

Innovation as Key Driver of the Economic Recovery

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Outline

- About IDB Invest
- The Innovation Ecosystem and Determinants
- Innovation as an Engine for Growth in LAC and Brazil
- Innovation Gaps within Brazil
- Examples of IDB Invest's Projects with Innovative Components



About IDB Invest



About Us



Governments
Civil Society

Loans
Guarantees
Grants

Policy Advice
Technical Assistance
Knowledge



Corporates
Infrastructure
Financial Intermediaries

Loans
Guarantees
Equity and Mezzanine
Investments

Advisory Services



Innovation Ecosystem
Actors

Loans
Seed and Venture
Capital Grants

Knowledge
Networks
Open Innovation

Our Value Added



The IDBG's Vision 2025

- Regional integration and strengthening value chains
- Support for small and medium-sized firms
- Promotion of a digital economy
- Gender & inclusion
- Climate action



The Innovation Ecosystem and Determinants



1 Institutions

Political environment
Regulatory environment
Business environment

2 Human capital and Research

Education
Tertiary education
R&D

3 Infrastructure

Information and Communications Technology (ICTs)
General infrastructure
Ecological sustainability

4 Market sophistication

Credit
Investment
Trade, competition and market scale

5 Business sophistication

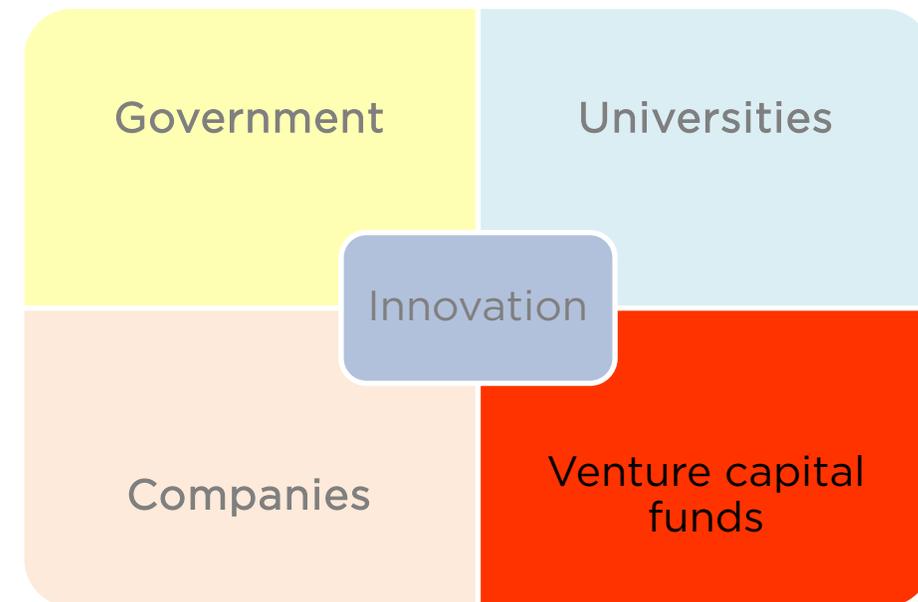
Knowledge workers
Innovation linkages
Knowledge absorption

6 Knowledge and technology outputs

Knowledge creation
Knowledge impact
Knowledge diffusion

7 Creative outputs

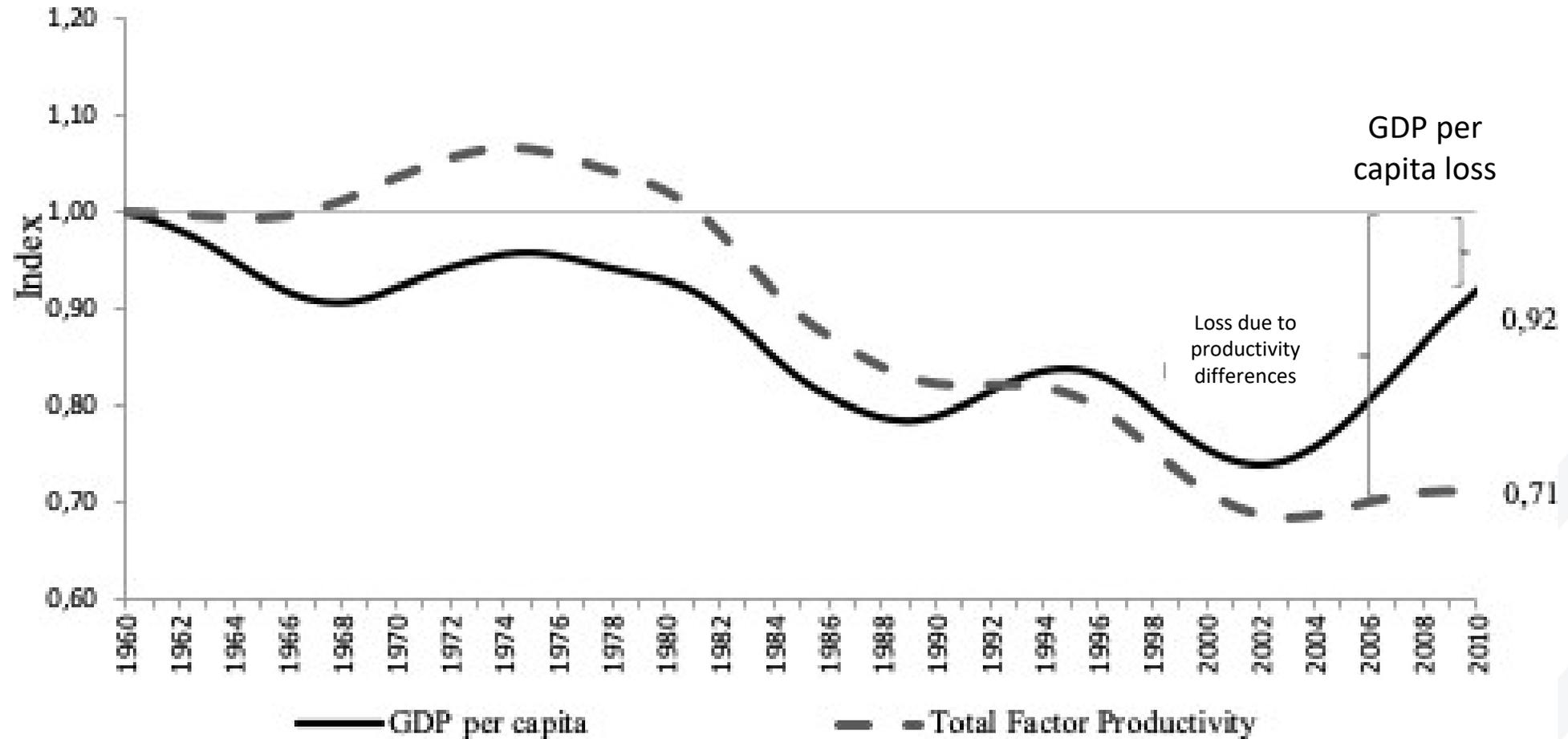
Intangible assets
Creative goods and services
Online creativity



