Comment on: “Why is bank credit in Brazil the most expensive in the world?”

Klenio Barbosa[†]

The paper entitled “Why is bank credit in Brazil the most expensive in the world?” makes a fascinating review of the scientific literature about the determinants of credit spreads in Brazil. Lending rates in Brazil are known for being strikingly high for more than two decades and economists have been struggling to have a good understanding of the main drivers of the high spread between deposit and lending rates in the country

The paper starts by presenting a fair description of the evolution of the Brazilian credit market since the end of the hyperinflation period (mid-1990s), which includes the evolution of the lending and deposit rates and total credit to the private sector over that period. Further, the paper discusses the continuous rise in bank asset concentration in Brazil since the mid-1990s and traces the evolution of Brazilian bank’s regulatory capital and liquidity ratios. From that, the authors suggest that higher concentration is part of a well-defined strategy of the Central Bank of Brazil to favor financial prudence over efficiency. In the last part of the paper, the authors summarize the empirical studies in the literature which show that market structure, credit risk, market concentration, and earned credit explain credit spreads in Brazil.

In this short comment, I bring new ingredients to the debate on the causes of the high cost of credit in Brazilian economy, highlighting the importance of looking at proxies for bank conduct in the credit market, rather than concentration, and also at indicators of recovery rates for bank loans to access, respectively, competition and credit risk in the Brazilian credit market.

First, the paper suggests there is a relationship between high lending rates in the Brazilian markets and the high concentration in the banking sector in Brazil. Indeed, concentration ratios capture structural features of a market, and are often used in structural models to explain competitive performance in the banking industry as the result of market structure. For instance, [Bain \(1956\)](#) shows that the Herfindahl-Hirschman Index (HHI), a common measure of market concentration, is positively related to the rate of profit in the industry. Nevertheless, it should be noted that a measure of concentration does not warrant conclusions about the competitive performance in a particular market. Even in a highly concentrated market, competitive behavior

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[†] SKEMA Business School – Université Côte d’Azur, France: klenio.barbosa@skema.edu

between the leading banks is still possible (Bikker and Haaf; 2002). For this reason, the literature has developed other indicators that more precisely capture the competition intensity in a banking market. There are three main indicators of the degree of competition in the banking market: Lerner Index, H-statistic and Boone Index.¹

Figure 1 displays these three indicators of competition intensity in the Brazilian banking market from 2004 to 2014. They are calculated and reported by the World Bank. From Figure 1, one may note that the H-Statistic remains constant over the period, and the Lerner index does not exhibit a rising trend. On the other hand, the Boone index suggests a reduction in the competition over the decade analyzed.² Further research should investigate the relationship between competition intensity index and concentration in Brazil. Previous research finds no evidence that our competitiveness measure negatively relates to banking system concentration (Claessens and Laeven; 2004). Actually, contestability determines effective competition, especially by allowing (foreign) bank entry and reducing activity restrictions on banks. A similar study should be developed to determine whether concentration is a good proxy for competition in the Brazilian credit markets.

Second, there exists a set of published papers that measure competition in the Brazilian bank market, which, however, is not referenced in the paper. As competition intensity determines lending rates in the credit market, this literature should be fairly considered. For instance, Nakane (2002) implements an empirical test of market power for Brazilian banking based on Bresnahan (1982). A dynamic version of the test is applied. The results show that the banking industry in Brazil is highly competitive, although the perfect competition hypothesis is rejected. The hypothesis that Brazilian banks behave like

¹Lerner index is defined as the difference between output prices and marginal costs (relative to prices). Prices are calculated as total bank revenue over assets, whereas marginal costs are obtained from an estimated translog cost function with respect to output. Higher values of the Lerner index indicate less bank competition. H-statistic measures the elasticity of bank revenues relative to input prices. Under perfect competition, an increase in input prices raises both marginal costs and total revenues by the same amount, and hence the H-statistic equals 1. Under a monopoly, an increase in input prices results in a rise in marginal costs, a fall in output, and a decline in revenues, leading to an H-statistic less than or equal to 0. When H is between 0 and 1, the system operates under monopolistic competition. It is possible for H-stat to be greater than 1 in some oligopolistic markets. Boone Index is calculated as the elasticity of profits to marginal costs. To obtain the elasticity, the log of profits (measured by return on assets) is regressed on the log of marginal costs. The estimated coefficient (computed from the first derivative of a translog cost function) is the elasticity. The rationale behind the indicator is that higher profits are achieved by more-efficient banks. Hence, the more negative the Boone indicator, the higher the degree of competition is because the effect of reallocation is stronger.

