European Commission

EUROPEAN POLICYBRIEF

Investigating the Impact of the Innovation Union

ACCESS TO FINANCE AND INNOVATION

The document refers to two studies whose objectives are to test whether innovative firms are more financially constrained than non-innovative firms, whether size matters in this regard, and what kind of financial means are considered most pressing for innovators in the future.

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INTRODUCTION

Innovation is a prime source of economic growth. This comes out of the endogenous growth theories and of many empirical studies. R&D expenditures are investments in knowledge, the outcome of which is uncertain and may only materialize a few years into the future. Given this uncertainty, firms have to pay a high cost of capital if they finance themselves externally. Instead, they prefer to finance themselves internally using their own cash flow and past retained earnings. Young and small firms, and especially start-ups, have no retained earnings and little profit in the first years of their lives to finance their R&D expenditure. They have also typically little capital to offer as collateral for their loans. Moreover if they resort to external financing they may have to reveal part of their knowledge to convince the fund providers to lend them money. This is the famous asymmetric information problem, a major market failure in the context of innovation.

The Innovation Union is one of the seven flagship initiative of the EU2020 strategy, which aims to improve the access to finance for R&D firms, to get innovative ideas to the market and to ensure growth and jobs. Four of the 34 commitments of the Innovation Union are devoted to solve the financing problem for innovating firms: put in place EU financial instruments to attract private finance (commitment 10), ensure cross-border operations of venture capital funds (commitment 11), strengthen cross-border matching of innovative firms with investors (commitment 12) and review state aid framework for research, development and innovation (commitment 13).

The Community Innovation Surveys (CIS) ask questions about the obstacles to innovation to find out why firms do not innovate or not innovate more. One of the obstacles that get consistently and pervasively the highest score, if not the highest score, is the difficulty in getting access to finance. What is also remarkable is that the access to finance is considered more constraining for innovative firms than for non-innovative firms.

The aim of the present study by Santos and Cincera is to use another data source, namely the survey on SMEs' access to finance in the euro area (SAFE), undertaken by the European Central Bank (ECB), to understand which external factors in the financial market (on the supply side) are more limiting as regards the provision of finance.

EVIDENCE AND ANALYSIS

The 2015 survey of the access to finance of SMEs in the euro area (SAFE) shows that the perception of a financing problem decreases with firm size and age. Innovative firms are on average 0.5 points more constrained than their non-innovative counterparts (4.95 versus 4.44 on a scale of 1 to 10). Firms operating in services to businesses or individuals show the lowest scores: 4.61 versus 4.95 for construction, 4.91 for industry and 4.82 for trade. Public ownership and other owners appear to have fewer difficulties in accessing finance than all other types of ownership. Private equity-backed firms report the highest scores of all types of ownership. Firms able to increase their own capital provided by owners or shareholders are shown to be less financially constrained than others (4.34 versus 5.07). Fast growing firms have greater financing problems than non-fast growing ones. Finally, firms reporting some obstacles for future financing are more constrained. Innovative firms show a higher frequency of obstacles to future finance than non-innovative ones. The degree of different instruments' importance to ensure financing support, such as equity, tax incentives or public funding, is also higher for innovative firms. Of the different individual obstacles related to finance (price, loss of control, bureaucracy, financing availability and collateral) the need to collateral is considered the most important obstacle to get access to finance.

The first evidence from the survey thus confirms conventional wisdom that financing obstacles are more severe for small firms, those that depend on outside financing, and those that innovate.