Innovation inputs
 Innovation outputs

Innovation as an Engine for Growth and Economic Recovery in LAC

Innovation is a fundamental determinant of long-term growth

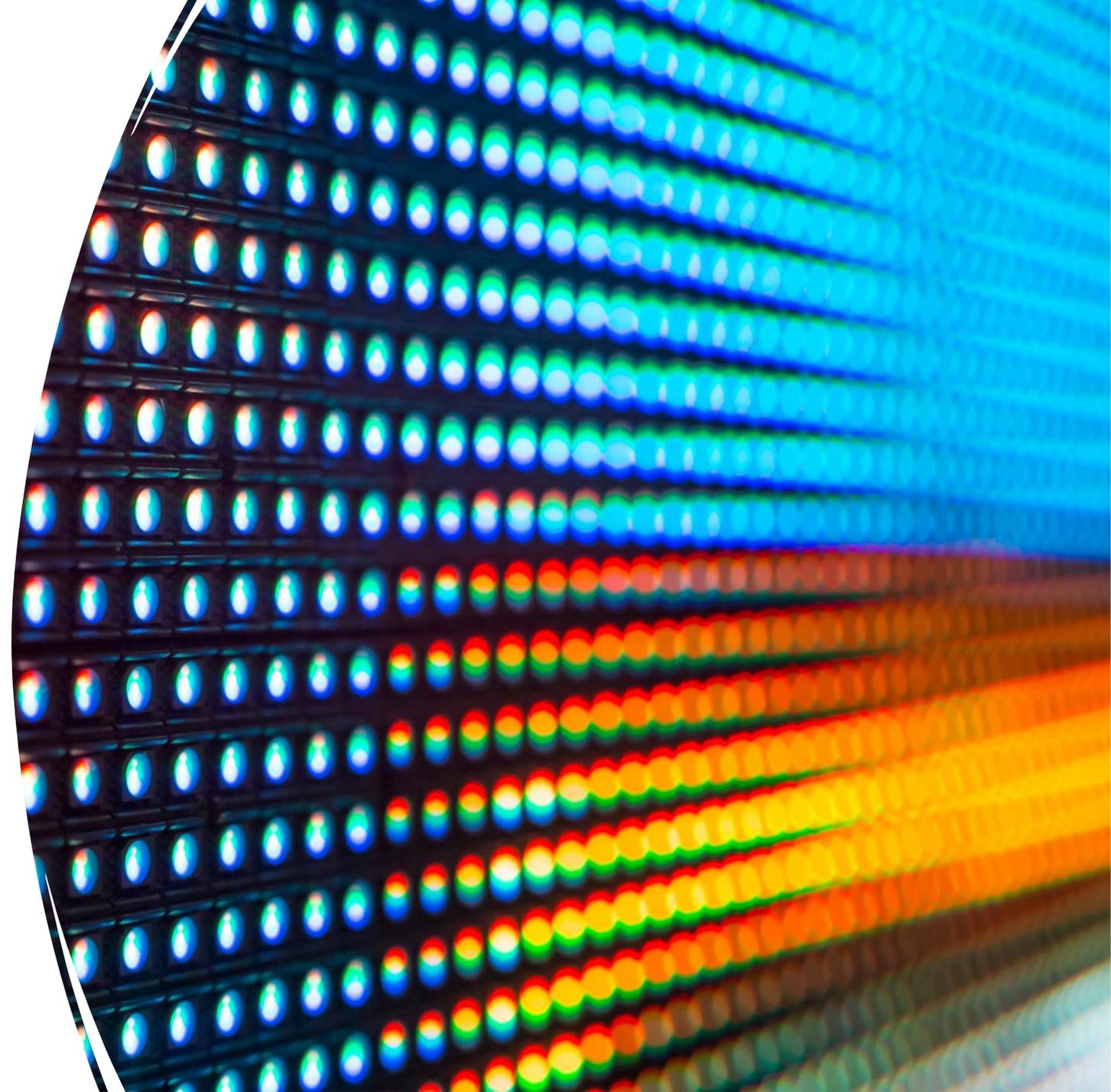


Investment in innovation activities has considerable and significant profitability, not only for the company (private) but also for the society (social return)

Type of return to innovation activities	Average rate of return according to international experience
Private	30%
Social return in advanced-economies	40%
Social return in median-income countries in LAC	60%
Social return in low-income countries in LAC	100% or above

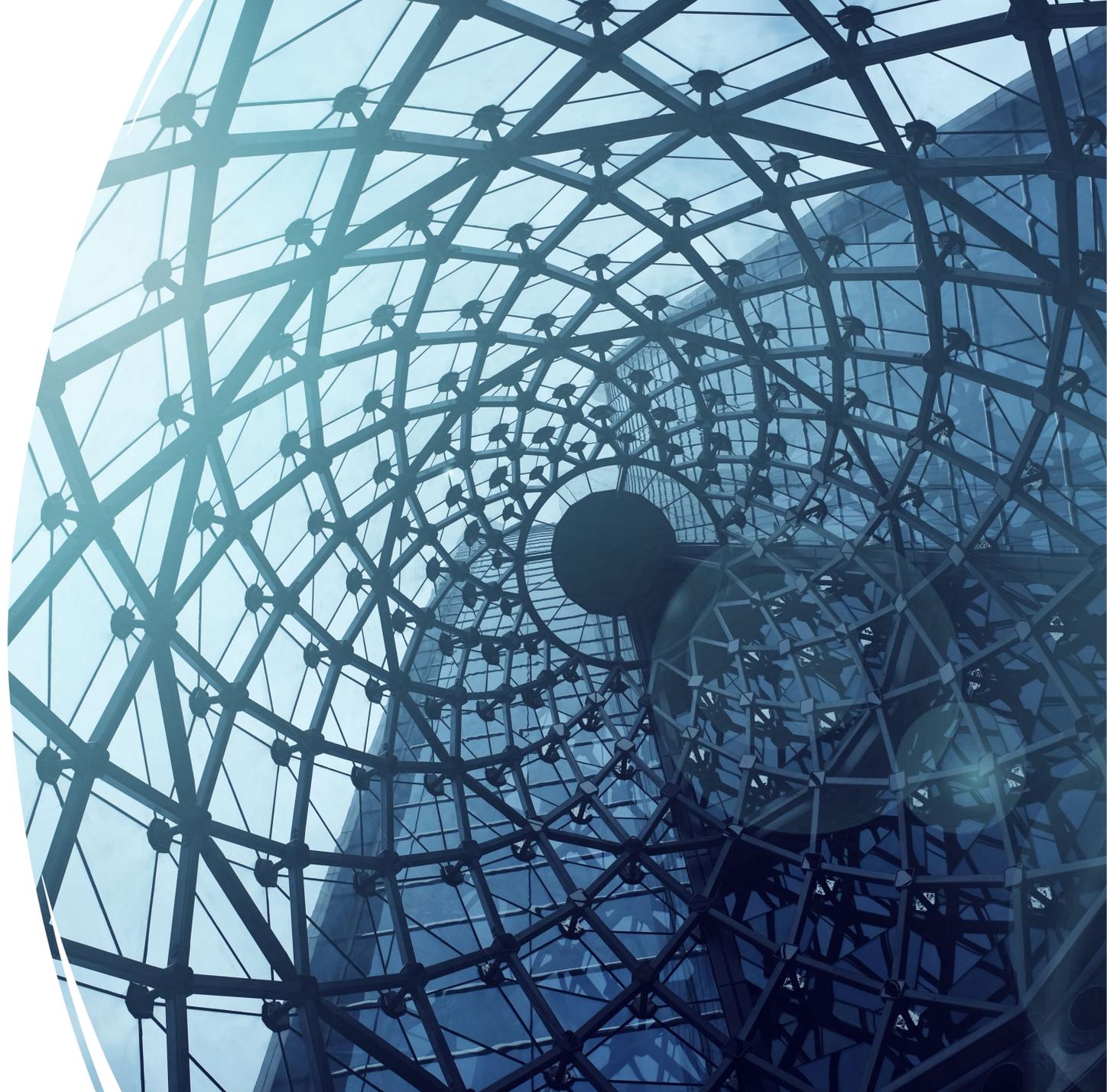
There is a counter-cyclical pattern in innovation and entrepreneurship in LAC during the current context

