



READING GUIDE

The Impact of Digital Financial Institutions on the Brazilian Economy

2016 - 2026

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Summary in Numbers

R\$ 1,6 trillion.

According to the estimates of an economic model built with Brazilian data, that is the amount of income produced in Brazil between 2016 and 2026 associated with the expansion of digital banks, digital credit institutions, and payment platforms — which the study collectively calls Digital Financial Institutions (DFIs).

To put that figure in perspective:

it is roughly the annual GDP of a country like Chile or Colombia.

Five numbers that sum up the study

(estimated values 2016-2026)

Brazilian GDP

R\$1.6 trillion more

Without DFIs, in the first quarter of 2026, real GDP would have been at least 2.2% lower.

Household consumption

R\$982 billion more

Households with more disposable income to spend.

Investment

R\$371 billion more

It was the indicator with the largest proportional difference.

Interest savings

R\$102 billion

The amount households and firms did not have to pay in interest on non-earmarked credit.

Fee savings

R\$47 billion

The amount households and firms did not have to pay in banking fees.

How did we arrive at these numbers

Our researchers built a mathematical model that reproduces how the Brazilian economy works. That means they simulate how households, firms, and banks make decisions about spending, investing, and lending money. From there, they used this model in two ways: one reproducing what actually happened, and another simulating what would have happened had DFIs never emerged. The difference between the two scenarios is the estimated impact of DFIs.

One important caveat up front: our results are an estimate conditional on the assumptions of a mathematical model, not definitive proof. That is because there is no real “Brazil without DFIs” to compare against. The results should therefore be read as an order-of-magnitude quantification, useful for informing debate and public policy.

WHY DOES THIS MATTER?

The backdrop

An expensive, concentrated banking system

Brazil's banking sector is highly concentrated — that is, a few large institutions dominate the market. And with little competition, each bank has more room to charge high prices for its services.

The most direct reflection of this is the bank spread: the difference between the interest rate a bank charges a borrower and the rate it pays a depositor. The larger the spread, the bigger the margin the bank keeps on a credit transaction. In Brazil, this spread has historically been among the highest in the world, largely reflecting low competition in the sector.

If Brazilian spreads converged to the world average, the country's GDP would be about 5% higher than it is today (Joaquim, van Doornik, and Ornelas, 2023) — which gives a sense of the scale of the problem that greater bank competition is trying to solve.

+5%

if Brazilian spreads
converged to the
world average

The entry of new competitors

Starting in the mid-2010s, this picture began to change. Digital banks, digital credit institutions, and payment companies — which operate through apps, without a network of physical branches, and with lower cost structures — began competing with traditional banks for customers. The Central Bank classifies these institutions into three types:

1.

Payment Institutions

(cards and point-of-sale devices)

2.

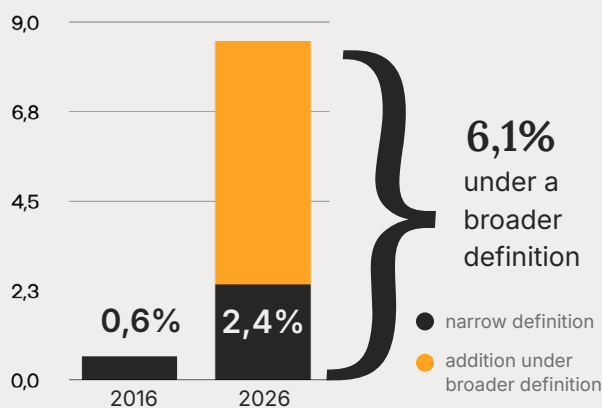
Direct Credit Companies (online loans); and

3.

Peer-to-Peer Lending Companies (credit between individuals).

In addition, several of the largest Brazilian DFIs now operate under a full banking license, but they have kept their original digital business model (the study treats them as part of the same phenomenon).

Two factors helped this entry: Pix, the free instant-payments system launched by the Central Bank in November 2020, and a regulatory environment that, until 2025, favored competition (portability of credit, data, and payroll accounts; and Open Finance, a system that allows bank data to be shared between institutions with the customer's authorization).



Growth was fast: these institutions' share of total financial system assets jumped from less than 0.6% in 2016 to 2.4% in 2026. That share rises further to 6.1% under a broader definition that also includes digital banks operating with a full license. This expansion is striking not only for the number of DFIs that emerged, but also for their scale: five of the ten institutions with the largest customer base in the country today are DFIs.

Why this matters: when the financial system is dominated by a few institutions, it works less like a gear driving the real economy and more like an expensive toll between savers and borrowers. A more competitive market tends to lower that toll, channel savings more effectively into productive investment, and broaden access to credit. In practice, that means more opportunities becoming reality — an entrepreneur managing to start their own business, a family buying their first home, a manufacturer upgrading its machinery — and, in the aggregate, more growth for the country. This relationship is one of the most robust in the economic literature (King e Levine, 1993).

HOW DID WE ARRIVE AT R\$1.6 TRILLION?