When a multivariate analysis is performed taking into account the simultaneous presence of a number of determinants related to firm characteristics, market conditions, main obstacles to financing and relevant factors for obtaining future financing, then it is found that access to finance is more constraining for firms that have multiple innovation projects and for small firms. It is less constraining for firms that have obtained capital from owners and shareholders and for firms that trade on the international market. Also non-availability of financing in the capital market and firms' insufficient collateral are the two most relevant factors for experiencing financing problems. Guarantees for loans and access to equity are perceived as the two most important measures for solving financial problems in the future. Tax incentives in contrast are not considered as a way of solving the access to finance in the future. This could be interpreted by the fact that tax incentives are received after the investment in R&D is done and do not extend beyond the R&D stage when it comes to bring a new product or process on the market. Innovative small and medium enterprises (SMEs) report different needs to ensure access to financing, compared to non-innovative firms. While for SMEs, in addition to guarantee for loans, measures to make access to equity easier are important determinants, for non-SMEs ensuring business support services is revealed to be the most relevant factor.

When the endogeneity of being innovative or not is taking into account, the size of some of the marginal effects differ but their relative magnitudes and signs remain unchanged. The likelihood of being financially constrained increases with the amount of finance and firms that need more than 1€ million for their growth ambitions are more likely to have difficulties in accessing external finance. In the EU28 the average probability of being financially constrained for firms with growth ambitions is 23.8%. Firms located in Greece are much more constrained than the EU average, whereas those in Finland are less constrained. Above the average we also find Belgium, the Netherlands, France and the United Kingdom and below, Bulgaria, Spain, Portugal and Italy. In terms of policy instruments perceived as important for the future, easier access to public measures (i.e. less bureaucracy) turns also to be significant and important.

Policy Implications and Recommendations

The analysis reveals that easing the access to finance is an important task for policy makers if they want to boost innovation by private firms. This is especially a problem for SMEs. It is not a big issue for non-innovators, but the more firms innovate be it by the number of projects or by the diversity of innovation types (product, process, organization and marketing), the more the financing issue of acute. Guarantees for loans and access to equity should be the two measures that governments should focus on. Instead less emphasis should be put on using R&D tax incentives to simulate R&D. In a few countries like France, the Netherlands and Portugal tax incentives are the major budget item in support of R&D. The conclusions of this study call for a revision of this policy. Instead policy makers should try and make access to private equity and venture capital funds, and introduce loan guarantees one of their priorities in future innovation policy, as commitments 10 and 11 of the Innovation Union do.

Research Parameters

The objective of the study is threefold: 1) to find out whether indeed innovative firms feel more finance-constrained than non-innovating firms; 2) to find out whether innovating firms are faced with different kinds of obstacles than non-innovating firms; and 3) firm small firms face different kinds of obstacles than large firms and to a different degree.

The database comes from the anonymous “Survey on the Access to Finance of SMEs in the euro area” (SAFE), undertaken bi-annually by the European Central Bank since 2009. We used data from the first round of 2015, which covers the period from April to September 2015. Firms surveyed are located in countries belonging to the Euro area as well as other EU member States and other countries (such as Albania, the former Yugoslav Republic of Macedonia, Iceland, Montenegro and Turkey). After selecting only firms located in EU28 and with valid answers to all questions or dimensions that we want to include in the models and listed in Figure 1, the final sample contains 6,431 observations.

Two econometric models are estimated. The first consists in estimating an ordered categorical data model, whereby the answers to questions regarding the perceived financial obstacles to innovation on a scale of 1 to 10 are associated with probabilities that a latent variable falls in different intervals of definition given a particular distribution function, conditional on a number of explanatory variables. Being innovative or not is one of these explanatory variables in addition to other characteristics of the firm and the financial possibilities offered by the financial market. The second econometric model is a bivariate recursive probit model, which tackles the endogeneity of the innovation status. Innovative firms are different from non-innovating firms and the presence of common unobservables in the equations that explain whether firms innovate or not and how much they perceive financial constraints may bias the estimated coefficients if they are not taken into account.

PROJECT IDENTITY

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FURTHER READING	Santos, Anabela and Michele Cincera (2017), “Access to finance as a pressing problem: evidence from innovating European firms”, iCite Working Paper 2017 – 022, Available at: http://www.solvay.edu/sites/upload/files/WP022-2017.pdf Santos, Anabela and Michele Cincera (2017), “Financing constraints and growth ambitions of innovative European firms”, forthcoming in iCite Working Paper.