As the top companies listed in LAC stock exchanges lost almost US\$500 billion in value, tech-based companies' valuations grew US\$214 billion



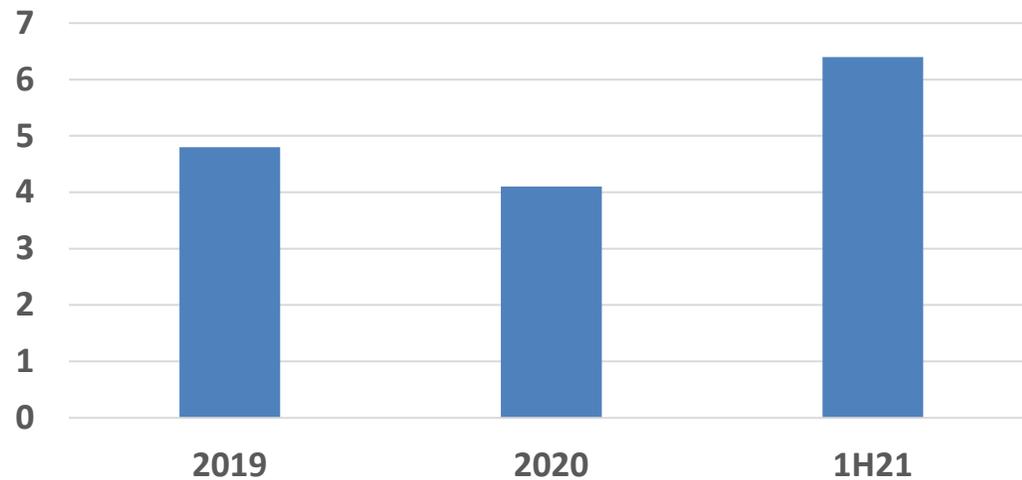
The remarkable capability of the innovation industry to generate value represents an untapped asset in LAC

Funding for early-stage companies in the first semester of 2021 reached US\$9.3 billion, compared to US\$5.3 billion during 2020 in LAC

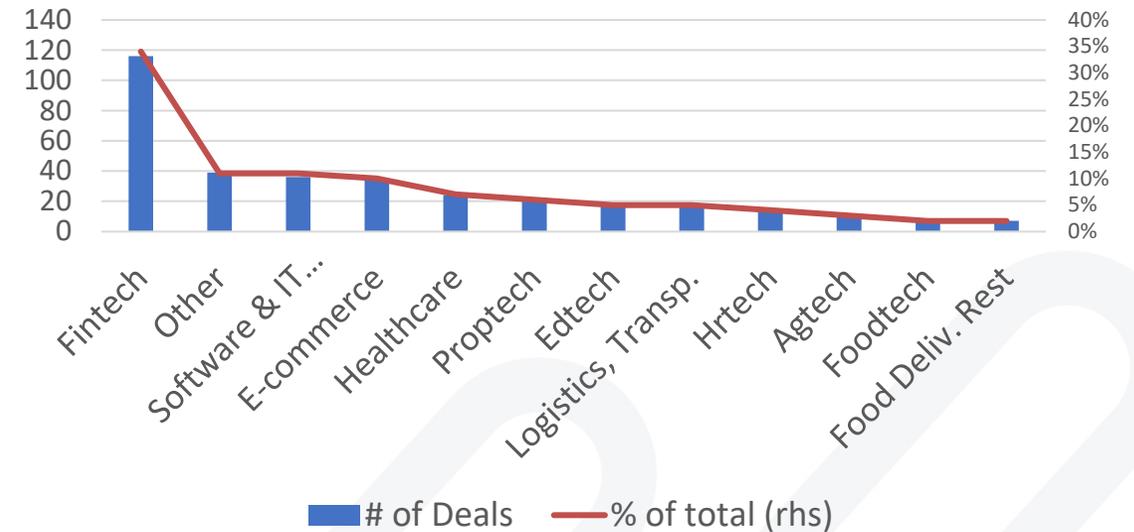


Venture Capital Investments in LatAm have been increasing despite the pandemic

Total Value of VC investment (US\$b)
LatAm



Sector analysis VC investments in 2020 + 1H 2021



Source: LAVCA (2021)

