# Quantifying and Alleviating Financing Constraints

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**Abstract**

Measurement and identification issues constitute a challenge in our understanding of the extent of financing constraints as a barrier to investment and innovation. Governments try to alleviate liquidity constraints of innovative firms by providing a range of support schemes, but there is limited evidence on their effectiveness. A special UK policy provides new insights and offers the possibility of carrying out counterfactual policy experiments using a dynamic discrete choice model. Firms are offered incentives for R&D, giving loss-makers a choice between taking a cash injection from the government immediately or when they become profitable in the future.

Claiming the cash immediately comes at a cost; the rate at which the government pays cash to loss-making firms is significantly lower than a future deduction. Different choices made by the firms are informative about unobserved heterogeneity in financing constraints and productivity across firms. Exogenous variation in deduction rates and availability of the cash option identifies the effects of policy changes on cash flow, and consequently, outcomes of interest such as R&D investment and output.