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Optimal monetary policy and firm entry

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This paper characterises optimal monetary policy in an economy with monopolistic competition and firm entry. We suppose that consumption purchases must be made with cash and that wages are set one period in advance. These two assumptions, the importance of money for transactions and nominal wage stickiness, imply that monetary policy can affect economic outcomes.

Firm entry and exit are an important feature of the business cycle. Net firm entry is a form of investment and plays a role in propagating and amplifying shocks. As explained below, the presence of entry costs and firm dynamics has implications for optimal mark-ups on the prices of goods and leisure. In spite of its relevance for macroeconomic fluctuations and optimal policy, the firm entry variable has long been absent from typical business cycle models.

By optimal policy, we mean that the policy-maker picks state-contingent paths for the available instruments, in this case the interest rate and the money supply, to maximise the utility of a representative household. In doing so, the policy-maker faces the constraint that firms and households will act in their best interest by maximising profits and utility, respectively. Policy announcements are made under commitment and enjoy full credibility. Importantly, we assume that distortionary fiscal instruments such as labour income subsidies are absent from the policy-maker's toolkit.

Firms must make profits in order to cover entry costs; thus a mark-up on goods prices is necessary. Without this mark-up, profits would be zero and no firm would enter the market, effectively resulting in zero production. Therefore, the mark-up should not be removed. In this economy with market entrants, goods are more expensive than in a competitive economy with marginal cost pricing. This leads to a misallocation of resources, because leisure is not sold at a mark-up. Goods and leisure are two sources of utility that households trade off against each other. Thus, they may buy too much leisure instead of consumption goods and the consequence would be that labour supply and production are sub-optimally low. Due to the labour requirement at market entry stage, insufficient labour supply also implies too little entry and too few firms in equilibrium.

The optimal monetary policy under sticky wages achieves higher welfare than under flexible wages. The policy-maker uses the money supply instrument to raise the real wage - the cost of leisure - above its flexible-wage level, in response to expansionary shocks. This induces a rise in labour supply, more production of goods and more new firms.

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