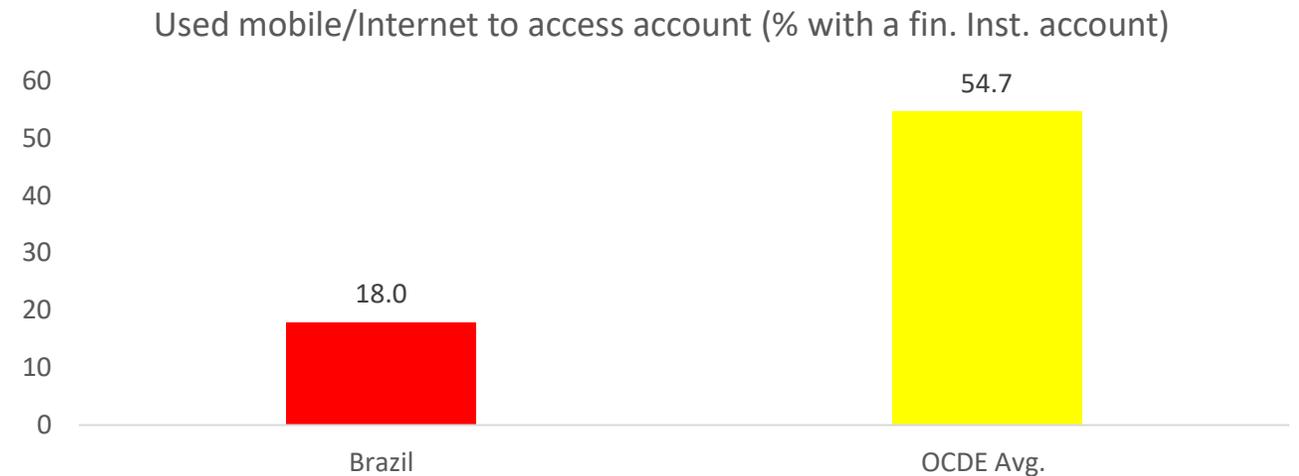
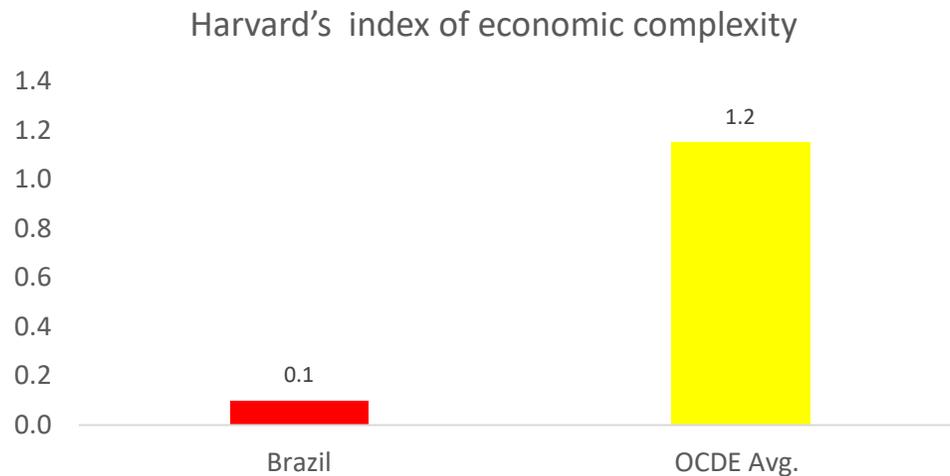
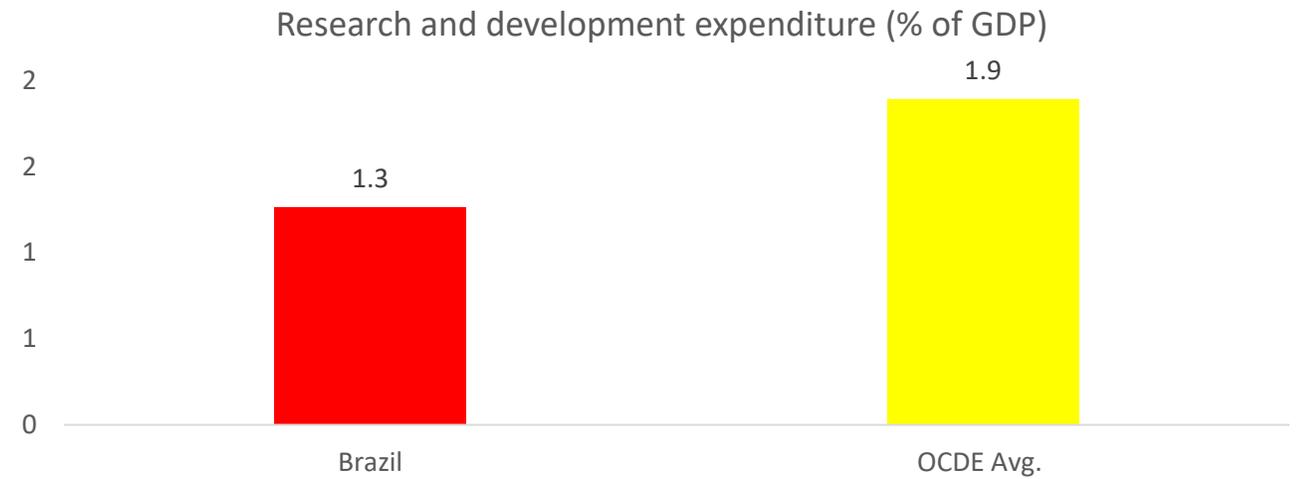
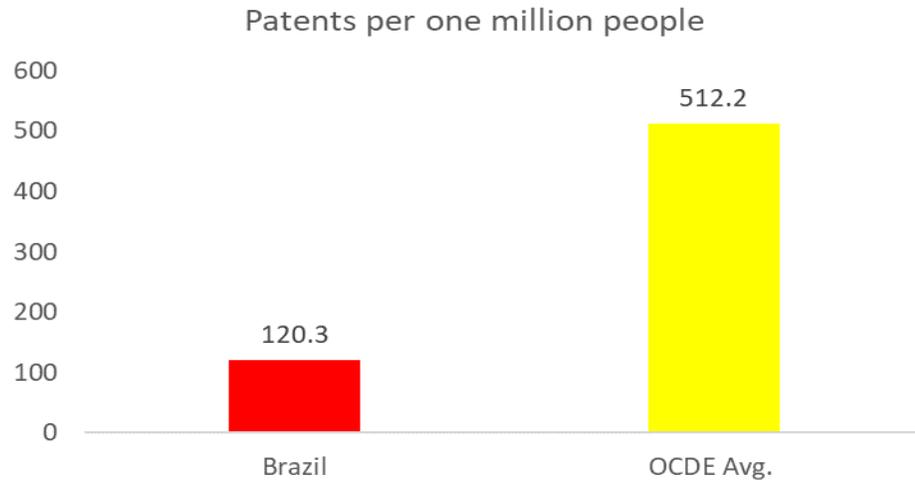
Despite such increase, there is a significant gap that must be addressed

The dollar amount of new venture investment needed in LAC per year to reach the average venture investment as a share of GDP in a typical OECD country would be US\$9.4 billion



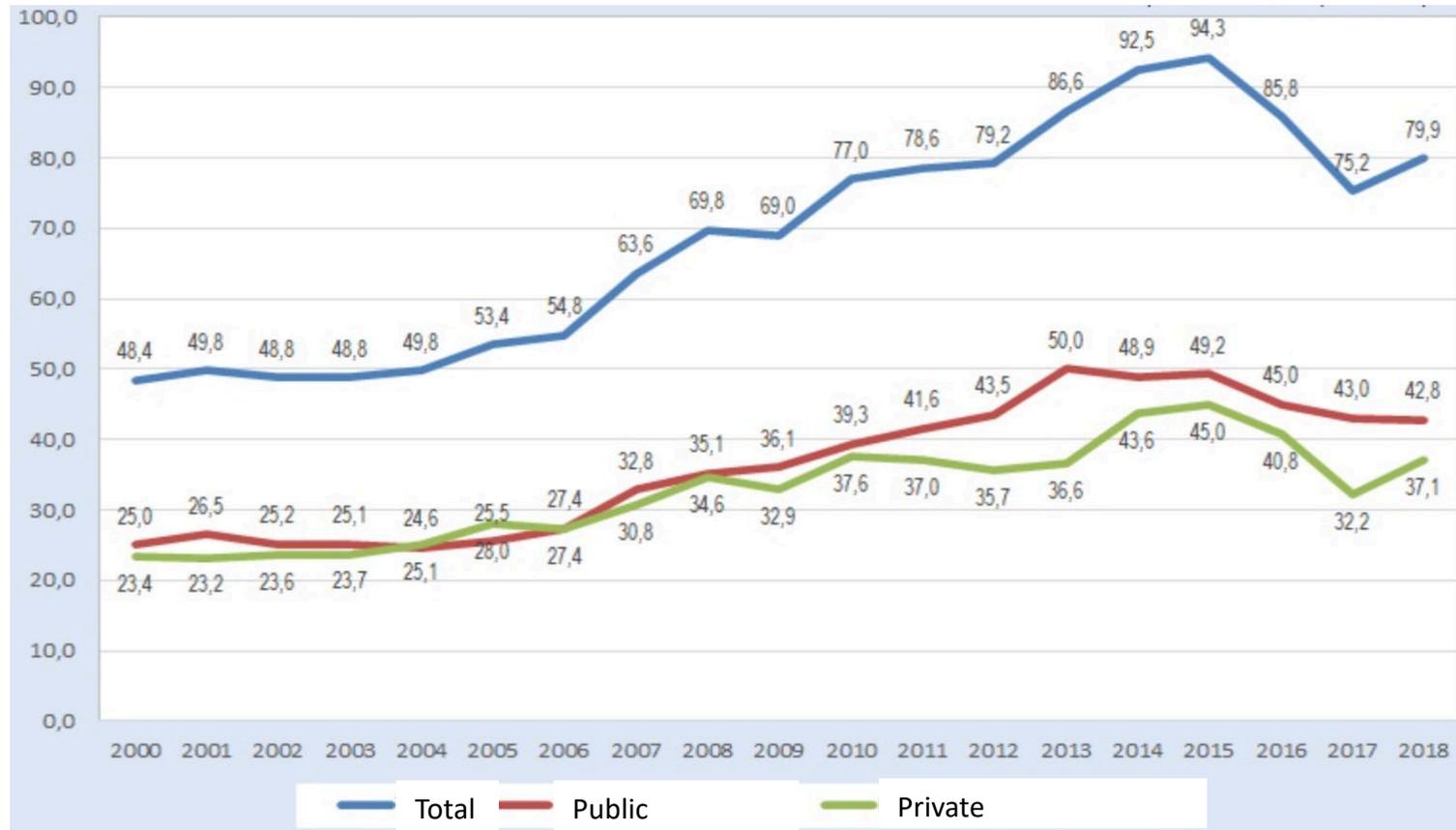
Innovation gaps for Brazil

Brazil's performance is lagging with respect to higher-income countries regarding innovation inputs and outputs



