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FINANCIAL REGULATION AND COMPETITION: HOW SHARED DATA MAY REDUCE INFORMATION ASYMMETRY IN THE BRAZILIAN LENDING MARKET

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Abstract: This paper **(i)** evaluates the relevance of information/data in the credit markets; **(ii)** addresses whether competition in the lending markets can be compatible with (or corrosive to) financial stability; and **(iii)** studies the role of the Central Bank of Brazil as the proper authority to foster competition between lenders. The paper concludes that competition in the credit market may be well-served by policies that stimulate rivals to share data on their products and their customers amongst themselves – especially those policies aimed at empowering credit bureaus and the open banking initiative.

Keywords: Data. Competition. Regulation. Central Bank of Brazil.

Resumo: Esse artigo **(i)** avalia a relevância de informação/dados no mercado de crédito; **(ii)** aborda se a competição nos mercados de empréstimo pode ser compatível com (ou corrosiva à) estabilidade financeira; e **(iii)** estuda o papel do Banco Central do Brasil como a autoridade adequada para fomentar a competição entre instituições de crédito. O artigo conclui que a concorrência no mercado de crédito pode ser fomentada por regras que estimulem concorrentes a compartilhar dados sobre seus produtos e clientes entre si – especialmente regras visando empoderar *bureaus* de crédito e a iniciativa de *open banking*.

Palavras-chave: Dados. Competição. Regulação. Banco Central do Brasil.

1. The importance of data for credit competitors: a breach through information asymmetry

When a financial institution cannot perfectly glimpse the financial information behind a customer who wants to borrow a loan (that is,

in almost any case in the real world, since a borrower always knows more about their own financial health than the bank does)[1], there is information asymmetry: a concept first demonstrated by George Akerlof as a market failure inherent to the economy (and treated today as one of the foundations of economic literature)[2].

Information asymmetry is a very real issue in the credit markets, and, notwithstanding, credit institutions still need financial information about borrowers to determine their risk of default, i.e., risk of the borrower not paying their loan on its maturity date(s). In accordance to each borrower's risk of default, the lender determines at which rate, volume and maturity conditions the loan may be granted – the lower the risk, the better the conditions that the credit institution generally offers.

However, traditionally, consumers' financial information and credit history are held only by the banks with whom they had a previous relationship. In other words, financial institutions institution acquire information on consumers through relationship banking, and, as the relationship grows, so does the backlog of banking operations between them

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[1] Credit Scoring Knowledge Guide. *International Finance Corporation (IFC),* 2012, p. 4.

[2] Conceptually, as Akerlof analyzed, there are many markets where the buyer evaluates the statistics to decide whether to buy a product. In these statistics, the probability of a product being of a lower quality than claimed by the seller is considered. In other words, if the market for a certain product has many "lying" sellers, and it is not possible to verify the product quality 100% before purchase, buyers may decide that the risk of buying a product with hidden defects is high in that market and that you shouldn't buy it. To illustrate the concept, Akerlof describes an example that has become famous in the literature, which is the used car market. In this market, there are used cars that work well and there are used cars that work poorly, the latter called "lemons". Anyone who buys a used car does so without knowing if it is good or if it is, secretly, a lemon. It then becomes a matter of probability, as the consumer cannot verify at the time of purchase whether the car is good or not, he will decide to buy if the risk of the product being a lemon is low. The buyer is forced to make this hidden defect risk assessment because the seller of the product has more information about the product than the buyer, including whether or not the product is a lemon. It was this data gap between two economic agents that George Akerlof called information asymmetry. *In* AKERLOF, George A. *The Market for "Lemons":* quality uncertainty and the market mechanism. Quarterly Journal of Economics, Vol. 84, No. 3, Cambridge: August 1970, pp. 488-500.

(account movements, deposits, past loans etc.). As such, credit competitors outside big banks (namely entrants and small/medium financial institutions) suffer from relevant information asymmetry – high enough to be considered a barrier to entry and to expand operations.

In a scenario where data on financial customers is only held by the bank in which they are clients (usually no more than one bank), two competition-relevant effects take place: **(i)** this single bank shall be the only institution to have the necessary subsidies to determine its client's risk of default, and, in turn, to adequately determine which conditions to impose on a loan for that customer (interest rates, total volume and maturity dates); and **(ii)** in a grand scale, each bank has an *ex post* monopoly on its own customers' financial data – in other words, they alone hold the information that would be required by other financial institutions to adequately offer loans to their customer.

The practical result of the *ex post* monopoly on data is that low-risk borrowers are likely to receive advantageous loan conditions from their banks. High-risk borrowers, on the other hand, will not – as a result, they will try to gain better loan conditions from entrants/competitors that do not hold sufficient data to adequately price out the risk these "bad" borrowers represent[3]. In other words, credit institutions which lack sufficient data will not have enough data to distinguish "good" borrowers from "bad" borrowers as readily as incumbent banks, and, as such, might be exposed to a larger risk of default (thus increasing its so-called "*custos de inadimplência*", which are partially responsible for the high interest rates

[3] See (1) the vote by Cade commissioner Cristiane Alkmin Junqueira Schmidt in the Concentration Act no. 08700.02792/2016-47, which approved with restrictions the joint venture of Itaú Unibanco, Bradesco, Santander, Banco do Brasil and CEF to establish a credit bureau (called "Quod"), on November 14th, 2016; (2) the vote by Cade commissioner César Mattos in Concentration Act no. 08012.011736/2008-41, which approved the acquisition of Banco Nossa Caixa by Banco do Brasil on August 4th, 2010; and (3) VIVES, Xavier. *Competition and Stability in Banking:* the role of Regulation and competition policy. Princeton: Princeton University Press, 2016, p. 75-76.

in the Brazilian lending market)[4]. This the phenomenon of adverse selection, also explained by Akerlof as a consequence of informational asymmetry in his work on the "lemon" market.

