



Growth effect of banks and microfinance: Evidence from developing countries



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ABSTRACT

We compare lending from microfinance institutions to that from traditional banks and examine their respective effects upon economic growth. Using a panel of 85 developing countries over the period 2002–2013 and the system-GMM estimator, we find that microfinance loans raise growth. We do not find strong evidence that bank loans raise growth. There is, however, some evidence that bank loans do increase investment, whereas microfinance loans do not appear to do so. These results suggest that microfinance loans are not primarily invested as physical capital, but could still augment total factor productivity, whereas banks may have been financing non-productive investments.

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1. Introduction

Since the early work of McKinnon (1973), Schumpeter (1912), and Shaw (1973), many have argued that financial development fosters economic growth. By reducing information costs and other transaction costs, financial institutions are seen as catalysts channeling resources to potentially high yielding projects (see Gertler, 1988; Levine, 1997; Stiglitz & Weiss, 1981). Many empirical studies have attempted to measure the contribution to growth that financial institutions provide. Such studies include Ang (2008), Baltagi, Demetriades, and Law (2009), De Gregorio and Guidotti (1995), Jalilian and Kirkpatrick (2002), King and Levine (1993a, 1993b) and Odedokun (1996).

Many of these studies measure financial development using aggregate measures of money or financial variables. Examples include the ratio of M2 to GDP (King & Levine, 1993a), the M3 to GDP ratio (Khan & Senhadji, 2000), gross domestic savings to GDP (Hassan, Sanchez, & Yu, 2011), banks deposit or assets over

GDP, and private credit by banks over GDP (Levine, Loayza, & Beck, 2000) or liquid liabilities to GDP. A drawback of such measures is that they pool the myriad institutions within the financial sector into one group. That is, they do not allow different parts of the financial sector to affect growth differently.¹ Such a simplification is problematic to the extent that different financial institutions serve different clients or provide different types of financial services. An example of a growing financial institution serving a different set of clients in developing countries is microfinance institutions (MFIs). MFIs target low income and often rural communities, especially where traditional banks do not exist.

Several studies have examined the effects of MFIs upon their local communities. Berhane and Gardebreek (2011), Imai and Azam (2012), Kaboski and Townsend (2012) and Khandker (2005) among others have generally found positive effects where MFIs are reported to raise consumption, income, savings, or wages

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¹ Exceptions are made for Chakraborty & Ray (2006), Demirgüç-Kunt and Maksimovic (2002) and Levine (2002) who assess market-based financial system and bank-based financial system effects on growth. However, there is no distinction within the banking industry.

within the local community.² More recently, theoretical studies have explored whether such positive effects could generalize across more of the country. These studies include [Ahlin and Jiang \(2008\)](#), [Buera, Kaboski, and Shin \(2012\)](#) and [Yusupov \(2012\)](#). For example, [Buera et al. \(2012\)](#) model the effects of microfinance when microfinance serves those poor shut out of traditional banks. Their theoretical predictions using both partial and general equilibrium approaches suggest that when all poor people have access to microfinance, microfinance can have significant effects upon output, capital, wages, interest rates, and total factor productivity.

Despite their relatively small size, our paper takes the potential for MFIs to have such macroeconomic effects seriously. Our empirical methodology will consider the microfinance credit to GDP ratio and examine how it is associated with economic growth. To compare our findings, we will also consider the bank credit to GDP ratio. Both of these will serve as measures for the degree of financial development. An advantage of looking at both separately (instead of averaging them together) is that we do not restrict effects upon economic growth to be the same between these two types of financial credit. To investigate these macroeconomic effects, we use the system GMM estimator. The results with 85 developing countries over the period 2002–2013 show that MFIs have a positive growth effect. We will also consider the channels through which such effects could occur: investment, human capital formation, or increases in total factor productivity (TFP). We find most support for raising economic growth by increasing TFP.

The rest of the paper is organized as follows: Section 2 analyzes the intermediation activities for banks and MFIs. Section 3 reviews the literature and lays out the contribution of this study. In Section 4, the methodology is described. Baseline results are given in Section 5. Sections 6–8 perform robustness checks and consider the aforementioned channels. Section 9 provides concluding discussion.