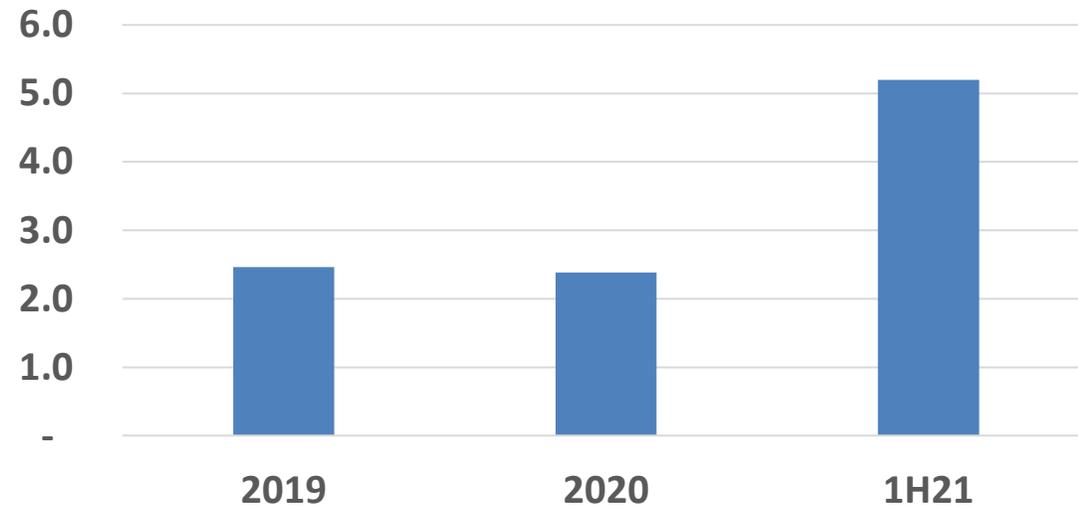
Absolute amounts of R&D spending fell by 15.3% in real terms between 2015 and 2018 driven by both the public and private sectors

Public and Private R&D Expenditure, in billion Brazilian 2018 Reals

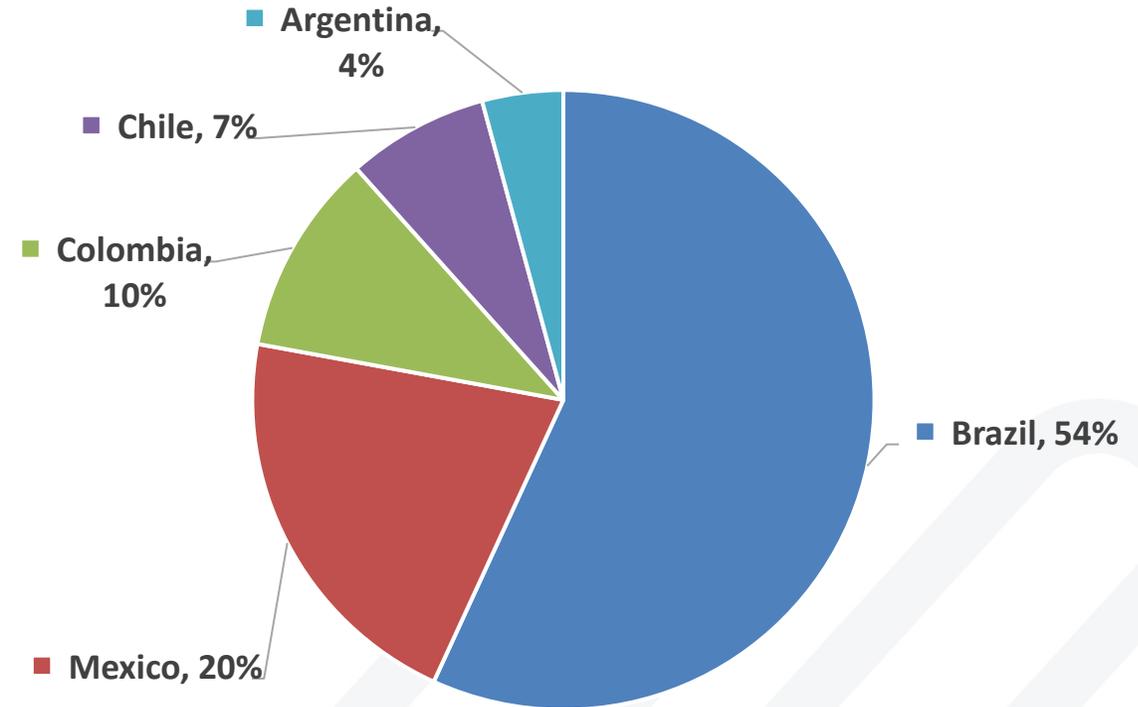


The Brazil VC industry represents only 0.01% of GDP, and its primary focus is on early-stage investments

