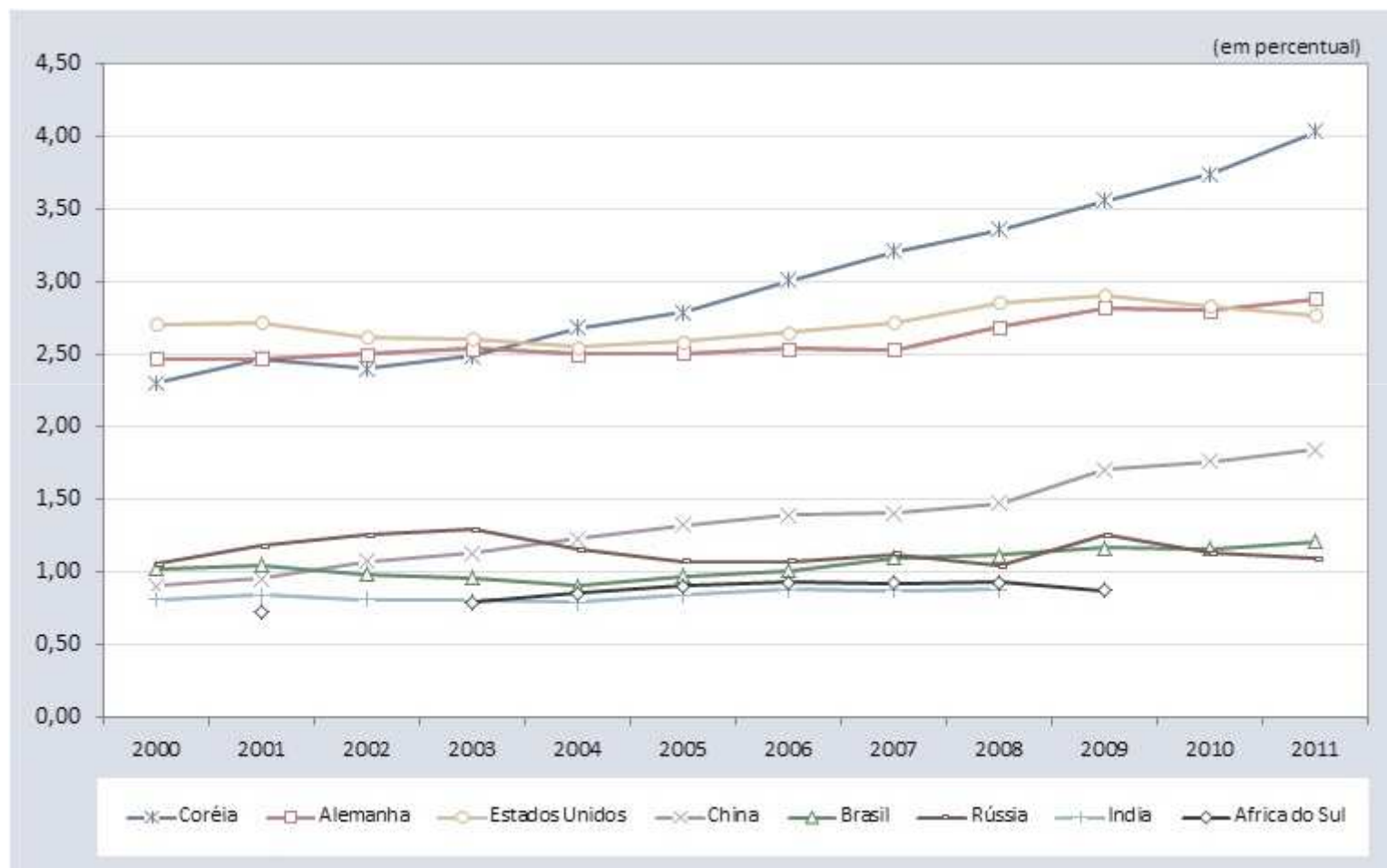


# Academy and Enterprise

World Scientific Forum

Rio de Janeiro, November | 13

# R&D expenditures vs GDP

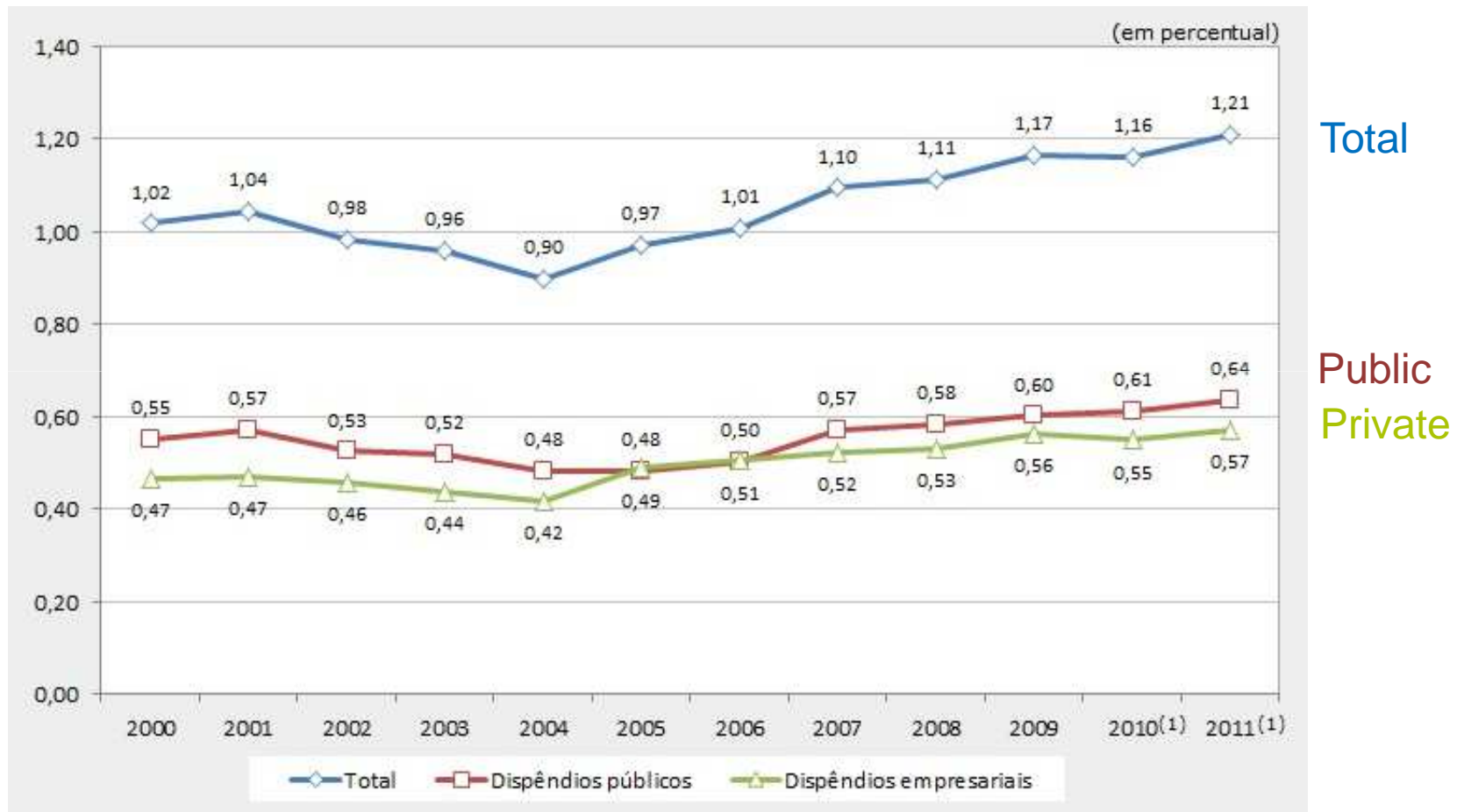


South Korea

Brazil  
India

Source: National Data at MCTI (Science, Technology and Innovation Ministry 2013)

# Where the money comes from: Public vs private investments in R&D in Brazil



Source: National Data at MCTI (Science, Technology and Innovation Ministry 2013)



Brazil is strong in generating science, but is **lagging behind in converting it into innovation.**

