



Brazilian Innovation Ecosystems: Opportunities and Challenges

Prof. Dra. Kadígia Faccin
Kadigia@gmail.com



ESCOLA
de Gestão
e Negócios



Introducing myself...

- I am Brazilian ...my grandfather immigrated from Italy ...
- My name is "Kadigia" because my parents love an Arabic name (Brazil and Brazilians, like me, are a set of cultures, identities, and diversity!).
- I did a Ph.D. in Business Administration (Brazil) and Information and Communication Science at the University of Poitiers (France). During my Ph.D., I lived in Poitiers, a beautiful town close to Paris.
- My research interest is linked to Innovation Management, Collaboration, and Knowledge Management. I'm an Innovation Management and Qualitative Methodology professor and



Introducing myself...

- Head of the Graduate Program in Management at Unisinos University in Porto Alegre, southern Brazil.
- And recently, I was elected to coordinate the Innovation, Technology, and Entrepreneurship (ITE) scientific committee at the National Association of Graduate Studies in Management (ANPAD).
- I graduated in Economics and I'm still a Law undergraduate student;
- I just finished my professional sommelier course, and I made my wine (Pinot Noir lover)! I live in a small town called Bento Gonçalves, which is in the middle of a wine valley, where it is cold, and there we have snow in some winters (Brazil has a lot of surprises!).
- I represent some of the diversity and complexity of my country!





What do you Know about Brazil?



Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios



Objective: Present some data about Brazilian innovation ecosystem, discovering challenges and opportunities



Brazil is a huge country.

- largest country in Latin América
- the only country in America where portuguese is spoken





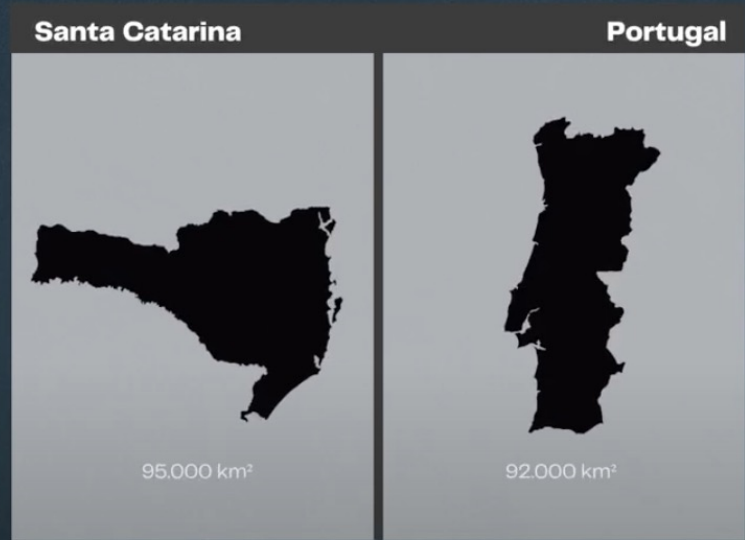
One State: Minas Gerais
have the same size than
Spain!



Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios





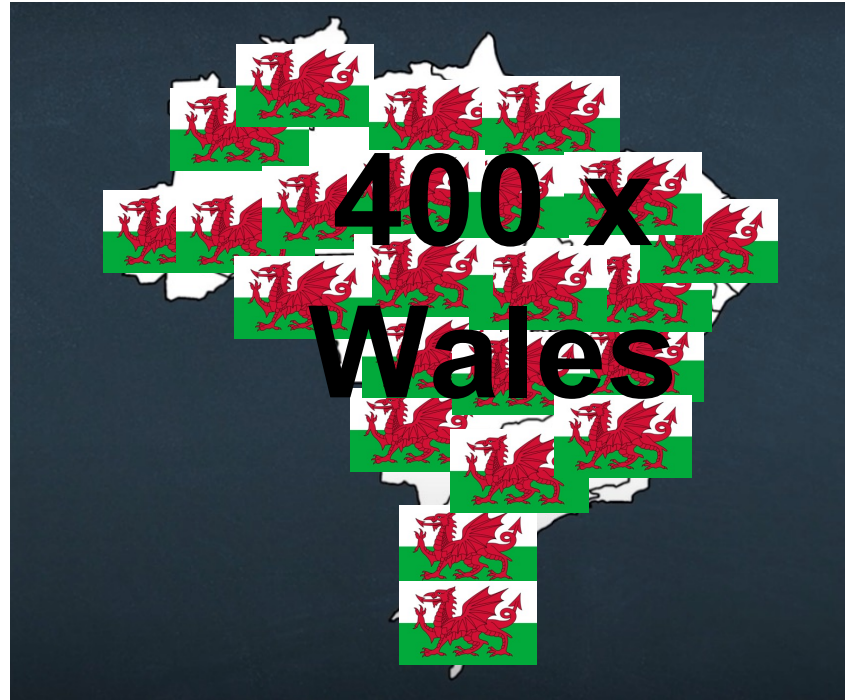
One State: Santa Catarina have the same size than Portugal!



What is your impression about
Brazil and Walles or UK?



35 x UK



Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios



Brazil's área comprises: almost 409 times Walles
Brazil's área comprises: almost 35 times UK;
RS's área comprises: almost 14 times Walles

Brazil's area: 8 516 000 km²
UK's área: 243 610 km²
Wales area: 20 779 km²
RS area: 281 748 km²

RS Presentation

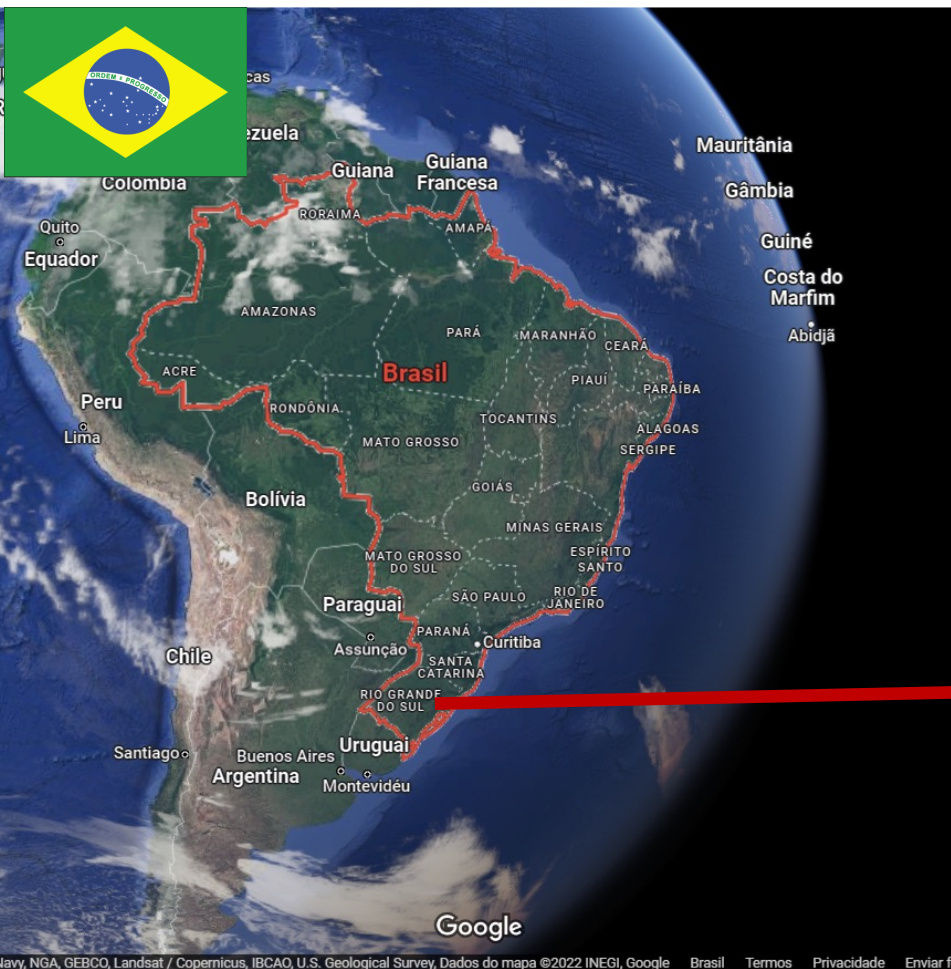
Most Innovative State of Brazil
Bigger than UK (in terms of área)



Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios





Wales: 3,136, 000 people
**** Porto Alegre city: 1,492,530 people**
**** São Paulo City: 12,000,000**
**** Rio De Janeiro City: 6,748,000**



Gross Domestic Product (GDP) –Per Capita

Wales

- Per capital: USD 25 000

UK

- Per Capita: USD 47 000

Brazil

- Per Capita: USD 7 500

Rio Grande do Sul

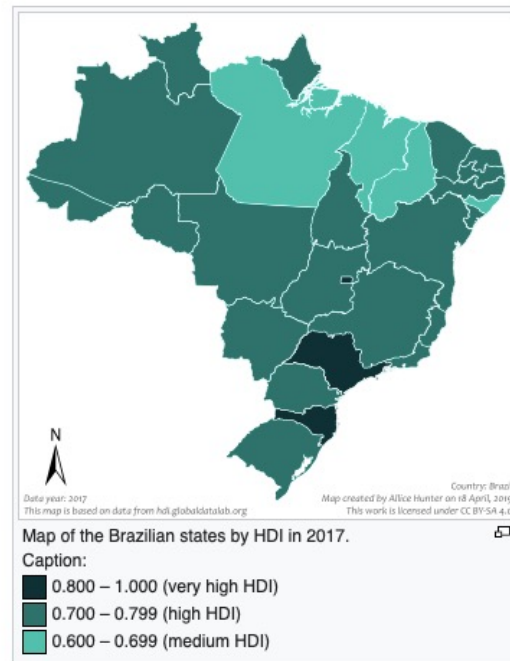
- Around - USD 10 000



Human Development Index (HDI)

- Brazil = average 0.774 (2017)

- Wales = 0.901
- UK = 0.932



World Inequality Lab – from Paris School of Economics (2021)

Brazil is one of the countries with the greatest social and income inequality in the world.



Programa de Pós-graduação em Administração

**ESCOLA de Gestão
e Negócios**

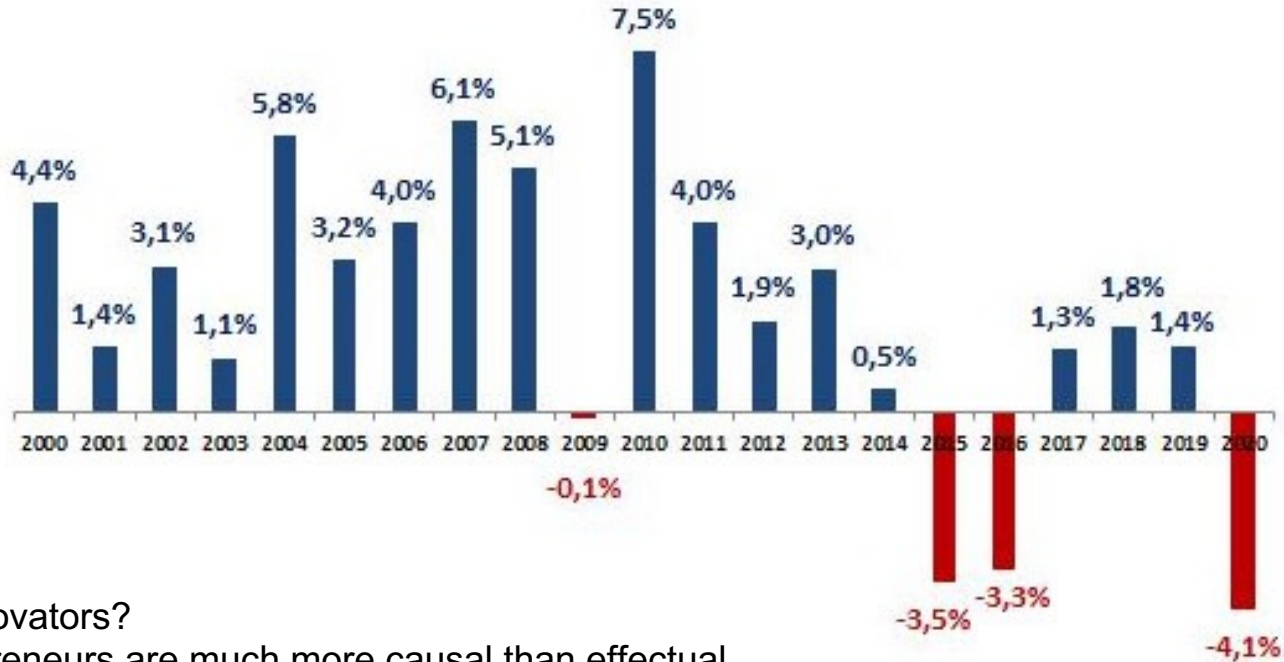


World Inequality Lab – from Paris School of Economics (2021)

- The richest 10% in Brazil earn almost 59% of the total national income;
- The poorest 50% earn 29 times less than the richest 10% (France 7 times);
- The poorest half in Brazil own less than 1% of the country's wealth;
- The richest 1% own almost half of Brazil's wealth.



GDP – Change Rate - Brazil



Is it good for innovators?
In crises, entrepreneurs are much more causal than effectual.



Brazil is the largest economy in Latin America, the third largest in America (behind only the United States and Canada) and the thirteenth largest in the world by nominal GDP;

Among the main export products in 2019 were: soybeans, oil, iron ore, cellulose, corn, beef, chicken, soybean meal, sugar and coffee. The country also exports: aircraft, electrical equipment, automobiles, vehicle parts, ethanol, gold, footwear, orange juice, cotton, tobacco, semi-finished iron,



The agribusiness sector accounts for approximately 23% of the Brazilian GDP; the country is the third largest exporter of agricultural products in the world, behind only the United States and the European Union.

The automobile, steel, petrochemical, computers, aircraft and durable consumer goods industries account for 30.8% of the Brazilian GDP.

Industrial activity is geographically concentrated in the metropolitan regions of São Paulo, Rio de Janeiro, Curitiba, Campinas, Porto Alegre, Belo Horizonte, Manaus, Salvador, Recife and Fortaleza.



The participation of the tourism sector in the national GDP reaches 8% of the total, second only to agribusiness, mining and the automotive industry.