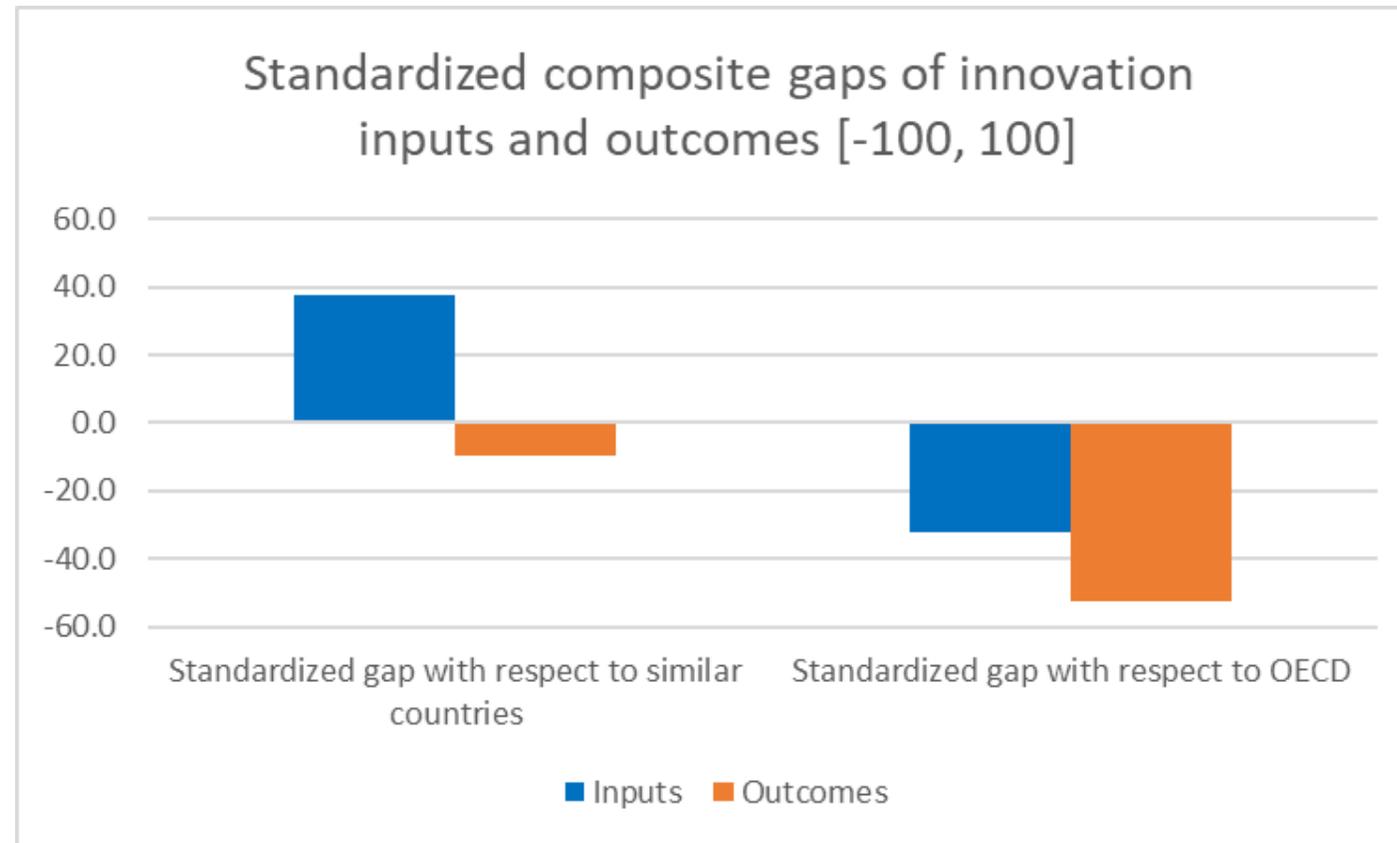
VC Investments in Brazil (in US\$b)



VC amounts raised in 2020 + 1H 2021



If a composite index is estimated adding individual indicators, the largest lags are related to innovation outcomes



Note: Input indicators include R&D expenditure and Internet coverage (% of the population); outcome indicators include agriculture value added per worker, index of Economic Complexity, patents per million people, % of the population that used the Internet to access financial accounts, % of the population that paid utility bills using mobile phone, % of the population that made or received digital payments.

Negative (positive) gaps suggests Brazil's performance lags (excels) with respect to either similar or OECD economies

Source: IDB Invest analysis bases on data from the World Bank, Center for International Development at Harvard, ITU, WIPO, UNESCO. Methodologies described in en Acevedo, Borensztein & Lennon, 2019 and Izquierdo et al., 2017

Examples of IDB Invest's projects in the region with innovative components



IDB Invest has supported Brazil's competitive fiber industry

- Long-term investments matched accordingly with tenors, grace periods and amounts loaned
- Parallel improvements in corporate ESG standards

IDB Invest has mobilized resources to support the forestry industry in Brazil

- **Co-lead with IFC a \$1.1bn financing**
- **IDB Invest mobilized US\$250M B-loan from commercial banks & US\$50M from the China Co-Financing Fund for LAC**



IDB Invest is supporting technology-based business models that are helping to transform freight transportation

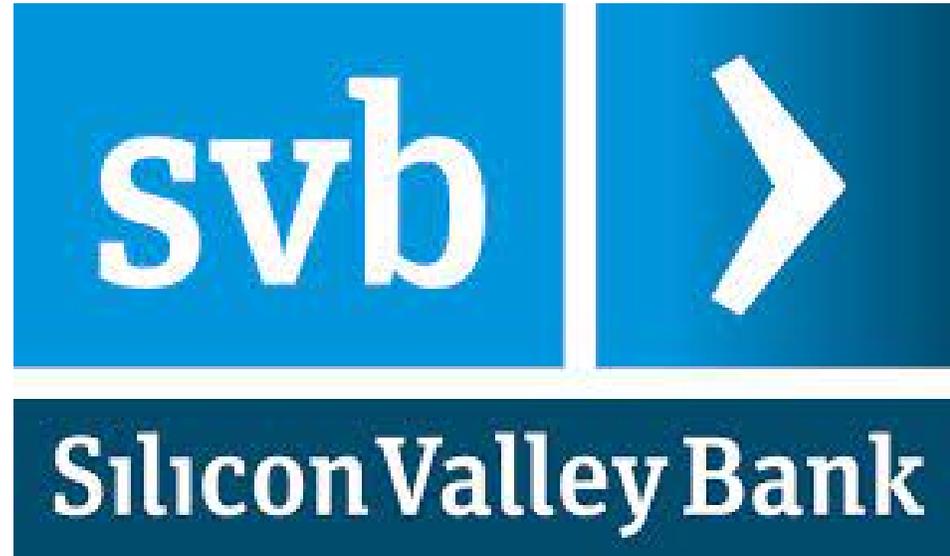


- In 2020, IDB Invest made an equity investment US\$14.4 million in Fretebras, comprising US\$9.9 million of equity by BID Invest and US\$4.5 million of concessional equity resources by the Clean Technology Fund.



Launch of first Venture Debt in the Region

- Provision of structured loans to young and high-growth companies in LAC in software and technology
- IDB Invest's investment package consists of up to US\$15 million for 49% of the Fund's capital commitments; and up to \$240,000 in the Fund's general partner for a 20% equity stake



IDB Invest has supported alternative working capital solutions, market intelligence and access to a marketplace through a digital platform



IDB Invest is supporting an AgTech venture that enables farmers in the Region to access financing and connect with reliable counterparts, while enhancing transparency and fair trade in the market through pricing data

IDB Invest supports a disruptive and 100% digital lending program designed to support MSMEs that sell their products and services through the Mercado Libre platform