As constantly evangelized by competition agencies, prudential authorities, and academics over the world, and as we ultimately defend on this paper, the best course of action to reduce information asymmetry effects on credit markets is to determine financial institutions to share amongst themselves the data they hold over their customers[5]. Though not exactly a new recommendation, data sharing in the lending markets is currently receiving relevant technology and regulatory incentives all over the world. From a technological point of view, the ongoing "digitization" of credit markets generates increasingly more standardized/marketable data, dubbed hard information (as opposed to soft information, which is information gained merely through relationship banking). From a regulatory point of view, financial authorities may determine that incumbents must share the financial data they have on their clients through specific/secure channels.

Data sharing among lenders enforces the competitive process and generates consumer welfare, since it is able to foster **(i)** erosion of the *ex post* monopoly of incumbents over their clients' data, reducing the barrier to entry imposed by information asymmetry; **(ii)** competition between the incumbent banks themselves, instigating them to compete over the best clients they garnered over the decades; and **(iii)** disciplinary effect over credit consumers, allowing for reductions in the costs of default currently composing interest rates[6]. It has been demonstrated that countries

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[4] CENTRAL BANK OF BRAZIL. *Report on Banking Economy 2018*, published in May 2019, p. 80.

[5] Entrants who have access to information sources on borrowers are able to compete for the best clients of the incumbent banks, in addition to mitigating their portfolio risks, transaction costs, and expanding the credit offer to low risk borrowers (including individuals and SMEs) companies not fully served by the traditional banking system. *In* Credit Scoring Knowledge Guide. *International Finance Corporation (IFC),* 2012, p. 5.

[6] See (1) VIVES, Xavier. *Competition and Stability in Banking:* the role of Regulation and competition policy. Princeton: Princeton University Press, 2016, p. 19; (2)

in which such data sharing took place between banks stimulated reductions in local interest rates (a reduction which would be welcome in Brazil)[7]. Moreover, in the wake of the so-called "digital revolution", data itself has become the one of the world's most valuable resources[8].

In this paper, we defend that the Central Bank of Brazil is the best suited authority to compel incumbent institutions to share their data on financial consumers, thus stimulating competitive pressure from innovative entrants in the Brazilian lending market.

2. The role of financial regulation in stimulating competition in the credit markets

Before demonstrating how effective might be a pro-competition stance from the Central Bank of Brazil, we should first decide whether it would desirable from a systemic point of view – in other words, if prudential regulation that favors competition between financial institutions might jeopardize stability and facilitate banking crises. Since we aim to address the potentially positive effects of competition in the credit market, the preliminary debate on stability may not be turned away from, less we leave this paper open to criticism. Therefore, even if it is not the central scope of our work, and in order to avoid our final remarks to be taken with a grain of salt (*cum grano salis*), we briefly set forth certain considerations about competition's potential harm to innovation.

Historically, academia has adopted the traditional view that bank competition fragilizes the financial system; and, as such, pro-competition policies should not be implemented in the banking

ORNELAS; José Renato Haas, SILVA, Marcos Soares; VAN DOORNIK, Bernardus. *Informational Switching Costs, Bank Competition and the Cost of Finance.* Working Paper Series no. 512. Brasília: Central Bank of Brazil, January 2020, p. 45; e (3) GOLDMAN SACHS. *Future of Finance Fintech's Brazil Moment.* Goldman Sachs Global Investment Research, 2017, p. 28.

[7] GOLDMAN SACHS. *Future of Finance Fintech's Brazil Moment.* Goldman Sachs Global Investment Research, 2017, p. 28.

[8] THE ECONOMIST. The world's most valuable resource is no longer oil, but data. *The Economist* (May 6th, 2017).

environments[9]. Most recently, such classic view has been strengthened in the wake of the financial crisis from 2008[10]. However, this potentially flawed/superficial premise has been questioned over the years by many an author, according to whom a concentrated and low-competition banking environment is just as toxic from a financial soundness point of view.

To take sides in this debate, one must first understand why banking stability is (correctly) such a delicate matter and so worthy of concern. The financial intermediation activity – i.e., lending and deposits – generates two relevant impacts in macroeconomy and monetary policy. *First*, the "banking multiplier" phenomenon – banking activity stirs an effect equal to generating more currency in the economy, since the banking institution receives a deposit and generally lends it away (the bank ceases to possess said deposit), but, at the same time, the depositor still holds the deposited value against the bank with short-term liquidity[11]. In other words, such amount exists in duplicity – both as a liability before the depositor as an asset against the borrower. One can see how that might generate a problem if the depositor decides to withdraw his deposit (as we shall see below).