2. Bank finance and MFI finance in developing countries

Over the last decade, microfinance has increased sharply, albeit from a small base. From 2002 to 2013, the total loan portfolio of MFIs (in all developing countries) increased from \$4.95 to \$144.70 billion. Over the same period, total deposits have also increased from \$8.2 million to \$86.54 billion. The numbers of borrowers and depositors have similarly increased. Despite these increases, bank lending and deposits still constitute the main components of such activities. [Kendall, Mylenko, and Ponce \(2010\)](#) shed some light on the intermediation by financial intermediaries.³ They use 139 countries, including 21 OECD countries, to estimate the number of bank accounts in the world at 6.2 billion. Obviously, the distribution is skewed toward rich countries, which account for 3.2 accounts per adult with 81% of adults banked, whereas developing countries account for only 0.9 accounts per adult and only 28%. In addition, the loan penetration in commercial banks and MFIs are respectively 299 and 7.9 loans per one thousand adults, whereas the average deposit balance is 2.6 versus 0.8 times GDP per capita. Given that bank lending is larger and serves more people than MFI lending, one wonders if microfinance institutions are even large enough to influence economic growth at the aggregate level. Moreover, regulations often limit the amount that MFIs can lend. For instance, in Nigeria, a microfinance bank is not allowed to lend out more than 500,000 nairas (about \$3100) to a single individual or busi-

ness. Nevertheless, the reason for the growth of MFIs has been the lack of bank lending to those from poor, often rural communities. If the macroeconomic benefits of lending to such agents are relatively large since these agents have the highest growth potential, then such lending could serve as a catalyst for growth despite their relative small size.

3. Literature review

Many studies have examined the microeconomic effects of MFIs, but almost always at the local level. [Khandker \(2005\)](#) investigates the relationship between microfinance and poverty in Bangladesh using panel data from households. The study reports both for female participants and for the overall village that microfinance reduces poverty. Women's current and past loans have a positive effect on per capita household expenditure, food expenditure, and nonfood expenditure with the elasticity for nonfood expenditure greater than that for food expenditure. Positive spillovers are also found at the village level as even non-borrowers benefit from the increased demand of borrowers. [Tarozzi, Desai, and Johnson \(2015\)](#) use a randomized controlled trial in two communities in Ethiopia and find that access to microfinance improves the standard of living for beneficiary communities, although they caution microfinance's true transformative power. Although they do not find evidence of spillovers, [Lønborg and Rasmussen \(2014\)](#) do find that microfinance participants are less poor than the general population in the area. [Imai and Azam \(2012\)](#) consider data from Bangladesh. They also find that microfinance increases food consumption and per capita income. [Berhane and Gardebroeck \(2011\)](#) consider microfinance in northern Ethiopia and find that microfinance allows borrowers to increase their consumption while also making home improvements. Similar results were found by [Berhane \(2009\)](#). [Khandker and Samad \(2014\)](#) find that microcredit programs continue to be beneficial in Bangladesh, especially for females.

Other researchers have considered various other effects of MFIs. [Dupas and Robinson \(2009\)](#) survey customers of a village bank in Kenya and report that MFIs are responsible for the increase by 40% in saving accounts for businesswomen, as well as in their consumption. [Kondo, Orbeta, Dingcong, and Infantado \(2008\)](#) report significant increases in income, consumption, and savings when accessing MFIs' impact on rural households in Philippines. [Collins, Morduch, Rutherford, and Ruthven \(2009\)](#) use 250 household balance sheets and cash flow statements in India, South Africa, and Bangladesh to emphasize the crucial role MFIs play in financing microenterprises and their importance in smoothing consumption. In Sub-Saharan Africa, [Stewart, Van Rooyen, Dickson, Majoro, and De Wet \(2010\)](#) review MFIs' effects and report that MFIs have a positive effect on savings, expenditure, health and food security, and asset accumulation.

[Kaboski and Townsend \(2012\)](#) study the impact of a large-scale government intervention microfinance program that injects funds into 77,000 Thai villages. Using panel data and household fixed-effects, they run two regressions with the level and the change in the level of the dependent variables to examine the effect of the program on credit, savings and investment, consumption, asset growth, income and income sources, wage rates, and business enterprise. The results indicate that the intervention has increased short-term credit, consumption, investment in agriculture, and income growth but decreased asset growth. More importantly, the intervention increased village-level wages. Such positive spillovers could be one reason why the benefits of microfinance could be measured above the local level.

However, not all see microfinance as a strong tool in raising income and reducing poverty. [Chowdhury \(2009\)](#) argues that

² Even studies that are less sanguine about the benefits MFIs provide such as [Chowdhury \(2009\)](#) still acknowledge that MFI allow agents to better smooth consumption over time.

³ [Kendall et al. \(2010\)](#) classify intermediaries into four categories: commercial banks, cooperatives, government banks, and MFIs.

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