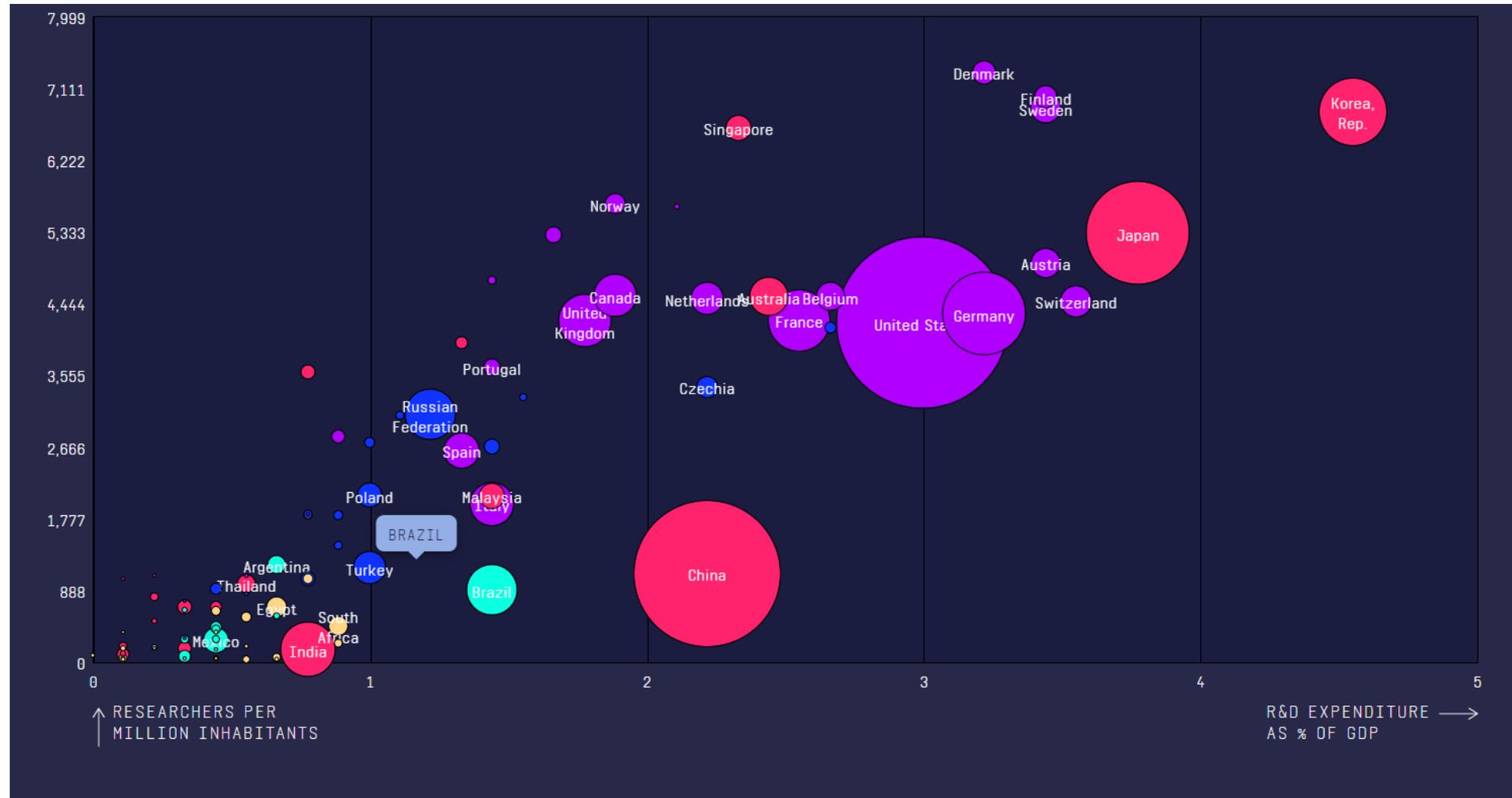
Annex: Performance of variables correlated with innovation in Brazil

Value of VC investments in LAC since 2019

	2019	2020	1H20
Total Value of VC investment (US\$b)	4.8	4.1	6.4
Startups that raised their first USD1m+ disclosed financing	75	124	71
Startups that raised USD1m+	93	195	135

Source: Association for Private Capital Investment in Latin America (LAVCA)

Important innovation inputs such as R&D spending also lag with respect to higher-income economies