INNOVATION

Activities Reported by Companies

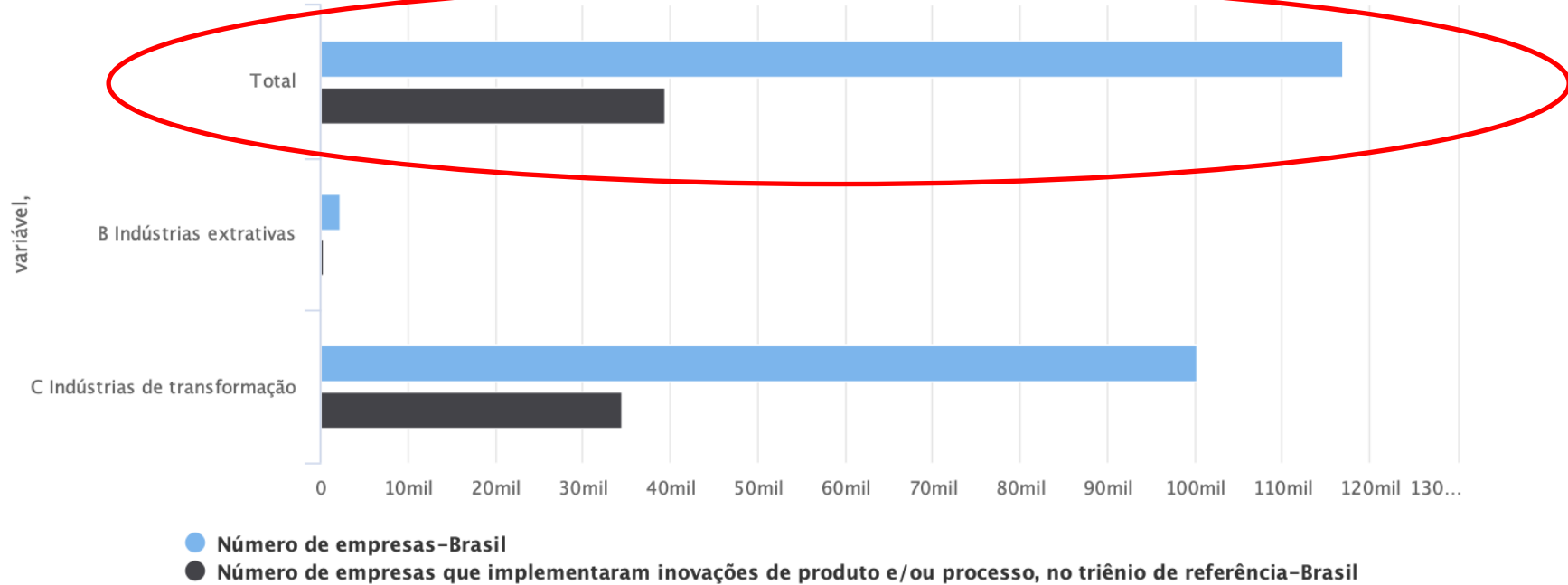


Programa de Pós-graduação em Administração

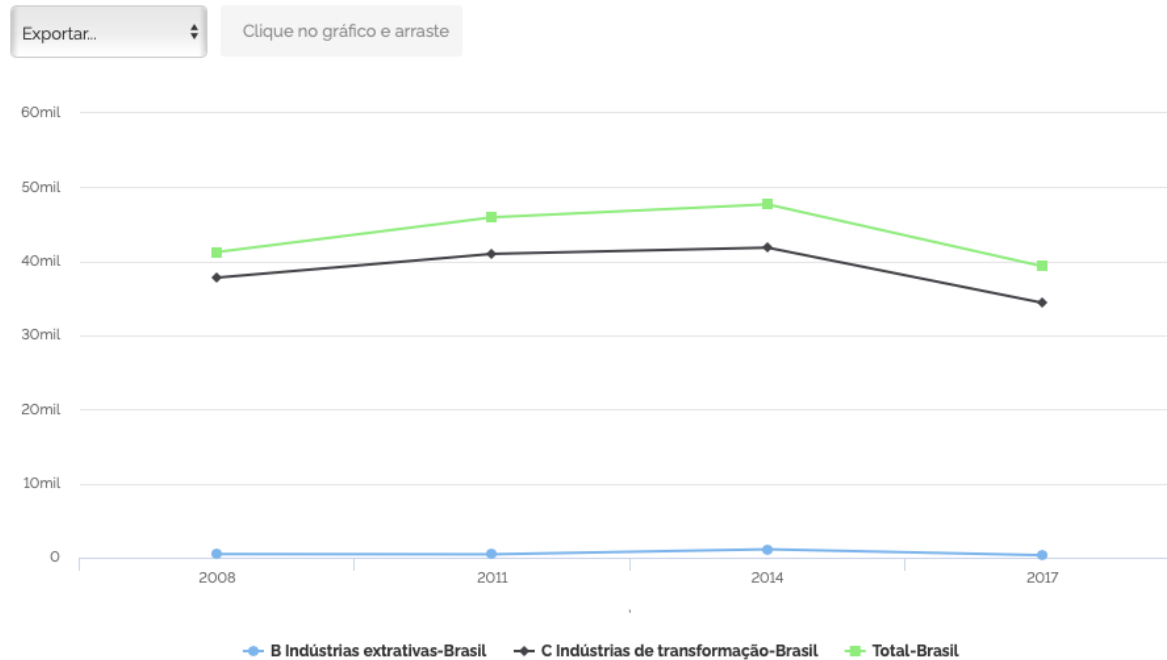
ESCOLA de Gestão
e Negócios



Companies that have implemented product or process innovation.... Around 30%



Companies that have implemented product or process innovation....



BRAZILIAN SCIENCE, TECHNOLOGY & INNOVATION CARACTERÍSTICS

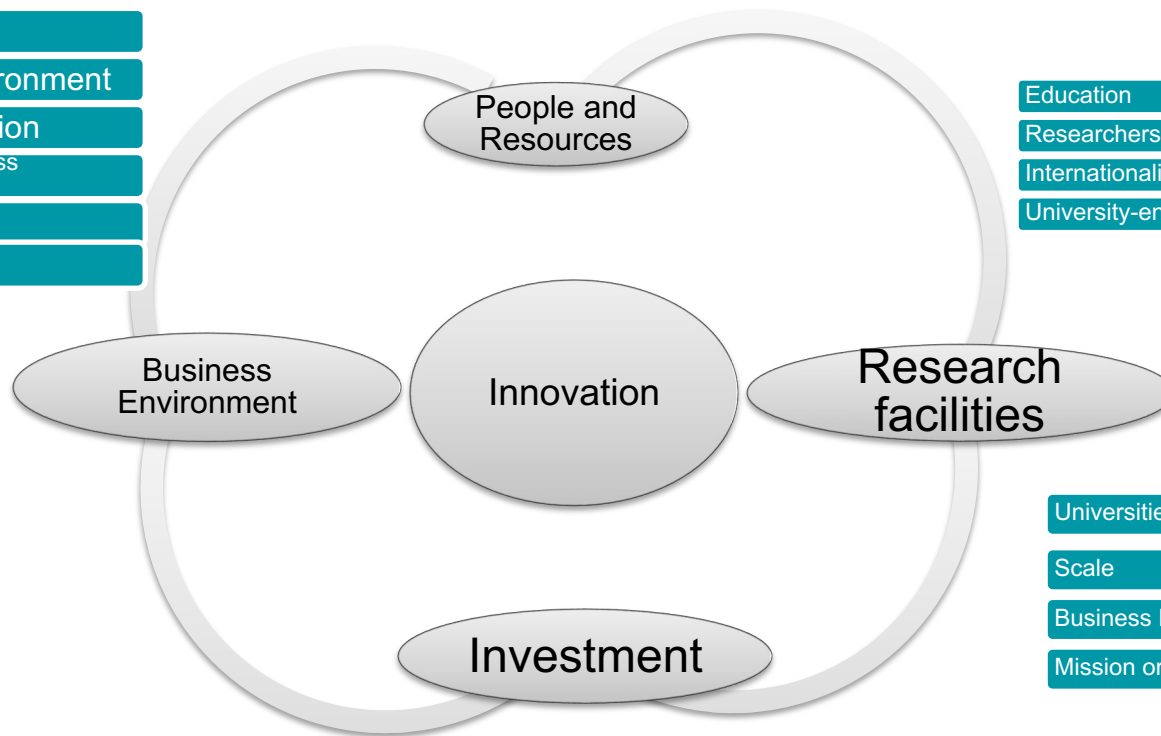


Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios



Competition
Regulatory environment
Internationalization
Bureaucracy / business environment
Cost of capital
Tax system



Education
Researchers and scientists
Internationalization of science
University-enterprise partnerships

Universities and S&T institutions
Scale
Business R&D labs
Mission oriented institutions