The methodology, without the jargon

The model: a mathematical scale model of the Brazilian economy

The authors used a type of model called DSGE (Dynamic Stochastic General Equilibrium). The most useful analogy is that of a flight simulator for the economy: a simplified model, built with rules about how each agent behaves, that allows “what if” scenarios to be tested without having to run the experiment on the real economy.

The model’s “characters.” Four types of agents, each with its own role:

1. Households:

they work, earn wages, and decide how much to consume and how much to save. Some need to borrow (credit cards, personal loans, financing); others have a surplus and deposit those savings in banks.

2. Firms:

they produce goods and services using labor and capital (machinery, equipment, buildings). To expand production, they need to invest, which usually requires taking out credit from the banking system.

3. Banks:

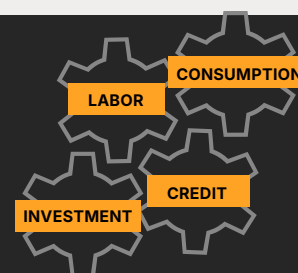
they intermediate between the two sides: they take deposits from saving households and lend to borrowing households and firms. The difference between what they charge on credit and what they pay depositors (the spread, or the banking “toll”) is their revenue.

4. The Central Bank:

it sets the Selic rate, which anchors all other interest rates in the economy. It adjusts this rate in response to inflation and the level of economic activity.

Each agent reacts to the others. If the Central Bank raises interest rates, banks pass part of that on to borrowers; indebted households spend less; firms invest less; output falls. If DFIs enter the market, banks need to reduce their margins to avoid losing customers; credit becomes cheaper; households consume more; firms invest more; GDP grows. It is exactly this chain of reactions that the model captures numerically.

A second useful image is that of interlocking gears, such as in a clock. Turning one makes all the others turn too. The economy's four big "markets" (labor, credit, consumption, investment) work the same way: they are interconnected and in equilibrium. That is why DFIs act on credit, but the effect also shows up in consumption and in GDP.



The original model ([Gerali et al., 2010](#)) is adjusted and uses quarterly Brazilian data between 2012 and 2026, with 93 endogenous variables and 13 exogenous shocks. Adapting this European framework to Brazilian conditions, however, required five main changes, summarized in the table below:

Component	Original model (Gerali et al., 2010)	What we adapted for Brazil
Credit to households	Only mortgage credit, with real estate as collateral	We added digital personal credit via DFIs, which does not require real estate as collateral. This is a simplified reflection of the real-world mechanism: using financial and digital behavior data to assess risk, instead of requiring physical collateral.
Credit to firms	Only through traditional banks	We added an alternative source of credit via DFIs. This is a simplification to represent the arrival of new business-credit providers — firms can now choose between traditional banks and DFIs based on cost and speed.
Banks' market power	Fixed markup (does not change over time)	We made banks' markup endogenous to the presence of DFIs: as new competitors gain ground, incumbent banks reduce their margins to retain customers. This is the study's central methodological innovation.
Efficiency gains via payments	Not modeled	We incorporated a productivity channel via Pix, capturing the effect of lower transaction costs on firms' productivity.
Calibration	Parameters fitted to the euro area	We recalibrated it for Brazilian conditions, especially for spreads historically much higher than in the original model.

The exercise: “what if they had never existed?”

It is not possible to directly observe a Brazilian economy without DFIs; the only reality we have access to is one in which these institutions have already been operating for a decade. To estimate how much the country would have produced without them, the authors turned to a counterfactual exercise: rerunning history inside the model, but without one of the characters.

In practice, the model was run twice, subjected to the same historical events (crises, the pandemic, changes in the Selic rate): the first time with all DFI channels active, reproducing the economy's actual trajectory; the second time with those channels switched off, simulating an identical Brazil except that DFIs never appeared. The difference between the two trajectories is the estimated contribution of DFIs — to GDP, consumption, investment, interest, and fees. The R\$1.6 trillion presented at the outset is precisely the sum of that difference over the ten years analyzed.

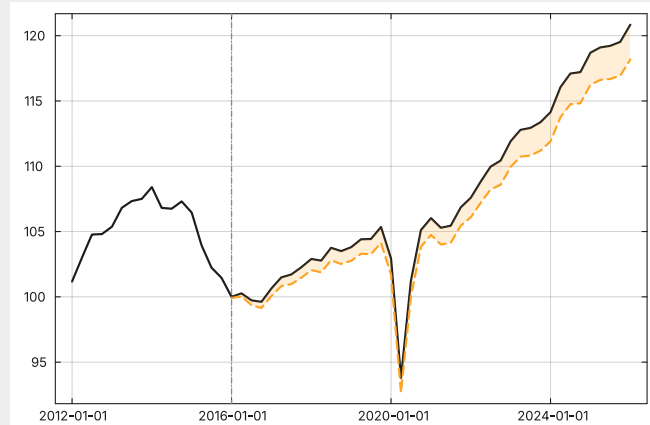
The yellow area in the figure below represents the difference between Brazil's GDP trajectory with DFIs (the black line) and without them (the dotted yellow line).

