In December 2019, Brazil hosted the UNESCO Regional Forum on Artificial Intelligence in Latin America and the Caribbean, which attracted ministers and private companies from across the region, as well as international bodies. In 2020, UNESCO assisted the government in mapping best practices around the world, as a prelude to the formulation of a national AI strategy.

The downward trend in patent filing by industry is nothing new. Growth has been driven primarily by universities. In fact, in 2018, Brazilian businesses accounted for only 29% of invention patents and 37% of software programs filed at the INPI by residents. Research institutes, universities and other non-profit organizations accounted for more than 30% of

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<th>Box 8.4: Brazil embraces open banking, instantaneous payments and AI</th>
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| The term open banking refers to the ways in which customer data and other information are shared between banks, including via instantaneous payment systems. The Central Bank of Brazil began discussing this concept in early 2018 (Damaso, 2019) before approving general guidelines for an open banking system in April 2019 (BCB, 2019).

Relevant legislation has since been passed, including to establish norms for data-sharing and consumer rights, to clarify rules for fintech companies and to pave the way for a free national instantaneous payment system.

**A ten-second service**

On 12 June 2020, the Central Bank established the Instantaneous Payment System and Instantaneous Payment Account (BCB, 2020), which now goes by the name of PIX. Once fully operational, this system will provide a free real-time system (within ten seconds) for individuals and businesses wishing to make bank transfers and payments anywhere across the national territory.

The Central Bank opened PIX for registration on 5 October 2020. Within five days, almost 25 million registrations had been filed (Agência Brasil, 2020). This shows just how much interest the initiative has sparked. It also shows a high level of public confidence in digital banking services.

**The seeds were sown decades ago**

The digital transformation of the Brazilian banking system over the past three decades has been one of the few positive consequences of the highly protectionist national Informatics Law in place during the 1980s and early 1990s. Despite restricting access by industry and firms in the services sector to the most advanced computer technology available internationally, making it hard for Brazilian industry to compete in the global arena (Chaimovich and Pedrosa, 2015), the law incited the large national private banks to become directly involved in establishing hardware and software firms.

When Brazilian markets were opened to international competition in the 1990s, only a handful of the local computer hardware firms survived. However, their acquired experience of information technology would, later, help banks to develop their online platforms and, more recently, AI-based services. This has been accompanied by extensive communication technology and infrastructure, now used by the new instant payment service. For example, Bradesco, one of the country’s two largest private banks, has been at the forefront of the digital revolution in Brazil, thanks to its establishment of a Digilab back in 1979. Bradesco was the first Brazilian bank to have an AI interface. Developed by IBM and launched in 2016, this chatbot can recognize spoken Brazilian Portuguese, thanks to Banco Bradesco’s expertise in this area.*

*Marcelo Frontini, Head of Digital Channels at Banco Bradesco’s AI project conveyed this information to the authors in an interview in February 2020.

Source: compiled by authors

UNESCO SCIENCE REPORT (2021)