Public policies

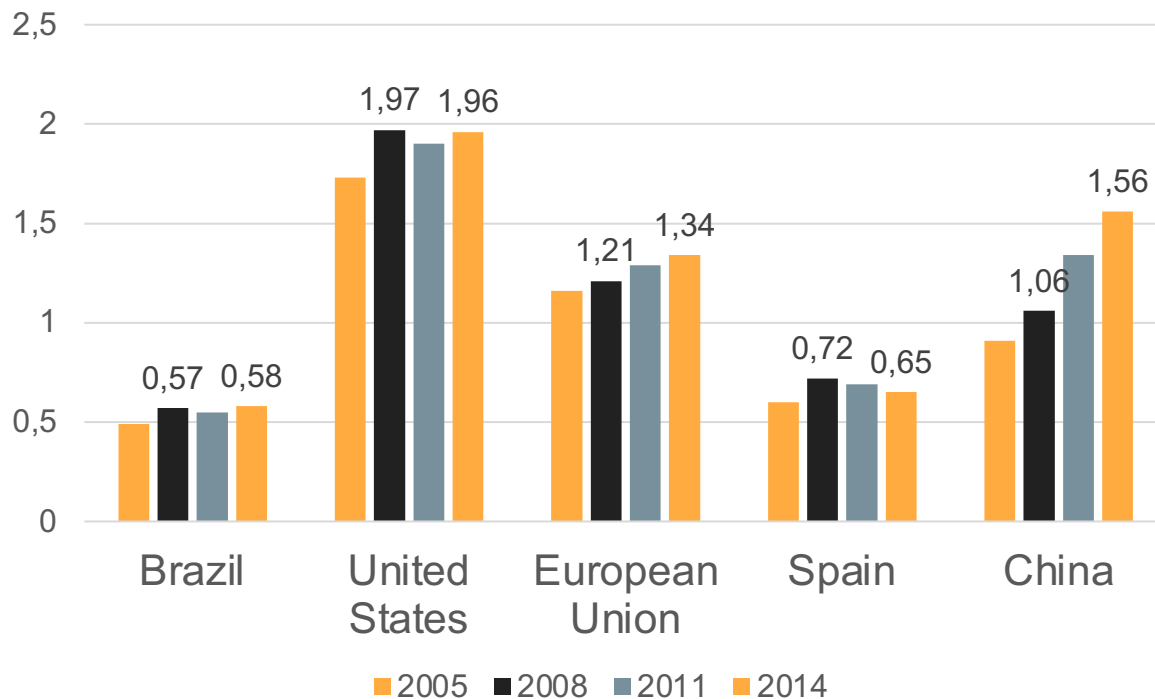


Programa de Pós-graduação em Administração

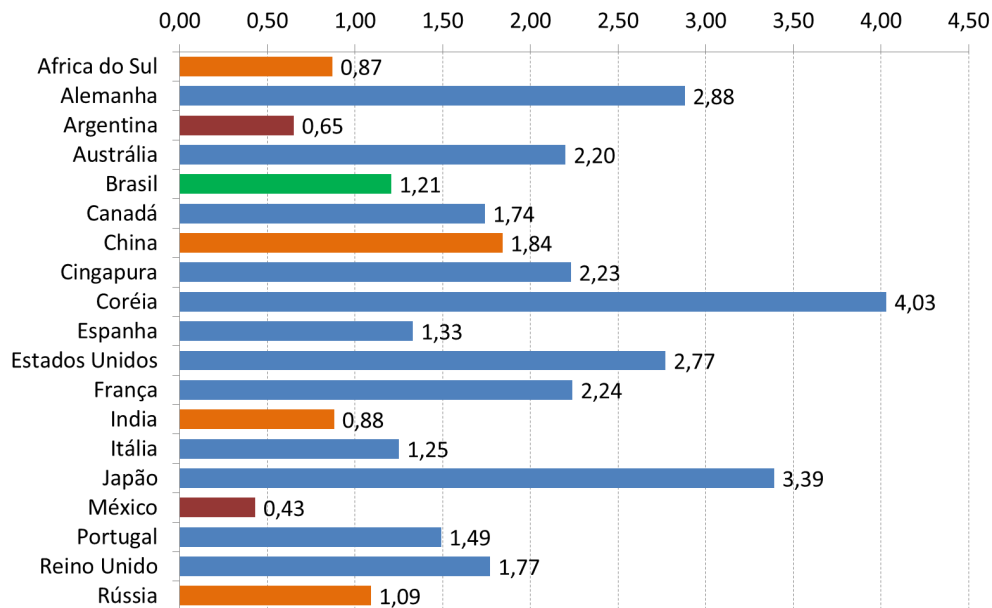
ESCOLA de Gestão
e Negócios



Business R&D Investment (% of GDP)



R&D Expenditures /GDP



Sources: OECD / Brazilian Ministry of Science , Technology and Innovation / Industrial R&D in India: Broad Indications



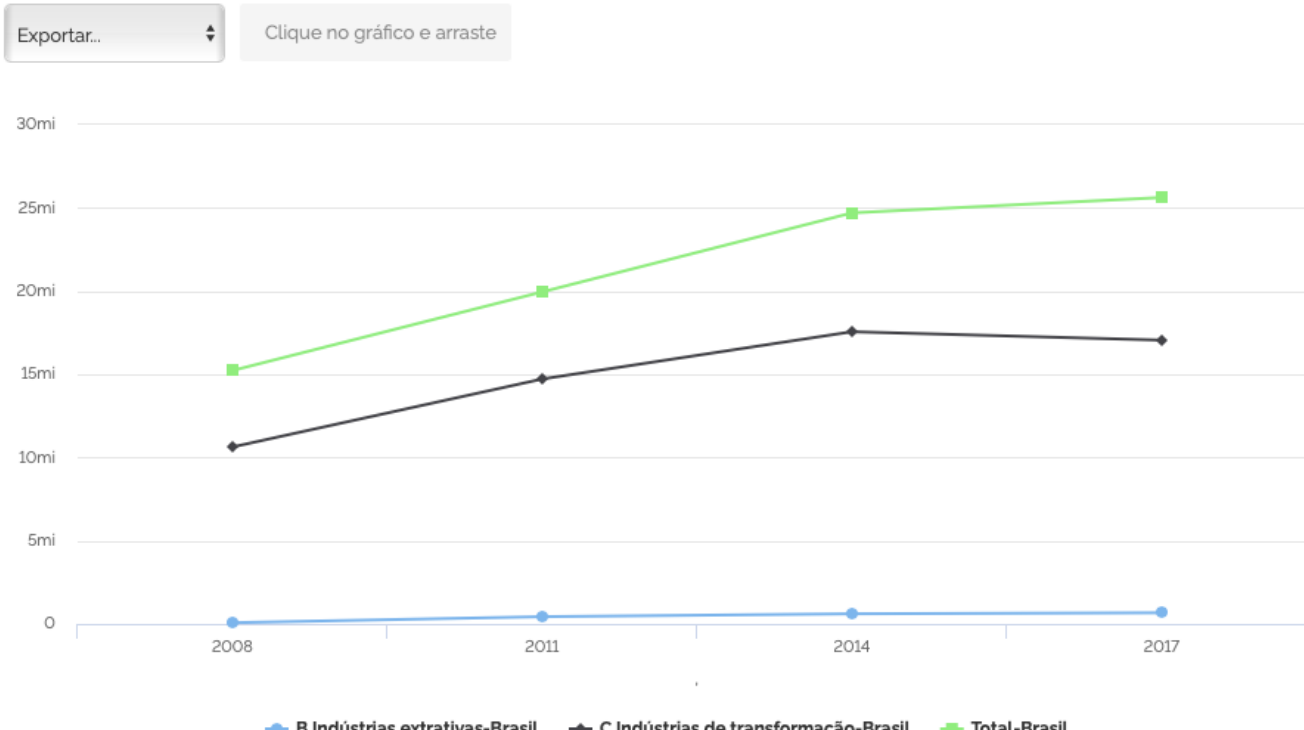
Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios

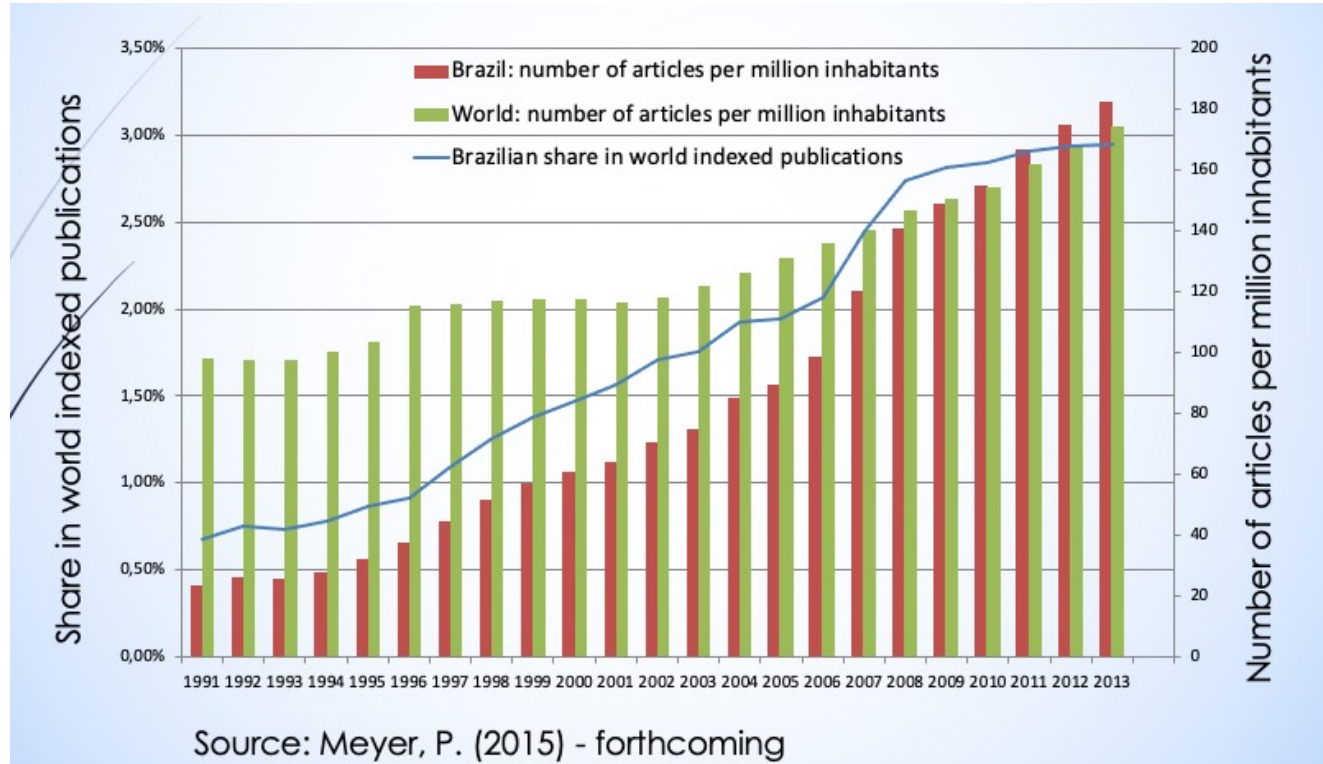


Investment in R&D Activities

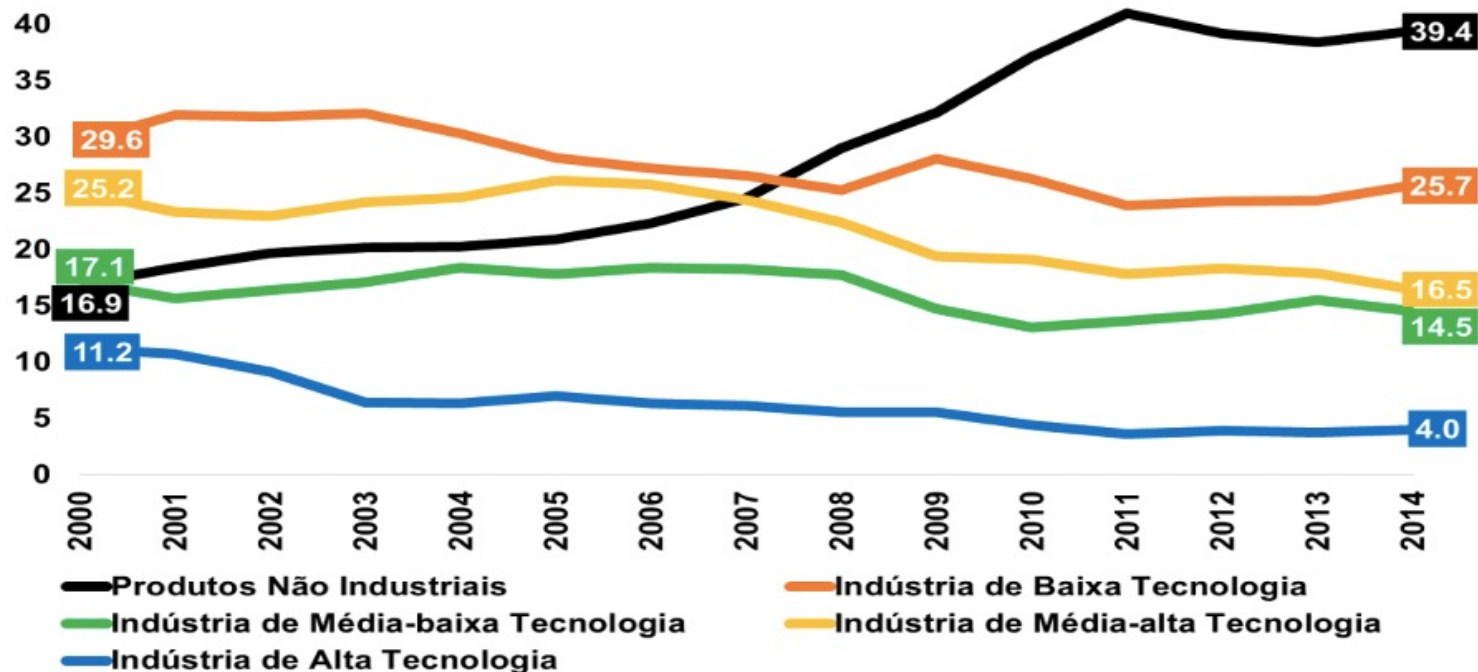
Valor dos dispêndios em atividades internas de Pesquisa e Desenvolvimento das empresas que implementaram inovações (Mil Reais), 2008 - 2017



Scientific publications - Brazil: indexed papers per million inhabitants



Evolution of participation by technological intensity of the Brazilian export agenda



Source: FUNCEX



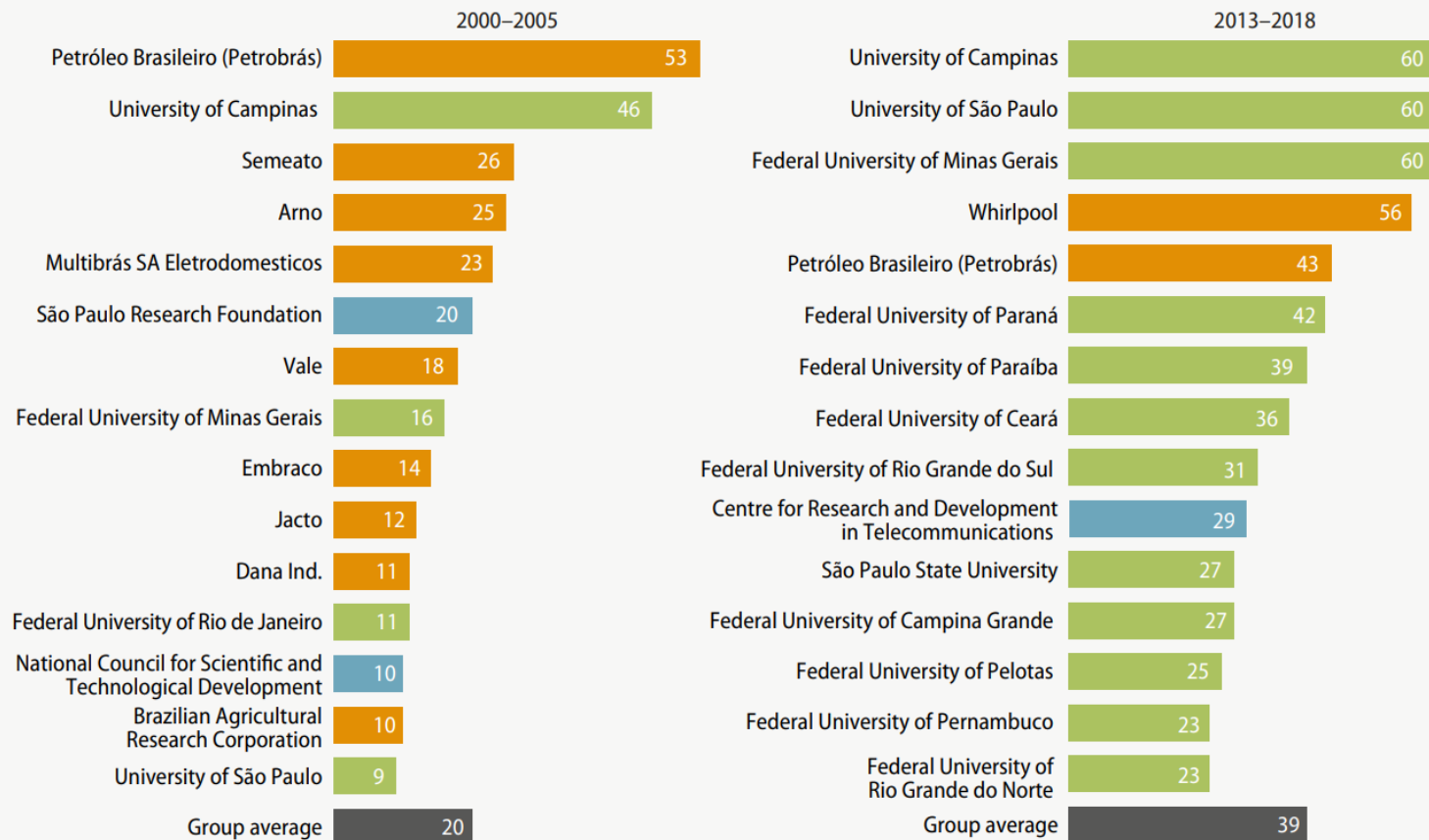
Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios



Leaders in patent applications to INPI among residents of Brazil, 2000–2005 and 2013–2018

■ Enterprise
 ■ University
 ■ Public research institution



Note: IP5 refers to the US Patent and Trademark Office, European Patent Office, Japanese Patent Office, Korean Intellectual Property Office and State Intellectual Property Office of the People's Republic of China.

