Reputation and development

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POLICY TAKEAWAYS:

- Subsidizing the development and diffusion of technologies that allow effective signaling of market-specific high-quality attributes contributes to reputation building and higher-quality goods provided by SMEs in developing countries.
- Third-party signals, such as certifications that permit consumers to differentiate between firms within groups perceived as associated (e.g., they belong to the same industry, country, or region), reduce the risk of a considerable negative reputation spillover for the entire group. The third party itself needs to be trusted beforehand.
- Further research in e-commerce dynamics is recommended before designing an export promotion policy for SMEs in developing countries. The information congestion consumers face on these platforms makes reputation building required for firm growth.

Policy Motivation

Economic theory and research have provided theoretical and empirical reasons that might explain why firms in developing countries cannot grow, improve their productivity and quality, and integrate into global supply chains. Reasons include scarcity of credit, inefficient management practices, and lack of access to technology that might lower market friction and increase productivity and perceived quality. An alternative explanation is that the lack of trust between potential contracting partners in local and global supply chains or between firms and consumers is a pervasive factor hindering SMEs' growth in developing countries. "Trust" is not a given condition between transacting parties: there are information asymmetries -i.e., one of the parties has more transaction-relevant information such as the actual quality of a good-, the size of the market might go beyond an enclosed small network or one of the parties might be better off by not cooperating. I will present empirical evidence based on recent research that attempts to assess whether reputation is a relevant factor in markets in developing countries settings and to uncover the underlying mechanisms that should be considered when designing policy solutions that foster growth-enhancing coordination among actors in the economy.

Quality and Reputation

The literature on the relationship between quality and reputation in markets and its implications for developing countries has raised many theoretical and empirical considerations. Akerlof (1978) structured a compelling model for a market with a critical condition in which trust is essential: for one of the parties, it is difficult to distinguish good from bad quality. The "lemons" (bad quality goods) model suggests that in such markets, the sellers will have incentives to market "lemons" as the returns to quality are low. Eventually, the bad quality good might drive out good quality goods from the market and reduce its size as high-quality producers cannot charge a premium.

Bold et al. (2017) describe an input market that seems to operate in a low-quality equilibrium -i.e., the goods sold in the market are of low quality- and suggest reasons why it may persist. The authors study the market of fertilizers and hybrid seeds in the agricultural sector in Uganda, where the use of fertilizers and hybrid seeds is not widespread, and plot productivity has remained stagnant for the smallholder farmers. A reason might be that, even though markets for these inputs exist in Uganda, the efficacy of the fertilizers and hybrid seeds is low. The authors verify through laboratory tests that the quality of the fertilizers and hybrid seeds sold in local markets is predominantly low: 30% of nutrients are missing in fertilizers, and only 50% of the hybrid seeds are authentic. This is costly as the farmers are foregoing the large rates of return of using the high-quality counterparts. Using data

from agricultural trials and surveys, authors also find that the farmers can only detect low quality if it is far lower than the usual average. On the other hand, farmers cannot distinguish authentic from lower-quality inputs. Therefore, providers have no incentive to build a reputation that could enable them to sell high-quality inputs at a premium price. The authors present a Bayesian learning model with a stark counterfactual implication: a seller committed to high quality would need several periods to build up a high-quality retailer reputation. The time required to build such a reputation decreases if less noisy information is available to each farmer or if the learning process is done collectively.

Recent studies in different contexts and markets have shown how reputation-building might impact market outcomes. Bai (2018) examines the retail watermelon markets in a major Chinese city and tests whether reputation signals might incentivize the supply of higher quality. At baseline, the markets feature many small firms, information asymmetry regarding the quality of the watermelons - valued by the sweetness of its taste - and an absence of a signaling device or a quality premium. The introduction of two quality signaling technologies - a sticker label and a laser-branded label on the watermelons- with a combination of a demand shock is tested. The findings give clear notions consistent with the challenges that a "lemon" market presents. The sticker labels did not outperform the average market quality or the baseline sales, possibly due to the perceived ease of counterfeiting the signal and the general mistrust from consumers. The demand shock induced sellers to provide higher quality but was only maintained by the firms with laser technology. Laser branding induced firms to provide high quality, but the technology was marginally too costly per firm to be sustained after the intervention was over. The findings suggest the existence of a "trust trap" that might keep all firms in the industry in a low-quality and low-trust equilibrium; a policy worth considering is subsidizing the development and use of technologies that allow the effective signaling of high-quality.

Correspondingly, Björkman-Nyqvist, Svensson, and Yanagizawa-Drott (2020) study the impact of the entrance of a high-quality retailer in the antimalarial drugs market in Uganda using an RCT strategy. Like the other markets described, the antimalarial drug market is also dominated by less effective products (including counterfeit products). Consumers cannot differentiate high from low quality, mainly due to misdiagnosis hampering the learning process. How do treatment village markets react to the entrance of Living Goods, an NGO committed to providing high-quality antimalarial medicines (ACTs) at a lower price than other drug stores? After 9-months of operations, the first result is that the number of private drug stores selling low-quality ACTs fell by 46%. This is driven by two mechanisms: incumbent stores switching to high-quality and low-quality stores exiting the market. Additionally, the average price level fell by approximately 16% while the total quantity supplied remained unaffected. An important caveat is that Living Goods, at baseline, had higher quality and lower prices, and thus, we cannot establish if the results would hold if there was only an advantage in quality. The results are consistent with theory and show that effective reputation signaling – households in treatment villages were about 20% less likely to believe that incumbent stores sell fake antimalarials – is important to avoid "trust trap" equilibriums in which firms are unable to grow and product quality tends to remain low.

