Results of the paired t-tests comparing the financial performance of firms over time

Total Assets (short- and middle-term effect)	mean	standard error	N	t-statistics
Total Assets (Average 4th – 6th year)	7,345.07	2,139.29	49	2.28
Total Assets (Average 1st – 3rd year)	6,321.59	1,968.89	49	p-value (H₁: Difference>0)
Difference	1,023.47*	449.30	49	0.01
Total Assets (long-term effect)	**mean**	**standard error**	**N**	**t-statistics**
Total Assets (Average 8th – 10th year)	9,457.70	2,113.28	40	1.87
Total Assets (Average 1st – 3rd year)	6,802.51	2,406.66	40	p-value (H₁: Difference>0)
Difference	2,655.20*	1,419.38	40	0.03
Total Sales (short- and middle-term effect)	**mean**	**standard error**	**N**	**t-statistics**
Total Sales (Average 4th – 6th year)	10,020.47	2,478.21	49	2.09
Total Sales (Average 1st – 3rd year)	7,393.82	1,836.41	49	p-value (H₁: Difference>0)
Difference	2,626.65*	1,259.07	49	0.02
Total Sales (long-term effect)	**mean**	**standard error**	**N**	**t-statistics**
Total Sales (Average 8th – 10th year)	13,064.90	3,380.33	34	1.59
Total Sales (Average 1st – 3rd year)	7,996.09	2,568.16	34	p-value (H₁: Difference>0)
Difference	5,068.81*	3,192.80	34	0.06

*Note: * denominates statistical significance at 10%*
Source: The author's calculations based on the Bisnode (2022[9]) and the Czech Ministry of Industry and Trade (2017[6]) data.

(24.4%) and that they experience and also expect further growth of the business (62.2%). The survey results also revealed that the supported entrepreneurs found the program helpful in securing financial resources to start a business, but more than 75% of them would have started their businesses even without public support.

These evaluation outputs show that most of the newly established businesses found their place on the market, are active, and even experienced growth in sales and total assets. However, we do not know if the long-term growth was sufficient to overcome the performance of firms founded in the same years but not receiving public financial assistance. A counterfactual impact evaluation design implemented in the early stage would need to be implemented again, with the help of long-term financial indicators, so the results are controlled for the relevant firm-specific characteristics. In this regard, we refer to two recent reviews of international scholarly literature documenting the effects of public entrepreneurship and SME policies (Kersten et al., 2017[3]; Dvouletý et al., 2021[4]) that can be beneficial for readers. These review articles contain essential information regarding applied evaluation approaches, other potentially relevant financial performance indicators and the possible heterogeneity of the outcomes. Still, the presented analysis calls for multiple perspectives on the longitudinal evaluations, demonstrating how the information obtained in the early stages after the program implementation could be used and providing the whole picture of the policy outcomes. Individuals willing to read more about the implementation of quantitative and qualitative methods are recommended to seek practical handbooks written by Khandker et al. (2010[1]) or Newcomer et al. (2015[2]).

Another limit of the presented analysis is that the number of available firm-level observations reduces the power of the implemented statistical methods. It clearly shows that if the data collection procedure does not start together with the project implementation (and is listed in the aid contract) or is secured properly somehow, it is complicated (and even impossible) to get the data later after the project implementation is over. Data collection management and evaluation plan thus need to be an essential part of the program implementation stage.

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