HUMAN CAPITAL



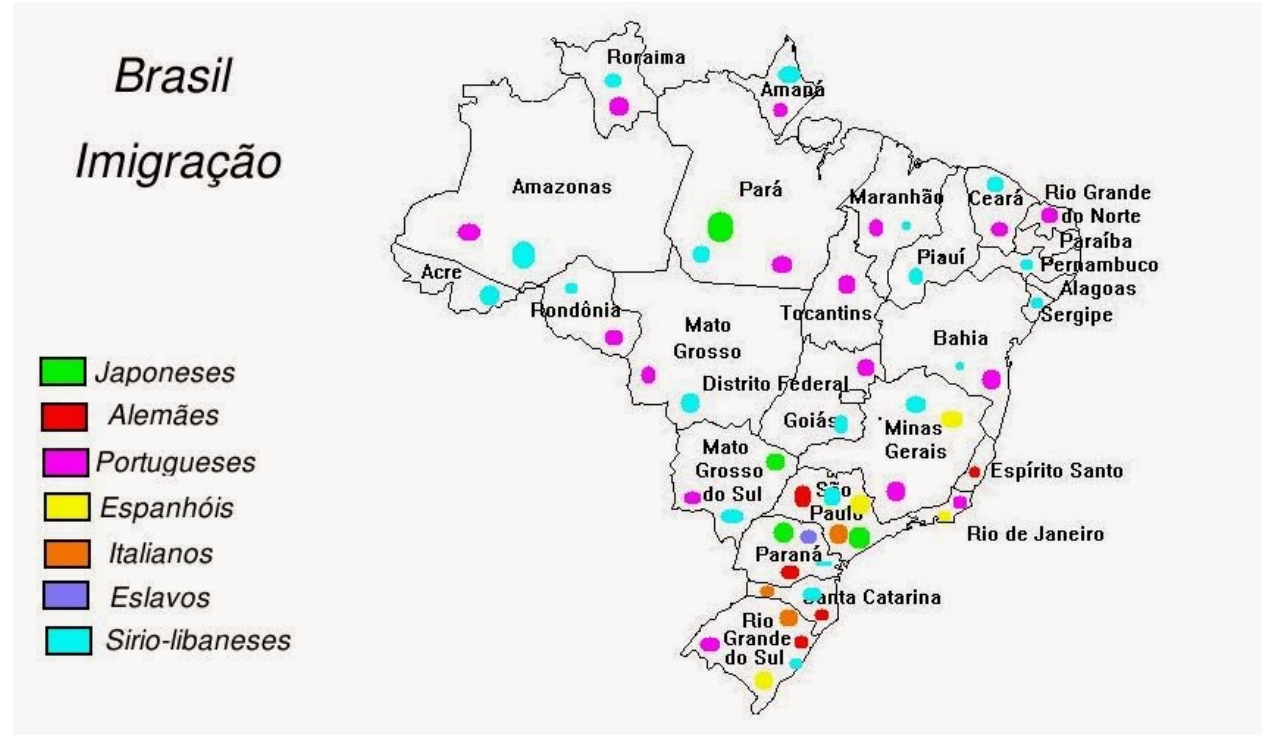
Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios



Innovation Management

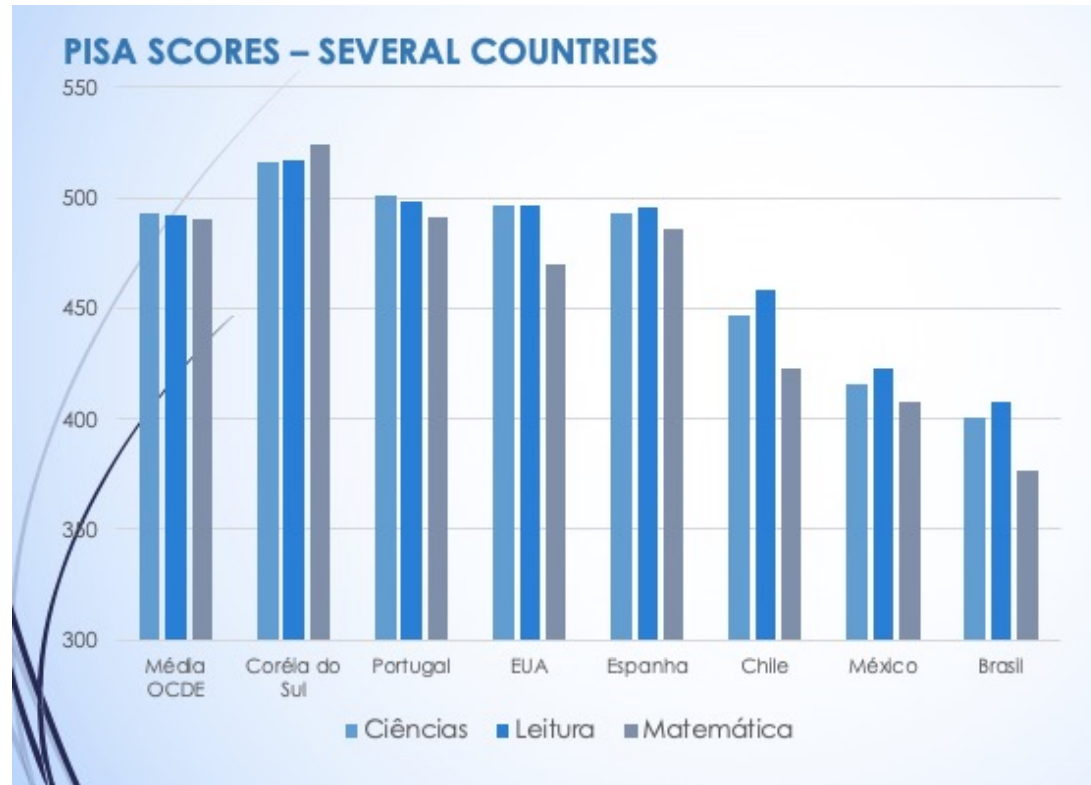
- People;
- Creativity;



The number of literate adults increased from 86% to 92% in the 2000- 2014 period

75% of Brazilian adults don't know how to calculate a simple average (Círculo da matemática, 2015)

EDUCATION



6.8% of the Brazilian population aged 15 or over are still illiterate (11.3 million people) – IBGE(2021)