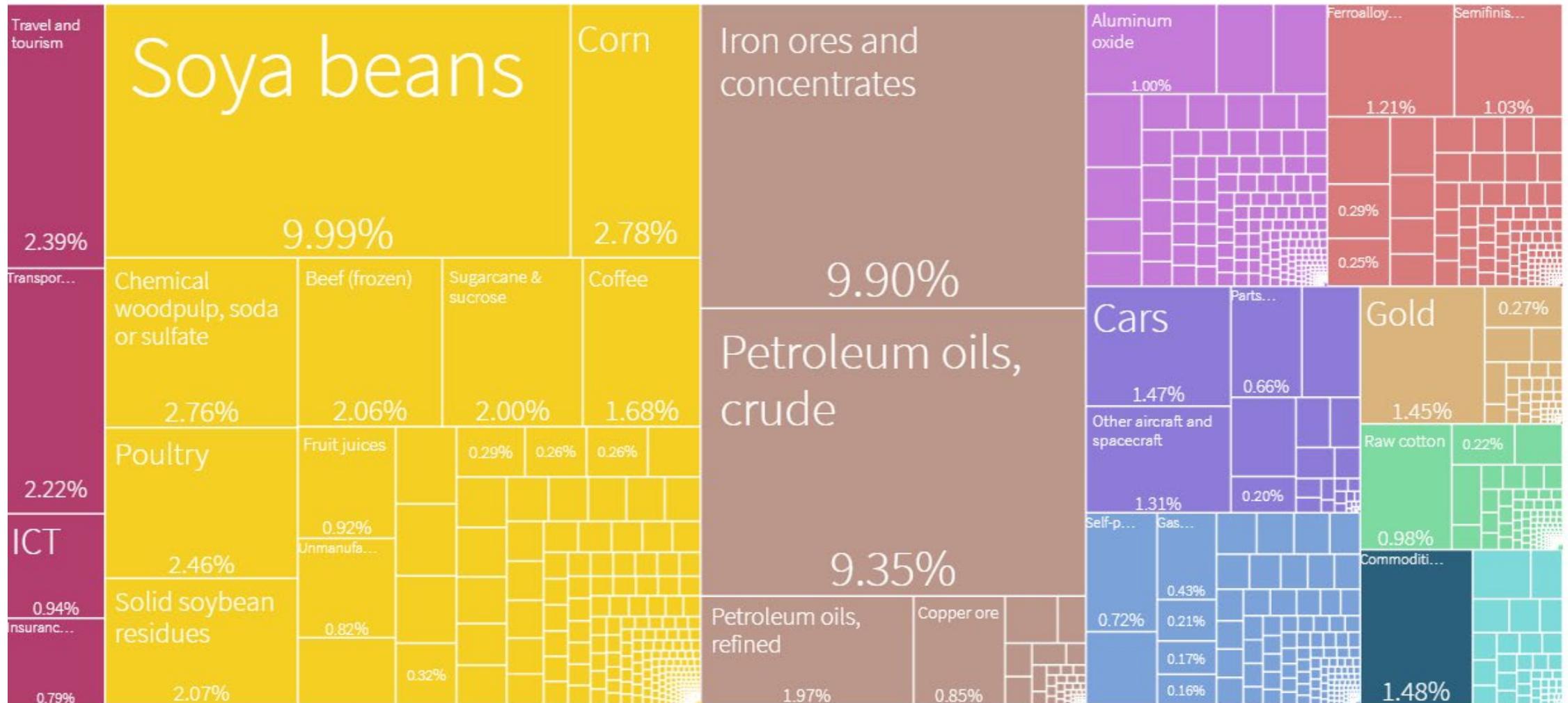


Source: UNESCO

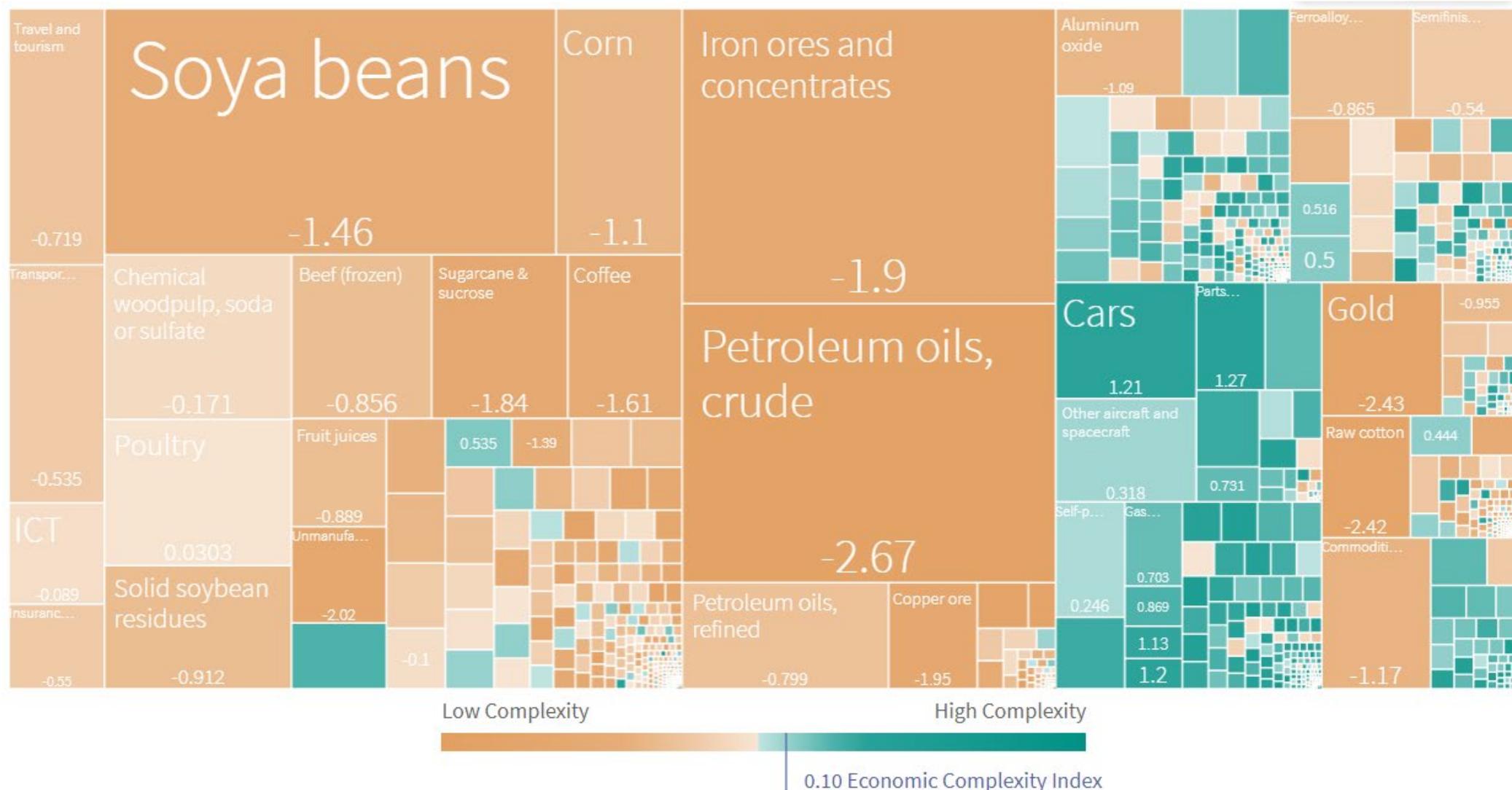
Brazil's per capita GDP has stagnated over the past decade and its Economic Complexity Index (ECI) worsened 4 positions driven by a lack of diversification of exports



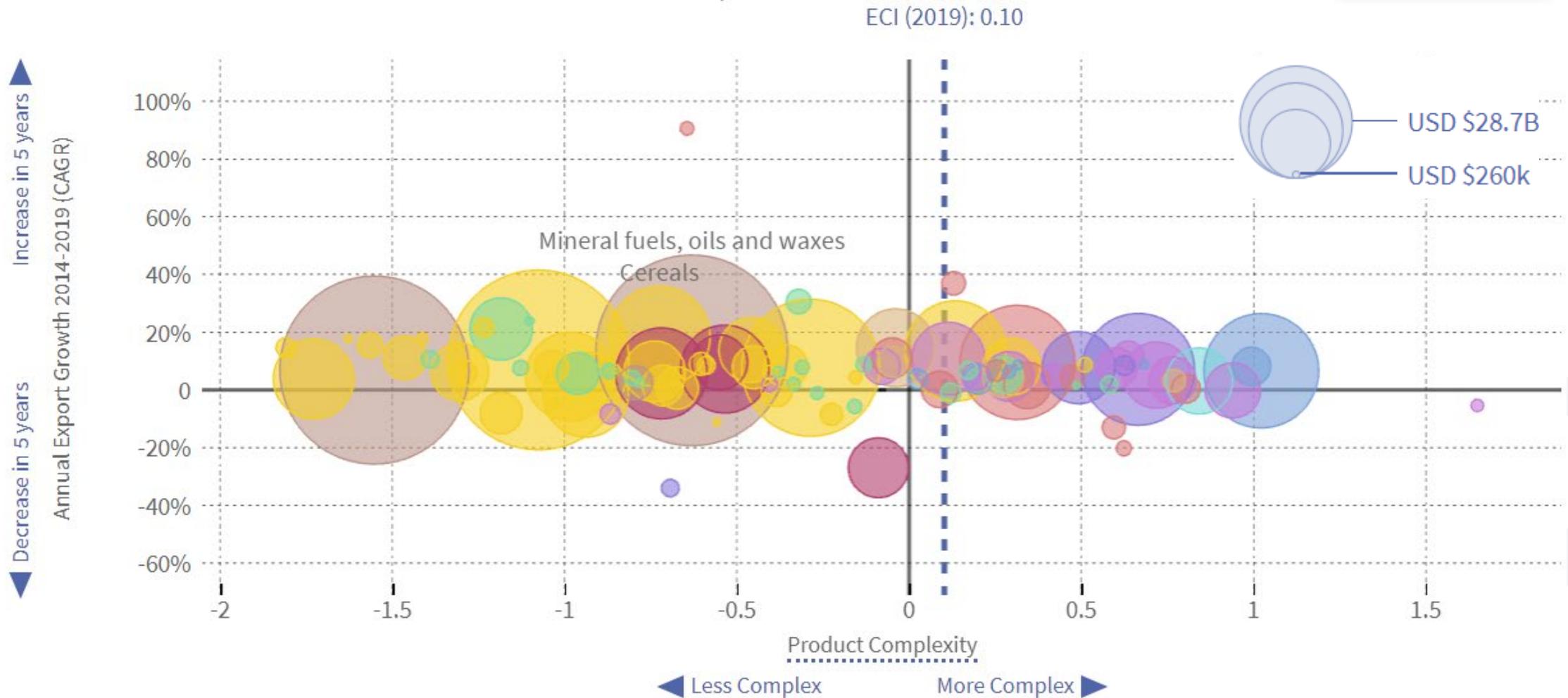
Brazil's exports have declined by an annual average of 0.9% over the past five years, which has been a drag on overall economic growth



Brazil's largest goods exports are in low complexity products, under the category "Agriculture and Minerals"



The largest contribution to export growth in Brazil comes from moderate complexity products (i.e. mineral fuels, oils and waxes and cereals products)



Brazil has diversified into too few products to contribute to substantial income growth

Brazil has added 8 new products since 2004 and these products contributed \$3 in income per capita in 2019

New Products Exported, 2004 - 2019