Collective reputation

An important characteristic of "reputation capital," the perceived reliability of a party by its potential partners or purchasers, is that it can be shared among firms that are associated with a common group. The theoretic support for this phenomenon and the modeling of its implications were structured by Tirole (1996) and extended by Levin (2009). The model shows how individual reputation and group reputation are codetermined through repetitive actions that are taken in response to incentives. A trait of the model is that collective reputation is history-dependent: poor collective behavior in previous actions might limit the return of good individual behavior in the present. Consequently, individual actions not only affect the return of the firm itself but produce an externality for the whole group of firms.

Bai, Gaezze, and Wang (2019) describe a case that evidences the theoretic implications of "collective reputation" and why it should be considered when designing policies targeted at improving the quality provided by industries. The Chinese dairy industry in the 2000s was growing at remarkable rates - as high as 23.93% per year -. In September 2008, melamine-contaminated baby milk formula was distributed and led to 4 infant deaths, 51,900 hospitalized children, and 700 tons of milk powder being recalled nationwide. Formal inspections were performed by the Chinese government, and the list of contaminated firms was publicly available. The export revenue of contaminated firms dropped

by 84% after the scandal; remarkably, firms that were not listed as contaminated also had a considerably large 64% drop in export revenue. The Chinese dairy industry had not been able to restore consumer trust and recover its revenue level by the end of 2013, while dairy imports have risen since the scandal. Other important findings are that new firms are more vulnerable to a "bad behavior" externality, and spillover effects are smaller in export markets where people have better information about parties involved in the scandal. A policy implication is that the existence of a third party that can successfully communicate the difference between the firms in a group through a signal for product quality (such as a certification) reduces the risk of a considerable negative spillover in the industry. Nonetheless, the third party itself would need to have enough "reputation capital," or the signal might even be counterproductive.

Reputation and online marketplaces

Several works have reported that "reputation capital" plays a significant role in international trade. In international transactions where there are no credible contract enforcement mechanisms, the volume of trade is constrained by the perceived reliability of the foreign partner, and the value of a trade relationship increases with its age -this is reported in the study of the Indian software industry by Banerjee and Duflo (2000) and the Kenyan rose industry by Macchiavello and Morjaria (2015)-. In the last decades, online marketplaces have been developed and gained prominence for both local and international commerce. E-commerce platforms such as AliExpress, Amazon, Wish, and eBay have reduced barriers to entry into export markets dramatically. SMEs from developing countries can now reach larger upscale markets without the need to find foreign partners and set up distributional channels in those countries. These platforms offer potential solutions to the "reputation traps" previously described as they share part of the reputation risk faced by sellers by putting their own perceived reliability at stake and feature decentralized mechanisms to signal trust with collective learning.

Bai, Chen, Liu, and Yi Xu (2020) examine exporter dynamics of the children's t-shirt industry in AliExpress and provide evidence that access to the online marketplaces by itself is not a sufficient guarantee for incrementing quality and growth for SMEs. Surprisingly, the authors show that these new marketplaces still show search and information costs: a customer in the platform faces thousands of competing options but is only able to sample 0.2% of all seller listings. A key finding is that the largest seller of each product is not often the one with the highest quality or the lowest price. Those facts might imply that firms are not competing in quality or price but in visibility. In such a scenario, a reputation signal like a rating or customer reviews might be the determinant factor of a firm's success. Moreover, the authors show that a demand shock treatment has a small positive effect on subsequent orders, while the star ratings and the reviews have no effect. This suggests that initial demand accumulations are a basis for growth, while reviews are only significant once the customer has already paid attention to the product. An important caveat is that the star ratings in AliExpress are biased upwards, and that might limit signaling. The dynamics reported in AliExpress insinuate that firms that can surpass the information friction by initially having better conditions can set up a sunk cost barrier to entry for newcomers. For example, some firms can pay the platform owner to appear within the customer's attention bandwidth, or they might already have a brand the customer recognizes from transactions in the past and is repeatedly chosen amongst the information congestion.

Given the growth of e-commerce, further research focused on their dynamics should be considered before designing policy for SMEs in this direction. Special attention must be put on the incentives that platform owners face, particularly regarding their choice of a search algorithm. Furthermore, a study of the effects of a negative information shock and reputation externalities would test if the current theory is appropriate for these platforms. Moreover, because of the information congestion present when shopping online, comparison shopping services and "buy it again" options have gained relevance[1]. It is recommended to examine whether these solutions are compatible with the growth of promising SME newcomers or if they would reinforce a "big brand" takes-all scenario and under what conditions.

[1] Comparison shopping services aggregate products from multiple retailers and allow the customer to filter them by their preferences (price, quality characteristics, ratings, brand).

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