The second impact to monetary policy, derived from the first, is the banks' ability of "maturity transformation". Deposits and loans do not have matched maturity dates. Deposits generally represent short-term debt or on-demand debt (like checking accounts), whereas loans generally represent comparatively long-term debt[12]. The resulting maturity mismatch, as it is called, renders depositary institutions extremely

[9] YAZBEK, Otávio. *Regulação do Mercado Financeiro e de Capitais.* Rio de Janeiro: Elsevier, 2007, p. 185.

[10] THE ECONOMIST. Deliver us from competition. *The Economist* (June 25th, 2009).

[11] YAZBEK, Otávio. *Regulação do Mercado Financeiro e de Capitais*, *op. cit.,* p. 75.

[12] DRECHSLER, Itamar; SAVOV, Alexi; SCHNABL, Philipp. *Banking on Deposits:* maturity transformation without interest rate risk. National Bureau of Economic Research, New York University Stern School of Business, 2018, p. 1.

vulnerable to liquidity chocks. As such, banks are fragile by default and generate severe social costs if they ultimately fail[13].

As a result from these two impacts, financial institutions live permanently exposed to the risk of suffering a sudden and unexpected liquidity demand by its depositors, which may result in devastating consequences. The bank may, for instance, be forced to sell its assets at extremely low costs to generate emergency liquidity (fire sales), or, if the local prudential authority believes it to be on the verge of causing a systemic collapse, suffer an intervention or forced liquidation[14].

These liquidity crises set forth by multiple depositor requests, and generally motivated by a negative view regarding the bank's financial health, are the (in)famous *bank runs*. The most recent theories indicate that bank runs are driven by **(i)** insolvency-related problems turned public (which represent actually material deficiencies in its balance sheet); and/or **(ii)** liquidity-related problems derived from coordinated actions between depositors, whom, motivated by panic ("herd behavior"), see other depositors withdrawing funds from the bank and join the fray[15].

Adding to the banking system's roots of fragility, there is a very dense degree of interconnectedness between financial institutions in the modern world. Most banks operate loans and deposits between themselves[16]. When one of these institutions suffers an intervention or liquidation, the effects of this failure go well beyond the institution's own private sphere and reverberate throughout the financial web all

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[13] YAZBEK, Otávio. *Regulação do Mercado Financeiro e de Capitais, op. cit.,* p. 176.

[14] VIVES, Xavier. *Competition and Stability in Banking:* the role of Regulation and competition policy. Princeton: Princeton University Press, 2016, p. 38.

[15] Id, p. 39.

[16] CARLETTI, Elena; SMOLENSKA, Agniezka. *10 years on from the Financial Crisis:* cooperation between competition agencies and regulators in the financial sector. OCDE, Directorate for Financial and Enterprise Affairs, Competition Committee. Paris, OECD, 2017, p. 9.

the way to the other end – especially to creditor banks (a contamination effect). Due to the recent advancements in financial technology, such problems of interconnectedness have been exponentially aggravated by allowing banks from different regions and countries to access each other with progressively less operational and informational hurdles. All in all, technology has elevated the risk of contagion by bank failures, since now there are more transmission lines between financial institutions than ever[17].

Considering such propensity to failure, it is not surprising that financial systems around the world have been the stage of symptomatic and devastating crises. Most recent of those was the crisis of 2008, which was originated in the United States from the **(i)** negligent issuance of derivatives with underlying risky mortgages – the so-called "*subprimes*"; **(ii)** agency ratings that appointed these asset as low-risk and high grade, notwithstanding the actually elevated risks; **(iii)** progressive deregulation in the financial system as a tool to stimulate economic growth[18]; and **(iv)** politic incentives on both democrats and republicans to, without duly caution, expand real estate credit as a tool to win over voters[19]. After being born in the United States, the crisis of 2008 reaped across most of the world, breaking some banks (emblematic case of Lehman Brothers) and driving others to be bailed out by taxpayer's money.

After the destruction suffered by the global economy in the crisis' wake, the role of financial regulation has since returned to the spotlight, reinvigorating prudential authorities as responsible for adjusting market failures in the highly-interconnected, technology-driven financial

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[17] See (1) YAZBEK, Otávio. *Regulação do Mercado Financeiro e de Capitais,* op. cit., p. 175; and (2) VIVES, Xavier. *Competition and Stability in Banking:* the role of Regulation and competition policy. Princeton: Princeton University Press, 2016, p. 15.

[18] GERDING, Erik. *Bank Regulation and Securitization:* how the Law improved transmission lines between real estate and banking crises. Georgia Law Review, vol. 50:1. Atenas, University of Georgia, 2015.

[19] VIVES, Xavier. *Competition and Stability in Banking:* the role of Regulation and competition policy. Princeton: Princeton University Press, 2016, p. 17.

systems – especially addressing the social cost generated by failing banks (much like social costs derived from environmental damages, nuclear industry and public health. In other words, financial authorities have become (re)empowered to **(i)** internalize social costs in the financial institutions themselves, minimizing the risk of spillovers that damage depositors, creditors and the local economy as a whole[20]; **(ii)** aligning the executives' incentives to drive away excessive risk-taking; **(iii)** eliminating the negative feedback loop between banking balance sheets and economies (i.e., preventing banking crises from becoming economic crises)[21]; and, specifically addressing the subprimes problems from 2008, eliminating the transmission lines between bank markets and real estate markets[22].