The limitations we want to highlight

This is not proof of causality in the strictest statistical sense. To show

more precisely that "X caused Y," the gold standard is to compare two identical groups under different conditions — as

in a drug trial, where some participants receive the medication and others receive a placebo (the "control group"). The difference between the groups is attributed to the effect of the drug. There is, however, no real "control Brazil"; the model only constructs this simulated-Brazil mathematically, based on assumptions. That is why the result depends on those assumptions.



Total GDP (index 2016-Q1 = 100): observed trajectory versus structural counterfactual without DFIs.

The vertical dotted line marks the entry of DFIs. The yellow shaded area is the estimated contribution of DFIs to GDP.



Other limitations include the use of a closed-economy model and the intensive margin — which are described in more detail in the full Policy Brief.

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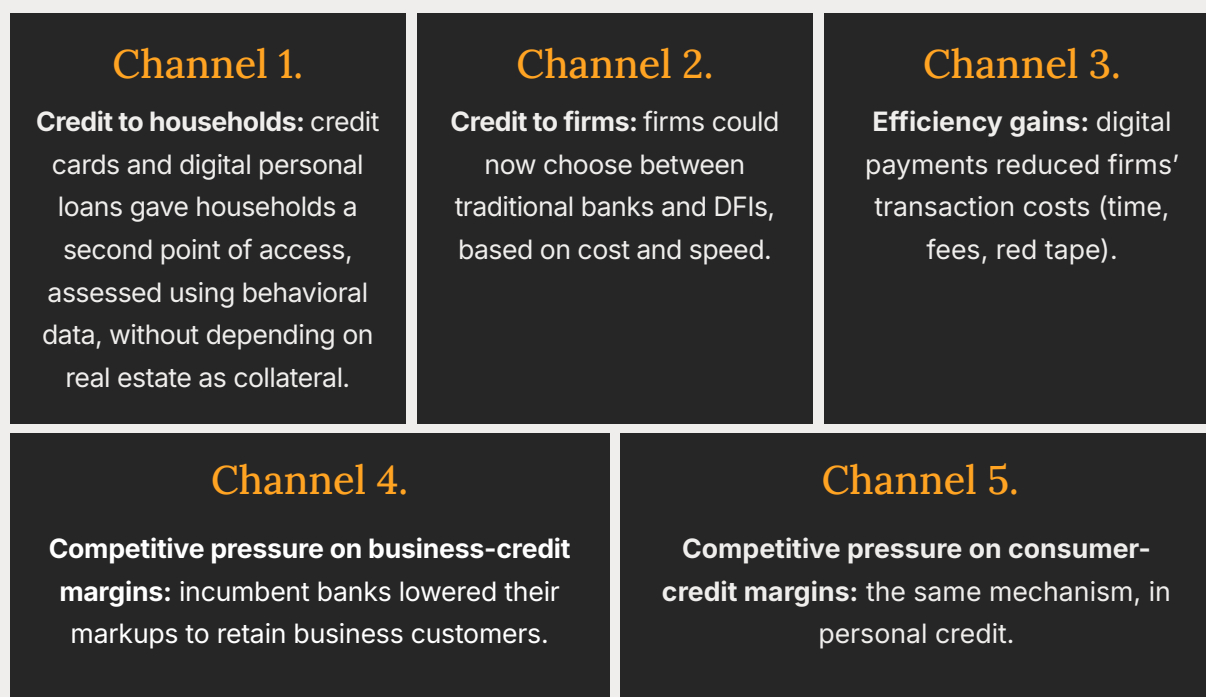
What the study found

The most important finding is not about DFIs themselves — it is about their effect on traditional banks.

If we looked only at DFIs' market share (6.1% of financial system assets), it would be easy to conclude that such a small slice could not move the aggregate economy. But the counterfactual exercise shows that most of the gains came from an indirect effect: the competitive pressure DFIs exerted on traditional banks led them to reduce their margins and fees — including

the R\$47 billion saved in fees, which benefited even customers who never opened a digital account. This is the logic of market contestability: like a street vendor who lowers prices simply because they know another vendor could set up shop on the next corner.

How this played out in the model — five channels operating together:



The last two channels — that is, incumbents' competitive response — are precisely what generated most of the aggregate impact. The first three contributed directly (through lower costs and broader access); the last two contributed indirectly (through pressure on those who already dominated the market).

Implications for public policy

If bank competition has an effect of this magnitude (R\$1.6 trillion in cumulative GDP, R\$149 billion in direct savings on fees and interest), rules that make it easier for new financial competitors to enter cannot be treated merely as a technological modernization agenda. Credit and data portability, Open Finance, and regulation proportional to institution size are also instruments of economic policy, with measurable macroeconomic effects.

This suggests that the regulatory agenda on DFIs should explicitly consider the potential economic cost of reducing competition in the financial system, alongside the expected prudential benefits.

To go further

For those who want to fully understand the model's statistical details, the equations for the direct benefit channels, and the complete list of institutions considered, we recommend reading Reglab's full Policy Brief.

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