²The period 2004-2014 corresponds to the period for which the World Bank reports data on those three indicators.

Figure 1
Indicators of degree of competition in the Brazilian bank market

Source: World Bank.

a cartel arrangement is also rejected.

[Lucinda \(2010\)](#) reviews some of the existing tests for competition in Brazilian banking, and proposes an alternative. Lucinda finds that the market does not seem to be in long-run equilibrium, implying only that the market does not seem to find itself in collusive outcome. Lucinda also finds that, for some firms and in some time periods, cooperative conduct in fact is present.

[Coelho et al. \(2013\)](#) study how the conduct of private banks is affected by the entry of a public bank. Surprisingly, they find that the presence of a public bank does not affect conduct of private banks, which suggests that public and private banks are not competing for the same clients.

In a more recent paper, [Barbosa et al. \(2015\)](#) investigate the competitive aspects of multi-product banking operations in the Brazilian bank sector. They find that multi-product banking operations have larger market power than single-product banks. In addition, [Cardoso et al. \(2018\)](#) estimate the effects of market power on bank loan supply, disentangling the effects of unilateral market power (specific to each firm), coordinated market power (due to the level of competition in the banking industry) and effects of efficiency gains due to economies of scale. Moreover, they provide evidence that an increase in market share is associated to a more than proportional increase in

bank loans (scale economy effect). This effect is higher when competition is more intense, indicating that the positive effect of larger banks is mitigated by the exercise of market power.

To conclude this comment, there is a dimension of the credit markets that has been documented as an important reason for the high lending rates in Brazil, but which is not emphasized in the paper: low creditor's protection rights. Increased creditor protection and its consequences for the credit and debt markets on the real economy have long been the focus of academic, government and multilateral organizations studies. Theoretical economic research shows that better conditions to recover debt or force repayment of loans lead to a larger credit supply and better price conditions (Aghion and Bolton; 1992; Hart and Moore; 1994, 1998). Indeed, an increase in credit volume and a decrease in the cost of credit are key expected outcomes when creditor protection is bolstered (La Porta et al.; 1997).

The potential benefits of creditor protection reforms to credit market motivated several countries, particularly emerging countries, to implement local reforms in the legal environment to ensure higher levels of creditor and investor protection. For instance, the Brazilian government implemented a new bankruptcy law in 2005, which improved creditor protection in corporate debt transactions and the bankruptcy system's efficiency.

The estimation of the impacts of the BBR on the credit markets and on the capital structure of firms have been the objects of several empirical studies. Araujo et al. (2012), for instance, report positive effects on the total amount of debt and long-term debt using the accounting information of publicly traded firms. They also point to reductions in the cost of debt financing of Brazilian firms between 7.8% and 16.8%. Barbosa et al. (2017) find that, besides reducing the rate of non-performing loans, the new Brazilian bankruptcy law induced a significant impact on the expansion of credit concessions to corporations after 2005, although the total volume of credit has not been affected. They also show that the law was not effective in reducing default and interest rates.

Ponticelli and Alencar (2016) find evidence that firms in municipalities with less congested courts experienced greater growth in the use of secured loans, as well as a greater expansion in investment and in the value of output after the BBR.

Assunção et al. (2014) investigate the change in legislation related to collateral. Particularly, they exploit the Brazilian federal law 10,931, enacted in August 2004. That law reformed the pledge legislation and improved creditor's rights over repossessed assets. The new law established a more efficient extra-judicial procedure for credit institutions that sell repossessed assets and

terminates debt defaults. The authors use borrower-level data from a large private bank, which covers auto loans during the August 2003–July 2005 period, ending one month after the BBR became legally effective (June 2005). With respect to auto loans, they find that the law reduced the credit spread by 9.4%, increased credit maturity by 6% and increased leverage on consumer income by 7.5%. However, the authors also find that, following August 2004, borrowers are 18.8% more likely to be 90 days late on at least one installment.

Recently, Alencar et al. (2020) investigate how market power in the credit market can change the magnitude of the effects of an increase in creditor protection on the interest rate and the spread of bank loans. To do so, we explore the improvement in creditor protection produced by a new bankruptcy law approved in early 2005 in Brazil. Using monthly data on bank interest rates for corporate and consumer loans, we find that market concentration hampers 27.5% of the potential reducing effect of the law in the interest rate of new corporate credit operations. These results show that an institutional reform that increases creditor protection has a positive effect on credit condition, but the concentration/competition structure of the market may diminish these effects considerably.

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