2.1. Addressing the preliminary issue: does innovative competition harm financial stability?

As previously stated, some fear that the competition process weakens banks, atomizes financial institutions, and generates incentives for them to take more risks with the objective to succeed against their many rivals[23].

Notwithstanding such opinions, the reality is that is high degrees of concentration and market power in the banking system are also

[20] YAZBEK, Otávio. *Regulação do Mercado Financeiro e de Capitais, op. cit.,* p. 176.

[21] CARLETTI, Elena; SMOLENSKA, Agniezka. *10 years on from the Financial Crisis:* cooperation between competition agencies and regulators in the financial sector. OCDE, Directorate for Financial and Enterprise Affairs, Competition Committee. Paris, OECD, 2017, p. 7.

[22] GERDING, Erik. *Bank Regulation and Securitization:* how the Law improved transmission lines between real estate and banking crises. Georgia Law Review, vol. 50:1. Atenas, University of Georgia, 2015.

[23] According to Otávio Yazbek himself, competition and repression against monopolies should not be primary concerns in the financial markets, since these goals would come at the cost of soundness. In YAZBEK, Otávio. *Regulação do Mercado Financeiro e de Capitais.* Rio de Janeiro: Elsevier, 2007, p. 184-185.

extremely prone to systemic risk[24]. Big banks with market power may **(i)** become "too big to fail", generating incentives for excessive risk-taking due to the explicit and implicit guarantees by the government (that they will be bailed out in case of a failure); **(ii)** build complex structures that difficult monitoring and regulating; **(iii)** employ market-based activities (those not reliant on loans and deposits, such as trading) on a greater risk basis[25]. As such, the benefits brought on by more competition in the financial sector should not be ignored for prudential stability in of itself, since the absence of competition is just as capable of inviting systemic disaster. Professor Rory Van Loo sums up the issue[26]:

> Future crises are unpredictable. The main point is that competition policy can be a valuable ally for financial stability in the fintech era. Ignoring competition policy can lead to missed opportunities for reducing familiar risks in the short term and can create new threats in the long term.

As a result of this more modern view of competition and prudential regulation as allies, most prudential and competition authorities nowadays are readdressing their previous misconceptions and stimulating rivalry in their banking systems[27]. In 2015, the Bank for International

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[24] See (1) FINANCIAL STABILITY BOARD. *Fintech and Market structure in financial services:* market developments and potential financial stability implications (publicado em 14.02.2017), p. 4; and (2) CARLETTI, Elena; SMOLENSKA, Agniezka. *10 years on from the Financial Crisis:* cooperation between competition agencies and regulators in the financial sector. OCDE, Directorate for Financial and Enterprise Affairs, Competition Committee. Paris, OECD, 2017, p. 10-11.

[25] VIVES, Xavier. *Competition and Stability in Banking:* the role of Regulation and competition policy. Princeton: Princeton University Press, 2016, p. 118-119.

[26] VAN LOO, Rory. Making Innovation More Competitive: the case of fintech. *U.C.L.A. Law Review*, vol. 65, 2018, p. 232-279. Los Angeles: U.C.L.A., p. 260.

[27] A few examples are in order. First, the Central Bank of Brazil's own new, pro-competitive stance, which is studied in Chapter 3.2. Second, in the United Kingdom, the *Financial Services and Markets Act, 2000* determines that the *Prudential Regulation Authority* (PRA) must promote financial competition while performing its main regulatory functions[27]. In practice, this has been translated into policies from the English prudential authority to reduce barriers to entry and design of proportional regimes (i.e., a program called "*New Bank Startup Unit*" designed to ease entrants

Settlements questioned prudential authorities in 33 jurisdictions and concluded that approximately: **(i)** 8 authorities consulted the competitive agency before granting an operating license; **(ii)** 16 authorities consulted the competition agency during the development of standards; **(iii)** 9 authorities consulted the competitive agency before intervening in a financial institution; and **(iv)** 11 authorities shared complaints and market studies with the competitive agency[28].

To sum up this digression, we believe there are enough arguments to support that an optimum degree of competition in the financial system may be reached to promote consumer welfare, all the while still preserving stability and soundness. As such, we rely on the premise that incremental increases in the Brazilian credit market's competition do not represent relevant systemic risk – and this applies to competition brought on by innovative technology and shared data.

2.2. Why the Central Bank of Brazil should (continue to) promote competition

Having established the premise that stimulating competition in the Brazilian credit market would not expose it relevant systemic risk, we now proceed to argue why such initiatives should be (and are being) led by none other than the Central Bank of Brazil, with special attention to data sharing.

