

The Role of Intermediate Goods and Financial Frictions on Economic Development

Topic: Prices and inflation

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Per capita income in the richest countries of the world exceeds that in the poorest countries by more than a factor of 50. Income per capita differences are mainly accounted for by low total factor productivity (TFP) in poor countries (Klenow and Rodriguez-Clare, 1997; Hall and Jones, 1999). Jones (2010) has shown that intermediate goods (whose share of final goods production can be measured precisely) serve as an amplification mechanism for reasonable distortions to generate TFP differences of a sufficient magnitude to resemble the data. This paper develops a joint model of financial frictions and intermediate goods and quantifies the impact of financial frictions on TFP when intermediate goods are explicitly taken into account.

Agents in the model choose each period to work for a wage (determined endogenously) or operate their industry-specific technology. Financial frictions arise because lenders cannot observe the ability of entrepreneurs that request loans and entrepreneurs can misreport their entrepreneurial ability. Lenders can observe entrepreneurial output and punish agents that misreported by taking their collateral. The amount of collateral put up for a loan is limited by weak contract enforceability. The lower productivity in each sector (due to bad loans being made and potential good loans never materializing) amplifies throughout the economy through the intermediate goods share of final output (i.e. lower productivity in one sector affects all the other sectors that purchase inputs from it, and these in turn affect other sectors in the economy).

Using data from the latest OECD input-output tables, the model is calibrated to match key joint facts of intermediate goods sector, final goods sector, and financial constraints. Then employing a widely-used index of financial sector development (level of contract enforceability), the external debt to GDP ratio, the model is asked to predict the level of TFP and income per-capita differences across countries for a given level of financial development.

The model's equilibrium makes several qualitative predictions about developing countries that match some well-documented facts (Buera et. al., 2008). Specifically, the model predicts that poor countries are characterized by large differences in output per worker across industries, high employment in sectors with low labor productivity, inflated intermediate goods prices relative to final goods, and the use of inefficient technologies. Finally, the model provides a compelling reason why reform, and therefore growth miracles, are rare: entrepreneurs in developing countries extract economic rents in equilibrium, and these rents dissipate as the financial sector develops.

References:

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