UK = 1%

Norway = 0%

US = 1%

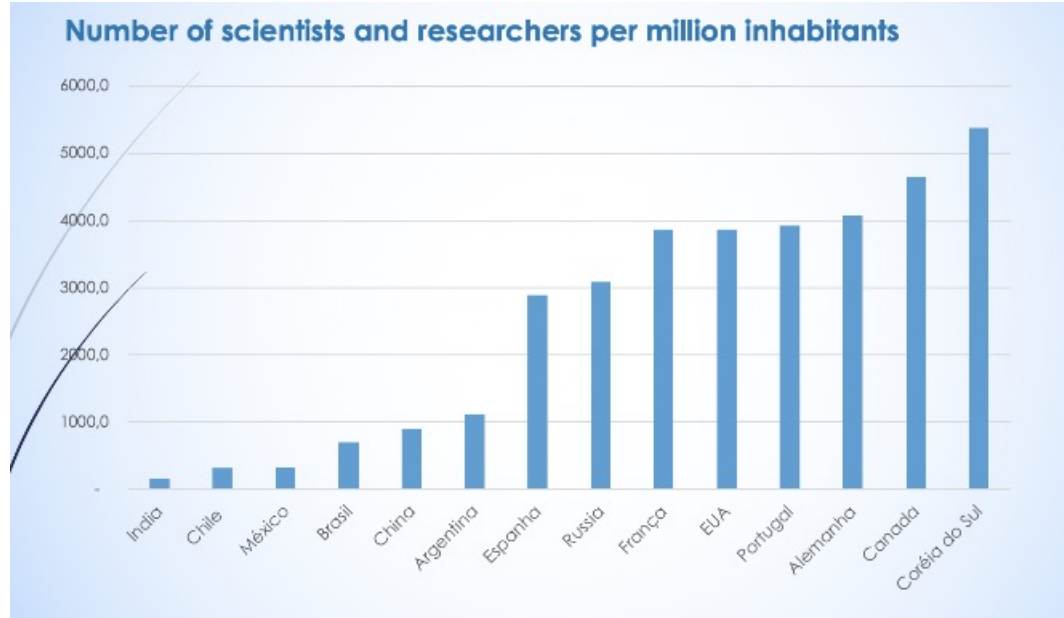


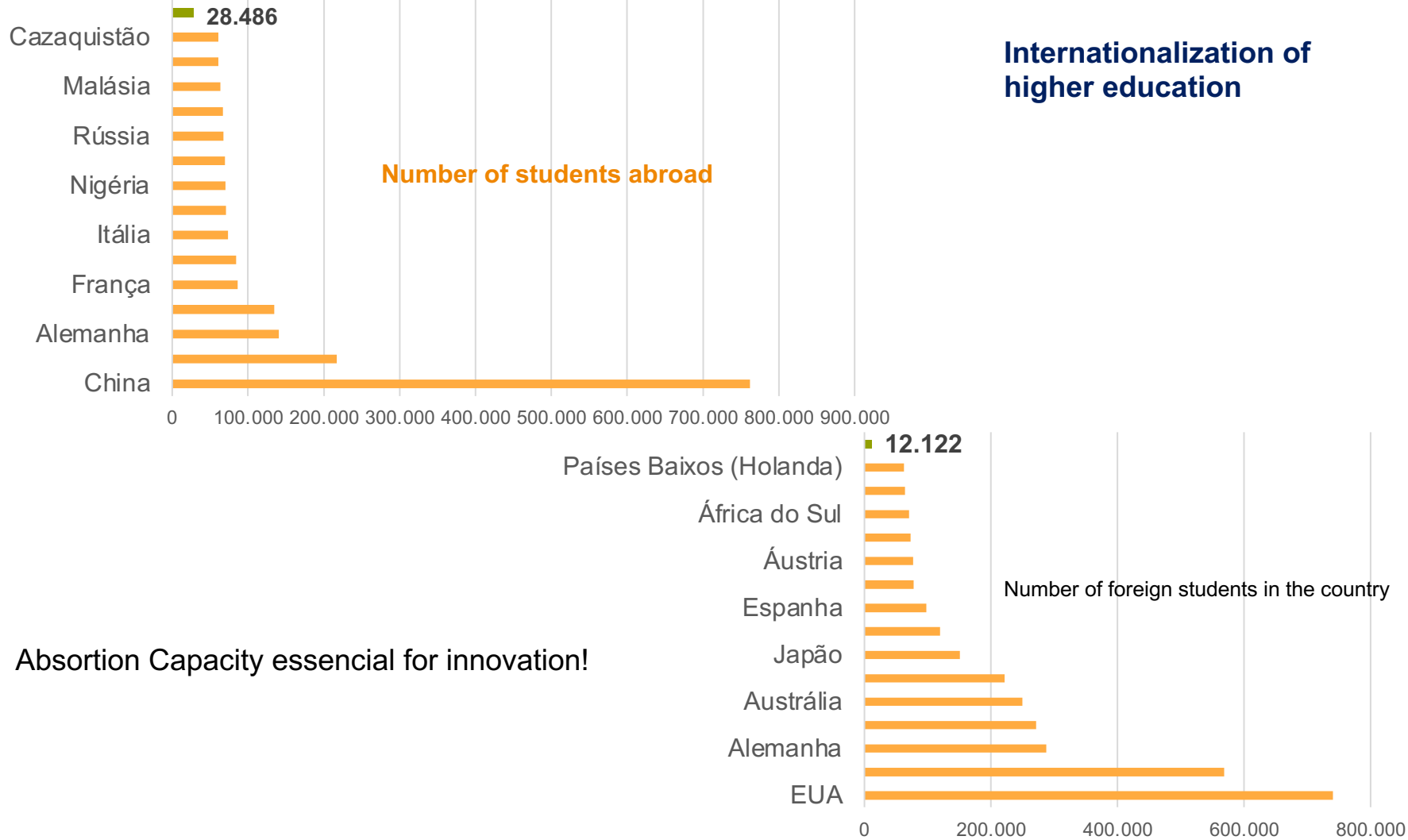
Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios



Few engineers and scientists





RESEARCH INFRASTRUCTURE AND FACILITIES



Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios



A small scale research infrastructure

Most of research facilities in Brazil
are inside the biggest universities

They are small Labs with 4
researchers, in average

There are few multidisciplinary labs
and research centers

There are few research institutions
outside the biggest public
universities

RESEARCH INFRASTRUCTURE AND FACILITIES

SIRIUS PROJECT

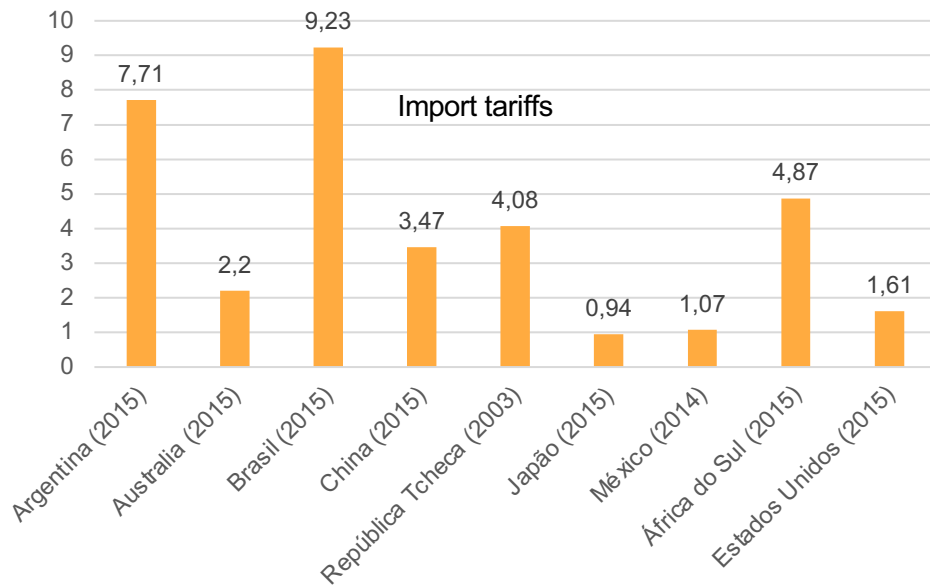


Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios

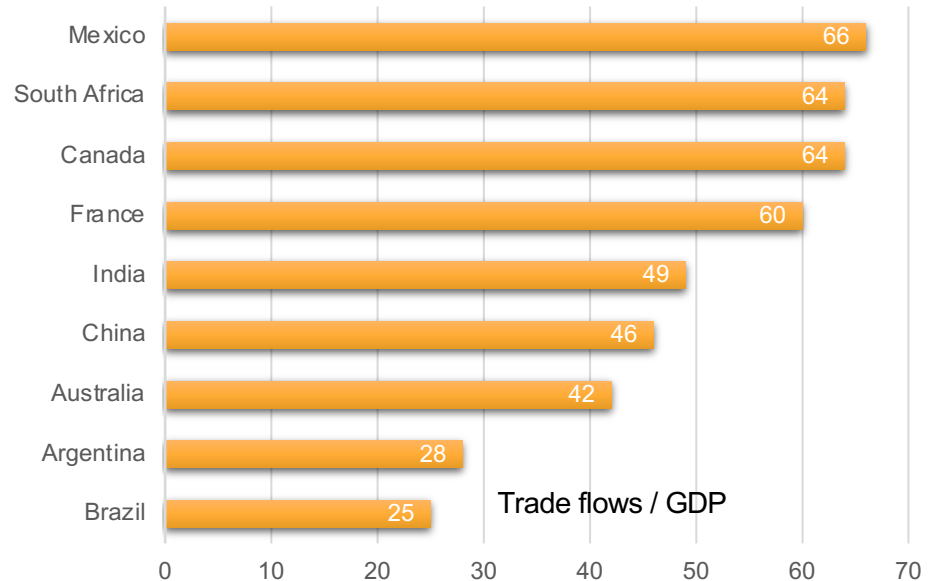


The business environment



Thats also linked with the brazilian export agenda!