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into the financial market). Third, reflecting the German central bank's stance on the subject around 2019, a director from *Deutsche Bundesbank* publicly defended the benefits of competition and cooperation between incumbent and incoming banks in Germany, while also stressing the need to ensure *fair competition* in the sector. See (1) BASEL COMMITTEE ON BANKING SUPERVISION. *Range of practice in the regulation and supervision of institutions relevant to financial inclusion.* Bank for International Settlements (January 2015), p. 25; (2) BALZ, Burkhard. *Fintech and bigtech firms and central banks – conflicting interests or a common mission?* German Embassy in Singapura, November 11st, 2019, p. 1; and (3) England's Chapter 2, section 2.H, Financial Services and Markets Act, 2000.

[28] BASEL COMMITTEE ON BANKING SUPERVISION. *Range of practice in the regulation and supervision of institutions relevant to financial inclusion.* Bank for International Settlements (January 2015), p. 25.

First of all, spurring competition is a valid way to stimulate reductions in the interest rates in the Brazilian credit market, as pointed out during the Introduction. As a general rule, high interest rates have an effect of **(i)** incentivizing businesses to reduce investments in economic activities, employ fewer personnel and pay lower wages; and **(ii)** force families to reduce the consumption of goods and services (due to less access to credit and aforementioned conditions of unemployment and low wages) [29]. As such, by employing policies that spur innovative competition and lower prices, the Central Bank may generate relevant social value[30].

In spite of all prudential, economic and social arguments set forth in favor of prudential regulation fostering competition, the Central Bank did not seem to pay much historical heed to the subject. Rather, the Central Bank was created in 1964 through a very pro-concentration policy (in the context of Law no. 4,595) and has since endured crises which have resulted in many failing banks (namely in the 90s, which motivated the PROER, PROES and PROEF programs), and constantly plagued by fear of competition affecting financial stability. As such, the Central Bank did not historically show any relevant concern about competition in the

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[29] See (1) JOAQUIM, Gustavo; VAN DOORNIK, Bernardus. *Bank Competition, Cost of Credit and Economic Activity:* evidence from Brazil. Working Paper Series no. 508. Brasília: Central Bank of Brazil, October 2019; e (2) MIAN, Atif; SUFI, Amir; VERNER, Emil. *How do Credit Supply Shocks Affect the Real Economy?* Evidence from the United States in the 1980s. National Bureau for Economic Research. Working Paper No. 23802. Cambridge: NBER, 2017.

[30] As a most notable example, the payments sector has seen a deluge of new innovative entrants like PagSeguro and Stone (movement started on 2012 by Law no. 12,865, which effectively opened the market to competition) after a lifetime of domination by incumbent banks. Accordingly, the Central Bank issued several regulations aimed to foster competition in this segment, emblematically changing it for the better – the market share of entrants in payments grew from 1% to over 28% in the last eight years. Prices in the sector have since been reduced by nearly half – all due to increased competition and innovation. *In WERLANG, Sérgio. Lecture by Sérgio Werlang, ex-executive of Economic Policy in Central Bank of Brazil, ex-general executive in Itaú Unibanco and professor at Fundação Getúlio Vargas in the event "Fintechs e Blockchain: oportunidades para os mercados financeiros", organized by FGV EPGE on November 9th, 2019.*

credit sector until a few years ago, as seen through the approval of all corporate mergers and acquisitions between financial institutions ever since 2000[31]. It is quite possible to note that, when one reads the votes in which the Central Bank approves two relevant mergers (Bradesco/HSBC and Itaú/Citi), the authority clearly showed less concern about competition effects than Cade when judging the merger[32].

Such historical stance by the Central Bank might lead one to believe that it should actually be the Administrative Council for Economic Defense ("Cade") to lead efforts in promoting competition in the Brazilian lending market, and not the Central Bank. Indeed, it might seem strange to ask for the country's prudential authority to lead the charge in stimulating financial rivalry instead of such country's competition authority – especially since this is not the case in other countries (i.e., United Kingdom).

However, we do defend that the Central Bank is better institutionally positioned than Cade to foster competition in the lending market. We are not referring to the historical conflict of competence between both authorities (which has already been solved through a Memorandum of Understanding signed in 2018)[33], but to an issue of institutional design ("*desenho institucional*").

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[31] As per answered by Central Bank to our request nº 18600000516201979 under the Public Access to Information Law (the "*Lei de Acesso à Informação*"), on April 18th, 2019.

[32] See the votes that approved the mergers of Bradesco/HSBC and Itaú/Citi by Central Bank – both drafted by executive member Sidnei Corrêa Marques, respectively (i) Vote n 263/2015-BCB, December 30th, 2015; and (ii) Vote nº 230/2017-BCB, October26th, 2017.

[33] In 2001, a conflict rose between the Central Bank and Cade on which should analyze and approve mergers in the financial system. It was around this time that Bradesco acquired BCN, and both were fined by Cade for not seeking its approval for the merger. This fine was suspended by the Superior Court of Justice on the basis that only the Central Bank was in a position to approve or reprove bank mergers, as supported by an opinion from the Federal Attorney General's Office. Cade appealed to the Brazilian Supreme Court (Extraordinary Appeal no. 664,189). The lawsuit waged on until the dispute was put to rest by a Memorandum of Understanding signed between the two entities on February 28th, 2018 to settle this historical feud. It was agreed upon that the parties of any future merger in the financial system shall

Institutionally speaking, Cade has relevant limitations on how far it could act to achieve the objective of stimulating competition in the lending market. First, its capabilities are effectively reactive: **(i)** to approve or reprove mergers that meet the minimum criteria set out in Law no. 12,529; **(ii)** to impose certain obligations in merger agreements that can temporarily improve the market, **(iii)** to repress anticompetitive conduct, and **(iv)** promote competition advocacy in other areas of public policy.

