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Discussion

Comment on "Credit market frictions and political failure" by Aney, Ghatak and Morelli

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1. Overview

Government interventions can improve market allocations in the presence of *market failures*. Yet, their implementation may be hampered by *political failures*. In this paper, Aney et al. (2016) (hereinafter AGM) provide a model in which market failures arise from asymmetric information in credit markets, which leads to an excessive entry of low-quality firms and an insufficient entry of high-quality firms. While a social planner could improve upon the market allocation with policies that enhance the operation of credit markets, these policies may not be supported by the median voter.

Interestingly, this is not the result of a standard political failure under which an elite distorts the market allocation in its favor. Instead, the political failure arises because the interests of the median voter are misaligned with the interests of the social planner. In AGM, the social planner cares about total output, which depends on both the quantity and quality of operating firms. Workers instead care only about the quantity of firms because an increase in firms boosts labor demand and wages. As workers are the median voter, there is political support only for policies which increase the number of operating firms, regardless of their quality.

This result draws attention to a critical question: what prevents agents in the economy or the government from implementing transfers such that voters support efficient interventions? An answer to this question is fundamental in understanding why some obvious policies, such as enforcing property rights or improving access to credit, are not implemented in underdeveloped countries with democratic political systems. AGM does not answer this question but provides us with a framework in which to look for such an answer.

My comment has three parts. First, I present AGM's results in a simpler setting that highlights the main forces driving the conflict of interests between the median voter and the social planner. Second, I introduce the possibility of financial intermediation. I show that market failures can be eliminated by intermediaries that resemble banks, while political failures can be eliminated by intermediaries that resemble mutual funds or broker dealers. Lastly, I reinterpret the message of AGM in light of these results. Even though a median voter would be opposed to intermediaries that facilitate the access of firms to financial markets, he would support intermediaries that facilitate his own access to financial markets. This interpretation provides a new political rationale for promoting financial inclusion in underdeveloped economies.

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2. A simpler setting

Here I present a simplified version of AGM's model, following (with slight abuse) their notation. Assume an economy populated by a mass one of risk-neutral agents, a single period, and a single good. At the beginning of the period each agent owns an asset (*collateral* hereafter) that generates a verifiable and pledgeable amount a of the good at the end of the period. Each agent also has access to an investment opportunity (*project* hereafter) that costs $n > a$ to operate at the beginning of the period. There are two types of agents. A fraction q is "high-quality" (H) and has access to a project that generates a pledgeable return of R in terms of the good for sure at the end of the period. A fraction $1-q$ is "low-quality" (L) and generates the pledgeable return R only with probability $\theta < 1$. Both types receive a private, non-pledgeable, return M from running a project.

I will call *entrepreneurs* those agents who choose to operate their projects and I will assume that $\theta R + M - n < 0$ (it is not efficient that L-agents operate their projects) and $R > n$ (the pledgeable return is enough to cover the operation costs, and since $M > 0$ it is efficient that H-agents operate their projects). In the unconstrained first best only H-agents become entrepreneurs.

I assume there are perfectly competitive deep-pocketed investors, external to the economy, who can provide the funds n that are needed to operate the project at the beginning of the period. Using $a < n$ as collateral in case of default, the interest rate r that makes these investors break even when lending n is determined by

$$\widehat{\theta}(1+r)n + (1-\widehat{\theta})a = n,$$

where $\widehat{\theta}$ is the expected probability of repayment (i.e. the expected probability that the project succeeds). If only H-agents operate, $\widehat{\theta} = 1$ and $r = 0$. If only L-agents operate, $\widehat{\theta} = \theta$ and $r = \frac{(1-\theta)(1-\frac{a}{n})}{\theta} > 0$. Hence, interest rates depend on the composition of agents that become entrepreneurs.

The expected consumption for each entrepreneur type is

$$\Pi_H = R - (1+r)n + M + a$$
$$\Pi_L = \theta[R - (1+r)n] + M + \theta a.$$

Conditional on the composition of entrepreneurs that determines $\widehat{\theta}$ and using the solution for the interest rate r above we can rewrite these expressions as,

$$\Pi_H = R - x_H n + M + a$$
$$\Pi_L = \theta R - x_L n + M + a,$$

where

$$x_H = \frac{\left(1-\frac{a}{n}\right) + \frac{a}{n}\widehat{\theta}}{\widehat{\theta}} \geq 1 \quad \text{and} \quad x_L = \frac{\left(1-\frac{a}{n}\right)\theta + \frac{a}{n}\widehat{\theta}}{\widehat{\theta}} \leq 1.$$

When lenders observe the agent's type (*symmetric information*), the interest rate is conditional on the type. Then $\widehat{\theta}_H = 1$ and $x_H = 1$, while $\widehat{\theta}_L = \theta$ and $x_L = 1$. In this case both types pay in expectation n for the loan, and given our payoff assumptions, the unconstrained first best is implemented.

When lenders do not observe the agent's type (*asymmetric information*) there is cross-subsidization. H-agents pay more than n for the loan in expectation. L-agents pay less because they default with positive probability. The strength of cross-subsidization (summarized by $\frac{x_H}{x_L} \geq 1$) can be so severe that H-agents may not have enough resources to pay for the principal and interest when the project succeeds (that is, $(1+r)n > R + a$).

Comparing Π_H and Π_L, H-entrepreneurs always consume more than L-entrepreneurs in expectation, then all H-agents become entrepreneurs whenever an L-agent does. Denoting the fraction of L-agents that become entrepreneurs by λ, we can define $y = q + (1-q)\lambda$ to be the total mass of entrepreneurs in the economy, such that $\widehat{\theta} = \frac{q}{y} + \left(1 - \frac{q}{y}\right)\theta$.

The equilibrium is characterized by three regions in terms of a. When a is so low that $\Pi_L > a$, L-agents prefer to become entrepreneurs and gamble on the project's success rather than consuming their own (low) endowment. In this region, $\lambda = 1$ and cross-subsidization reaches its maximum. In the extreme case where $a = 0$, for example, there is no credit if $(1+r)n = \frac{n}{\theta} > R$.

At the other end of the spectrum, when a is so high that $\Pi_L < a$, L-agents do not want to put their wealth at stake when asking for a loan, as there is a positive probability of losing a when defaulting. In this region $\lambda = 0$, there is no cross-subsidization, and only H-agents become entrepreneurs. In the extreme case where $a = n$, for example, $x_H = x_L = 1$ and there is so much collateral that the symmetric information benchmark is replicated.

Finally, there is an intermediate region in which a is high enough such that no single L-agent wants to become an entrepreneur if all other L-agents do so (if $\lambda = 1$, $\widehat{\theta} < 1$, and interest rates are high enough such that $\Pi_L < a$) and low enough such that a single L-agent wants to be an entrepreneur if no other L-agent does (if $\lambda = 0$, $\widehat{\theta} = 1$, and interest rates are low enough such that $\Pi_L > a$). In this region each L-agent randomizes between becoming an entrepreneur or not.

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