How Sensitive is Young Firm Investment to the Cost of Outside Equity? Evidence from a UK Tax Relief

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Young firms are crucial to the creation of employment and economic growth (e.g. Haltiwanger, Jarmin and Miranda, 2012; 2016). Investment in young firms also constitutes an important share of overall investment. In the United Kingdom, for example, 40% of corporate asset growth between 2009 and 2011 was due to investment made by newly incorporated firms, despite the fact that these firms represented less than 1% of total corporate assets in the economy as a whole. However, in order to be able to grow and invest, young firms have to gain access to financing from others than the founders and their families. Access to financing from outside the founding nucleus—outside funding—is a fundamental input to the dynamism of the company’s entrepreneurial endeavours. In the United Kingdom alone, the government funds allocated to subsiding the funding costs of young companies outstripped the fiscal budget allocated to the police and equalled the amount allocated to higher education (Hughes, 2008).

There is still a lot that we do not know about the factors that determine the way that young businesses grow and invest, particularly the importance of the cost of external financing. In this paper we answer empirically the following question: How does the cost of issuing outside equity (the cost of selling equity shares to investors other than the firm’s original founders) affect investment in young businesses? In corporate finance theory, new shares for outside investors are the most expensive form of financing when the company’s owners and the outside investors do not have the same information or objectives (e.g. Jensen and Meckling, 1976; Myers, 1984; Myers and Majluf, 1984). The way that young companies react to changes in the cost of issuing outside equity informs us on the importance of these frictions in the real world.

In our paper we examine how investment responded to a generous programme of subsidies for outside shareholders investing in companies that had been trading for less than two years in the United Kingdom (the Seed Enterprise Investment Scheme or SEIS). The potential subsidy was generous: for an average company eligible for the subsidy, the SEIS would have represented a reduction in income tax payments that would have doubled the return on its investment. Our analysis allows us to assess how investment by young businesses reacted to changes in the cost of external financing.

Previous work had been limited by a scarcity of data that distinguishes between share issues to founders and to outside investors. One of the contributions of our work is to provide novel stylized facts related to outside equity issuance and investment by the population of young firms in the United Kingdom for the years from 2009 to 2014. These data reveal three patterns. Firstly, the issue of outside equity is unusual for young companies: only one in five share issues made during the first three years of a company’s life involve investors other than the founders. Secondly, young companies invest four times as much when they make an outside equity issue than they do when issuing equity to founders. And thirdly, young companies with higher levels of growth attract more outside equity than other young companies. This positive correlation between investment and the issue of outside equity suggests that the issue of shares to outside investors plays a crucial role in the financing of young companies.
An examination of the effect of the SEIS subsidy allowed us to make a causal connection between the cost of outside equity and investment. The subsidy became available for the first time in 2012, solely for young companies with assets worth less than £200,000. In order to assess the effects of the subsidy, we measured the evolution after 2012 of share issues and investment in eligible companies with assets of close to the cut-off amount of £200,000. To obtain a counterfactual (a measure of how investment would have evolved in the absence of the subsidy), we compared their evolution with that of young companies that were not eligible for the subsidy because they had assets worth slightly more than £200,000.

The results of our analysis can be summarised as follows. The probability of issuing shares increased by 17% as a consequence of the subsidy. However, as the base probability of issuing outside equity is low, the result means that only 1% of eligible companies issued equity in response to the subsidy. The companies that issued equity in response to the subsidy issued the maximum amount allowed by the scheme, and increased the number of investors five-fold (from an average base of 2 investors). We also found that the issue of outside equity has a multiplying effect on investment: firms invested an additional £7 for each £1 in external equity issued as a result of the subsidy. This adjustment in investments is economically significant: it corresponds to an increase of 36% on the average investment made by young companies. Finally, we found that firms financed their increased investment by issuing debt to the same equity investors (instead of acquiring debt from the banks or from unrelated investors).

Two conclusions may be drawn from these results. The first is that for the majority of young firms, investment does not respond to significant changes in the cost of outside equity issues. This means that the majority of young firms make a marginal return on investment that declines rapidly when any additional investment is made. There are several potential reasons for this decreasing marginal return on capital, and these include: the indivisibility of marginal investments, lack of liquidity in the private capital markets for young firms, the high cost of making external share capital issues, and the reluctance of entrepreneurs and management to relinquish control of the company.

Our analysis also shows that the impact of the subsidy on the probability of issuing shares is greater for companies with institutional investors, companies that are run by professional managers (as opposed to family-run firms), and companies in industries in which the private benefits of controlling the firm are not the main motivation for the creation of a business. These results indicate that the explanation for decreasing marginal returns is associated with conflicts of interest between the company’s directors and the outside investors.

Secondly, the multiplying effect of share issues is consistent with a hierarchy among financing sources: young companies use outside equity whenever it is subsidized, but once the subsidy runs out, the marginal source of financing is debt. In theory, there are a great many reasons why making an external share capital issue may reduce external borrowing costs: the issue of shares could act as an endorsement for a company’s quality for potential debt providers, an inflow of capital increases the amount available for use as collateral for a loan, and participation in a tax relief arrangement will mean that the government is monitoring the company. However, the fact that the marginal debt is provided by the same investors which have bought shares in the firm is not consistent
with these explanations. On the contrary, the marginal capital structure of these firms points towards a conscious decision to maintain a high level of debt, behaviour which is consistent with the agency models of Jensen (1986), Harris and Raviv (1990) and Stultz (1990), among others. In these models, financing through debt aligns the incentives of the firm’s directors with those of its outside investors.

Taken together, the results of this paper suggest that financial frictions play an important role on investment decisions at young companies. In order to quantify the extent to which these frictions affect investment, we estimated the elasticity of investment to changes in the cost of issuing outside equity, and we compared it with the elasticity predicted by a standard neo-classical model (without financial or real frictions). On average, investment increased by 1.6% in response to a fall of 10% in the cost of issuing outside shares, elasticity that is 5 times smaller than the elasticity shown by the neo-classical model.

The results presented in the paper represent a major step forward in characterising the determining factors for investment by young firms, providing evidence that is crucial to any analysis of the consequences of changes to financing costs on growth and overall investment. The results also make a vital contribution to the evaluation and design of public policies aimed at stimulating investment by entrepreneurial businesses.