The Central Bank, on the other hand, has a much broader mandate: determining rules that tell financial institutions what they can and cannot do – powers derived from Law No. 4,595 (along with the National Monetary Council). In other words, the Central Bank's capabilities are proactive, and not reactive. Over the last ten years, we have witnessed several practical cases of interventions by the Central Bank with the express objective of correcting market failures (imposing a price limit of 8% per annum in the overdraft products, intervening in the credit card market to limit refinancing, reducing oligopolization in the payroll sector, reducing switching costs and lock-in effects through loan portability, and others)[34].

Another clear advantage of the Central Bank over Cade is access to data. The Central Bank has instant access to the Credit Information System (*SCR – Sistema de Informações de Crédito*), where financial institutions input all relevant data on past and present loans over R$ 200, considering borrower, geographic region, risk level, etc. Cade, on the other hand, suffers from an enormous information asymmetry due to not having access to data of similar quality, to the point of declaring a methodological inability to analyze data from municipal credit markets during

be required to seek prior approval from both Central Bank and Cade. The Memorandum of Understanding was signed by borth parties on February 28th, 2018, and is available at: <https://www.bcb.gov.br/conteudo/home-ptbr/TextosApresentacoes/memorando_cade_bc_28022018.pdf>.

[34] CAMINHA, Lucas. Concorrência ou Cooperação entre Bancos e Fintechs no Mercado de Crédito? Uma situação win-win para o bem-estar do consumidor brasileiro. *Revista do IBRAC*, n. 1, 2020, p. 44.

concentration acts involving financial institutions[35]. Considering this advantage from a data point of view, the Central Bank naturally has more subsidies to design regulation that stimulates competition in the credit market.

Therefore, in terms of institutional capacity, the Central Bank is in a more strategic position than Cade to encourage competition in the credit market. The Central Bank's authority to edit rules in the sector, based on data it has access to as a prudential regulator, allows it to proactively shape the behavior of economic agents – from one day to the next, if necessary. Moreover, the Central Bank may contribute to consumer welfare not fully protected even by Consumer Law itself, given the law's incapacity to tackle monopoly/oligopoly price distortions (which may only be addressed/countered through competition policy[36].

3. How the Central Bank of Brazil should (continue to) promote competition

Adorning the mantle of its institutional role, the Central Bank has seemed to have taken up the responsibility of fostering financial competition. Chief among its new strategies was the issuance of Agenda BC+ in 2016, which was a list of measures that the Central Bank planned to implement in order to improve the financial system. Several of them aimed precisely to foster competition, such as structuring positive credit scoring bureaus ("*cadastro positivo*"); segmentation of financial institutions by size[37]; easing portability and regulatory licenses for credit

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[35] See the votes from Cade's Commissioners in Concentration Acts no. 08700.010790/2015-41 (Bradesco and HSBC), 08700.001642/2017-05 (Itaú and Citi), and 08012.009397/2009-14 (Bicbanco and Sul Financeira).

[36] FORGIONI, Paula. *Fundamentos do Antitruste.* 10th edition. São Paulo: Revista dos Tribunais, 2018, p. 257.

[37] The guiding principle of segmentation is *proportionality* – applying more flexible rules for entry and allocation of capital to smaller entrants who do not present systemic risk. For more on segmentation of financial institutions, see (1) Final Report of the Parliamentary Committee of Inquiry regarding credit cards (the "Comissão Parlamentar de Inquérito dos Cartões de Crédito". *Federal Senate,* Brasília, July 2018,

fintechs. All of these measures above were effectively implemented by the Central Bank (and National Monetary Council) between 2017 and 2018.

By 2019, the Central Bank updated its objectives in "*Agenda BC+*" (while also renaming it to "*Agenda BC#*", presumably to reflect the affinity with technology and innovation), and overall maintaining a pro-competition spirit. As a result, nowadays, the Central Bank's proactive stance towards fostering competition is openly recognized by officers from Cade[38], authorities from abroad[39], specialized press[40], and many a public statement by the Central Bank's executive board. Emblematically, in 2019, one of its chief executives (João Manoel Pinho de Mello) publicly pointed out four practical measures that the authority aims to implement in benefit of competition[41]: **(i)** legal certainty in the recovery of guarantees and less information asymmetry (i.e., positive record); **(ii)** greater vigilance against anticompetitive conduct; **(iii)** encourage the entry of new competitors; and **(iv)** "ensuring that the market takes advantage

p. 19 and 95; (2) CARLETTI, Elena; SMOLENSKA, Agniezka. *10 years on from the Financial Crisis:* cooperation between competition agencies and regulators in the financial sector. OCDE, Directorate for Financial and Enterprise Affairs, Competition Committee. Paris, OECD, 2017, p. 18.