A closed economy limits the competition and the access to foreign technology



DOING BUSINESS (WORLD BANK)



4 Public policies

Support from government for innovation (2017) (Data from PINTEC, 2017)

Buy machines (around 50%)

Tax Incentives for R&D (around 20%)

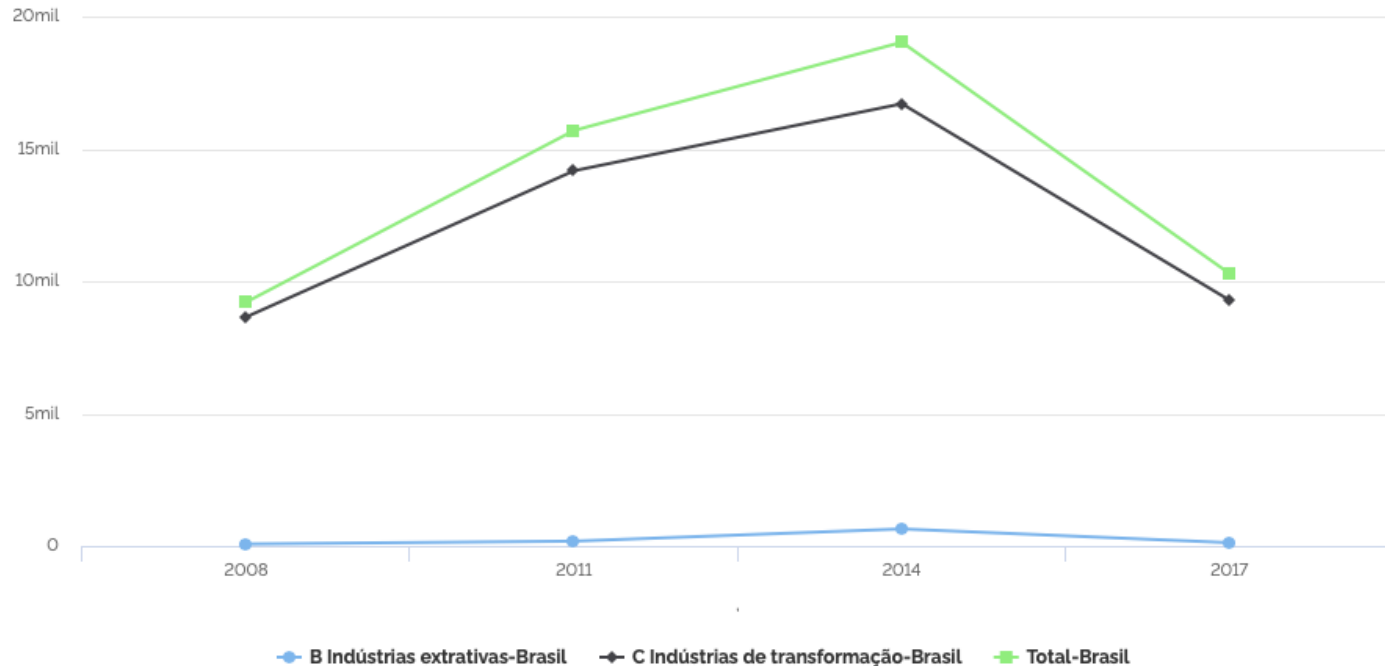
Money for Project without university or research institute (around 10%)

Scholarships (around 2%)

venture capital (around 0,5%)

Not linked to open innovation...
Not linked with a strategy for sectors...

Companies that receive support from government to innovate in product or process



Things are changing... Good luck!

The “Startup Law” was approved in 2021!!!!
Until 2021, we don't consider “angel investor” as
“angel investor” ...



Opportunities and Challenges

- Quality of Education;
- Attraction of investments – inside (Laws) and abroad;
- Attraction and retention of Brains;
- Size of the country and diversity of needs;
- Creative, adaptative and diverse people and cultures;
- Natural resources;
- Small Movements – governance;
- Emergent country – huge market consumption;



Some Movements...



Programa de Pós-graduação em Administração

ESCOLA de Gestão
e Negócios



**ONGOING
PROCESS...**

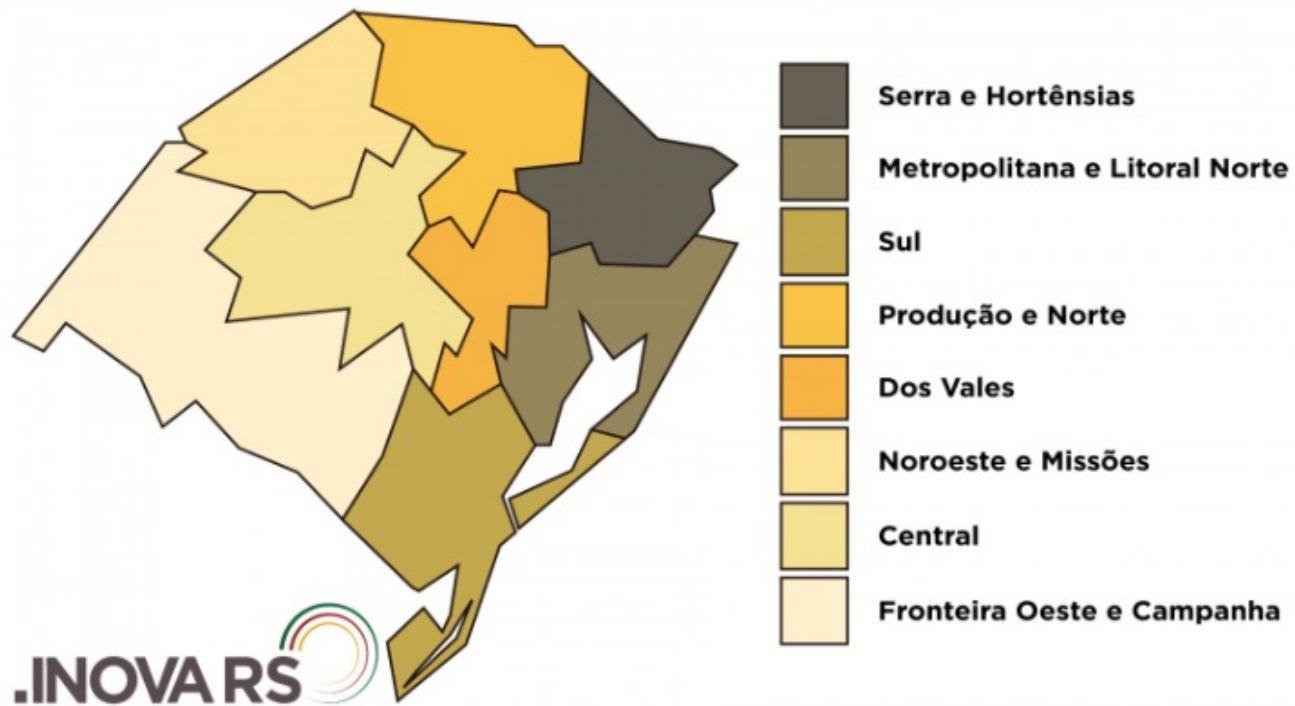




**PACTO
ALEGRE**

MAPEAMENTO DO ECOSISTEMA DE INOVAÇÃO
percepções e desafios





OBRIGADA.



AACSB
ACCREDITED

ESCOLA
de Gestão
e Negócios

UNISINOS
DESAFIE O AMANHÃ.

kadigia@gmail.com

LinkedIn: Kadigia Faccin

Instagram: Kadigia.Faccin