[38] "*In fact, considering other banks, it is worth saying that (...) the regulator has been acting more forcefully, namely the Central Bank of Brazil, aiming to resolve the various market failures*" (free translation). In Vote by Cade commissioner Cristiane Alkmin Junqueira Schmidt in the Concentration Act no. 08700.004431/2017-16, which voted to forbid the purchase, by Itaú Unibanco, of a minor shareholder position in XP Investimentos, on March 14th, 2018.

[39] "*The pro-active approach of stimulating new laws and cooperation with other countries by the Brazilian Central Bank could potentially help the fintechs to grow and change the Brazilian market as a result of more competition*". *In* SAGOENIE, Yashini, SMITS; Petra, BAKKER, Ernst-Jan. *Fintech in Brazil.* Ministry of Economic Affairs and Climate Policy of the Netherlands. Hague: Netherlands Enterprise Agency, February 2019, p. 5.

[40] GRAY, Kevin, Brazil's central bank policies encourage fintech startups. *LatinFinance* (March 28, 2019).

[41] João Manoel Pinho de Mello defende maior concorrência no setor bancário. *Correio Braziliense* (February 26th, 2019).

of the huge pro-competitive opportunities that technological advancement [brings]".

3.1. Fostering competition through financial data sharing between lenders

We now turn to how, in the Central Bank's endeavor to stimulate competition, it has decided to attack the barrier to entry formed by information asymmetry in order to stimulate competition in the lending market. As such, the authority has actively sponsored two initiatives to stimulate sharing of data sharing between financial institutions.

First, the empowerment of *credit scoring bureaus*, which is still how most countries still operationalize sharing of financial hard information. We refer to agents specialized in storing and sharing data on financial transactions between consumers and credit market institutions (and sometimes of other markets, such as public utilities). Each country has its own microsystem of credit information, hoarded in databases and sustained by a robust institutional design meant to maximize efficiency (from a both technological and legal point of view). The very first credit bureaus date back to 19th century's England, but true worldwide consolidation of credit scoring systems would only be technologically allowed after the second half of the 20th century[42]. In Brazil, the positive credit score bureaus ("*cadastro positivo*") were recently reformed by Complementary Law no. 166 and Resolution no. 4,737.

Second, the regulatory design of an *open banking initiative* – the sharing and leveraging of customer-permissioned data by banks with third-party developers and firms to build applications and services, such as those that provide real time payments, greater financial transparency options for account holders, and marketing and cross-selling

[42] Credit Scoring Knowledge Guide. *International Finance Corporation (IFC),* 2012, p. 5.

opportunities[43]. According to recent studies by Ornelas, Silva, and Van Doornik, the use of open banking to stimulate data sharing may actively improve the local lending market (Working Paper Series of the Central Bank of Brazil)[44]:

> [Policy] responses related to foster information sharing may help to decrease switching costs and alleviate the holdup problem. Open banking initiatives can make information held by incumbent banks to flow towards other financial institutions so that firms can get better interest rates by outside banks, thus enhancing competition. Another policy initiative is to reduce entry barriers to new competitors, like the credit fintechs. These institutions usually have a transactional lending approach, instead of relationship banking, so that an open banking initiative can enhance their ability to obtain information about firms and provide better loan conditions.

The open banking initiative is currently the Central Bank's most emblematic structural policy in its efforts to stimulate competition in the credit market. Its most visible benchmarks are the first nation to employ a relevant open banking initiative: Australia and the United Kingdom[45]. Notwithstanding, not all jurisdictions approach data sharing with the express intent to impose it. Currently, countries are mostly divided between **(i)** jurisdictions that determine financial institutions to share their data via open banking, specifically the European Union, India, Mexico, South

[43] BASEL COMMITTEE ON BANKING SUPERVISION. *Report on open banking and application programming interfaces.* Bank for International Settlements, November 2019, p. 19.

[44] ORNELAS; José Renato Haas, SILVA, Marcos Soares; VAN DOORNIK, Bernardus Ferdinandus Nazar. *Informational Switching Costs, Bank Competition and the Cost of Finance*. Working Paper Series no. 512. Brasília: Central Bank of Brazil, January 2020, p. 45.

[45] See (1) FINANCIAL STABILITY BOARD. *Fintech and Market structure in financial services*: market developments and potential financial stability implications (published in February 14th, 2017), p. 8-9; e (2) CARMONA, Alberto; LOMBARDO, Agustín; PASTOR, Rafael; QUIRÓS, Carlota; GARCÍA, Juan; MUÑOZ, David; MARTÍN, Luis. *Competition issues in the area of financial technology (FinTech).* European Parliament. Policy Department for Economic, Scientific and Quality of Life Policies. Dictorate-General for Internal Policies, 2018, p. 73.

Africa, Thailand, and, as of now, Brazil; **(ii)** jurisdictions that encourage financial institutions to share their data via open banking, specifically Hong Kong, Korea and Singapore; **(iii)** countries that leave sharing at the sole discretion of each institution, specifically the United States, China and Argentina; and **(iv)** jurisdictions that are still defining open banking rules, specifically Australia, Russia, Turkey and Canada[46].

Considering the relevance of data to financial competition, as studied in Chapter 1 and endorsed by Professors José Scheinkman[47] and Sérgio Werlang[48], there is little doubt that open banking holds high potential to improve the competitive process in the Brazilian lending market. This potential may lead, consequently, to a reduction in the current interest rates and lending spread, much like CMA expects the United Kingdom's open banking system to knock 30% off from English banking spread)[49].

In practice, the construction of Brazilian open banking started on 2019, when Central Bank issued Statement no. 33,455. From the start, this preliminary set of rules already determine that the largest financial institutions (namely S1 and S2 categories) shall be forced to share their data in the open banking systems as soon as they are implemented. The Central Bank's statement seems to address the concern whether large

[46] BASEL COMMITTEE ON BANKING SUPERVISION. *Report on open banking and application programming interfaces.* Bank for International Settlements, November 2019, p. 19.

[47] SCHEINKMAN, José. Lecture by José Scheinkman, professor at Columbia University, at the event "*Competição e Inclusão Financeira*", organized by Instituto ProPague on August 14th, 2019.

[48] WERLANG. Lecture by Sérgio Werlang, ex-executive of Economic Policy in Central Bank of Brazil, ex-general executive in Itaú Unibanco and professor at Fundação Getúlio Vargas, in the event "*Fintechs e Blockchain: oportunidades para os mercados financeiros*", organized by FGV EPGE on November 9th, 2019.

[49] Indeed, CMA was the responsible authority for coordinating the implementation of English open banking – an intuitive premise, considering how the initiative is procompetitive in nature. However, in Brazil, it is not Cade that is coordinating the implementation of open banking, but the Central Bank itself – further confirming the opinion we defend in this paper about how, in the Brazilian institutional design, the Central Bank is better positioned than Cade to promote competition in the credit market.

banks would have incentive to willingly share their precious data on customers (thus renouncing their ex post monopoly on such data).

After Statement no. 33,455, the Central Bank issued Public Consultation no. 73, 2019 with an initial proposal of regulatory structure surrounding open banking. After lengthy discussions with the market on how to best implant and regulate it thoroughly, the final rules were finally determined by Joint Resolution no. 1, dated May 2020, issued by both the Central Bank and the National Monetary Council. The final version of the regulation appointed that Brazilian open banking would mandate financial institutions to share the following categories of data:

> I - data on:
> a) service channels related to: 1. applied facilities; 2. correspondent in the country; 3. electronic channels; and 4. other channels available to customers;
> b) products and services related to: 1. demand deposit accounts; 2. deposit accounts; 3. prepaid payment accounts; 4. postpaid payment accounts; 5. credit operations; 6. foreign exchange transactions; 7. accreditation services for payment agreements; 8. time deposit accounts and other products of an investment nature; 9. insurance; and 10. open supplementary pension;
> c) registration of customers and their representatives; and d) customer taxes related to: 1. demand deposit accounts; 2. deposit accounts; 3. prepaid payment accounts; 4. postpaid payment accounts; 5. credit operations; 6. registration and control account referred to in Resolution No. 3,402, of September 6, 2006; 7. foreign exchange transactions; 8. accreditation services for payment agreements; time deposit accounts and other products of an investment nature; 10. insurance; 11. open supplementary pension; and
> II - services of:
> a) initiation of payment transactions; and
> b) submission of a credit operation proposal.

This robust pool of data is crucial to give new competitors a chance to compete in the lending markets, and also to stimulate competition among the incumbents themselves. By gaining access to the troves of data usually hoarded by few banks, all competitors gain the capacity

to adequately separate low-risk borrowers from high-risk borrowers, effectively reducing the barrier to entry that is formed by information asymmetry between lender and customer.

Competitors also have an additional synergy opportunity with open banking – they may use the shared data to track down low-risk customers from other financial institutions and offer them products at more advantageous conditions than the ones they are currently receiving. As a practical example: if a customer is close to borrowing from an overdraft line in their banking institution ("*cheque especial*"), a competitor may be interested to offer them a credit line with lower interest rates, virtually taking this customer from the other institution. To that end, each lender shall be plugged into the open banking system and be allowed to discover, thanks to the constant influx of data, each and every customer opportunity such as these. Aware of this growing threat, incumbent banks may also employ efforts to please their own customer as a way of keeping them from leaving. The net result of this competition, brought on by shared data, may yet be overall better conditions for financial consumers in the Brazilian lending market.

4. Conclusions

On this paper, we have demonstrated how, amidst the competitive process of the Brazilian lending markets, much may be gained from regulatory measures designed to stimulate/compel competitors to share amongst themselves the data they have on their products and customers. The Central Bank of Brazil currently relies on two such initiatives, which are to empower credit scoring bureaus, and, most importantly, to structure an open banking system interwoven across Brazilian financial institutions.

If allowed access to good quality data from consumers and products, all competitors in the lending market may leverage such hard information in order to **(i)** screen their potential customers by separating low-risk borrowers from high-risk borrowers, all based on the information on such persons that is shared by other institutions (avoiding the problem of

adverse selection); and **(ii)** identify profitable and low-risk customers held by incumbent banks that may be attracted by better conditions offered by other lenders. While merely examples, these possibilities illustrate how innovative entrants may compete more efficiently if they are allowed to reap the benefits from (regulatory policies determining) shared data from other lenders in the Brazilian credit market.

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