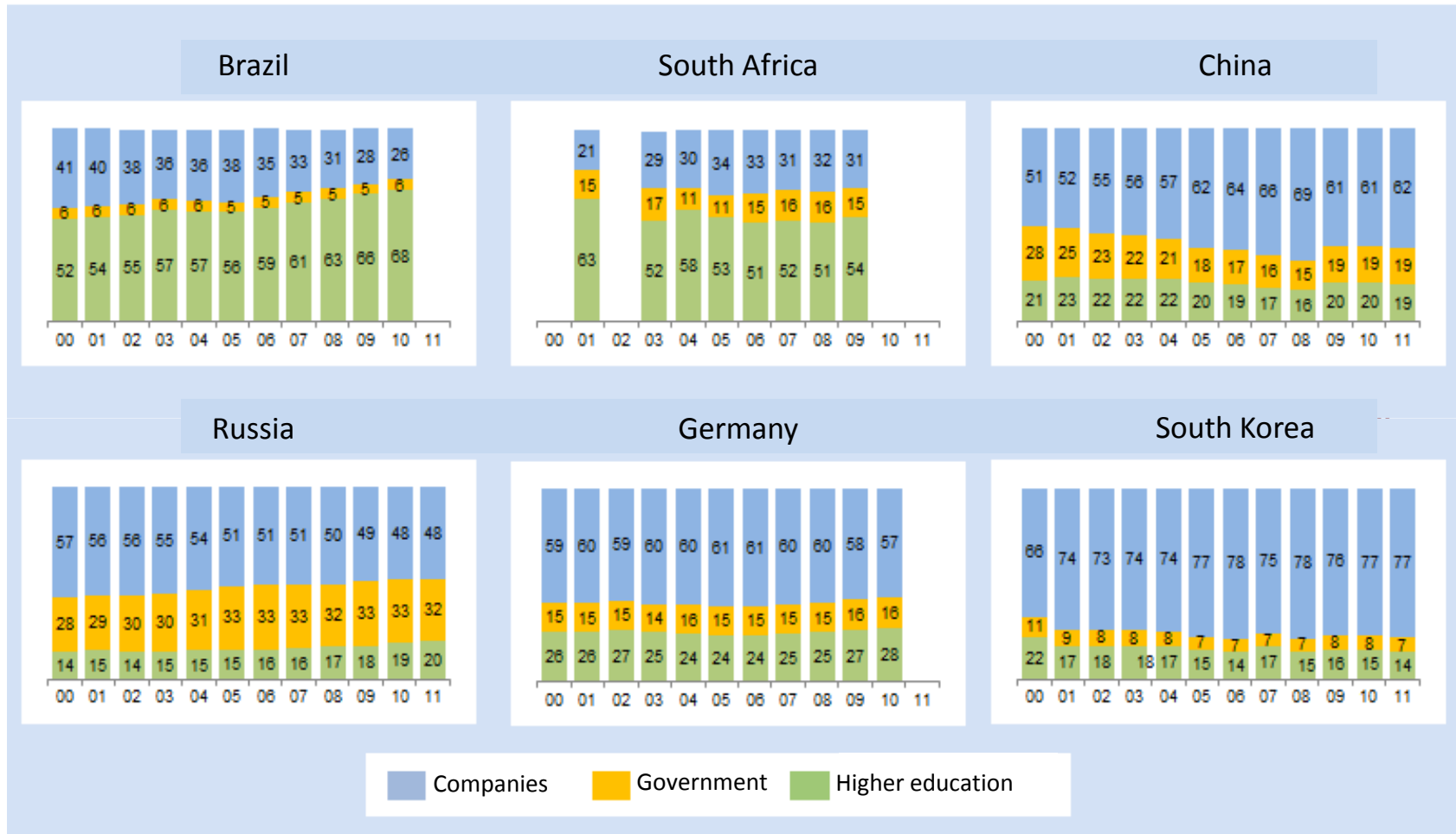


FROM 20.000 TO 32.0000.

But most of them are filed by  
by foreign institutions: **75%** in  
2011.

# Where are our researchers

(em percentual)



Source: National Data at MCTI (Science, Technology and Innovation Ministry 2013)



Research generates patents,  
patents become products

Science is the main path  
to achieve breakthrough  
innovations and  
competitiveness

## BIOCELERE

A Research & Development company for genetic improvement of industrial yeasts employed in the production of biochemicals and second-generation biofuels.

## BIOVERTIS

Invests in developing new varieties with high fiber content.

## BIOEDGE

A company for producing biofuels and biochemicals on a commercial scale.

## BIOPLANT

A provider of integrated industrial solutions, creating clusters linked to the production units of its end clients.







and Technological Institutions:

- **IAC**
- **Unicamp**
- **UFSCar**
- **USP**
- **Ridesa**



Develop **competitive**  
biomass varieties





4 FID Candidates  
17 Masters

# Benefits & Challenges for GranBio

## Benefits

- Complement the research carried out in-house by cooperating with multidisciplinary and groundbreaking research groups
- Share costs and risks of basic research
- Access to highly qualified human resources
- Access to cutting-edge knowledge

## Challenges

- Long time and red tape involved in establishing partnerships with public STIs
- IP and confidentiality issues
- Public Tenders to get exclusive licenses from public universities IP

# Concerns for Innovation in Brazil

- New Project to modify Brazilian IP Law, particularly changes in patent protection period and inventive step
- Brazilian legal framework to stimulate innovation still has some important gaps to be addressed:
  - INPI backlog;
  - R&D funding instruments outdated;
  - limitation for professors to have equity in companies.
- Ideology and/or technology bias from regulators and bureaucrats.
- High costs, long time and red tape involved in importing new equipment for R&D and reagents
- Complexity to get access Brazilian Biodiversity and commercial approval for GMO's
- Slow judiciary process

# Opportunities

- More than **2,000 Universities** (~ 10% public)
- **4 universities** among the top 10 Latin American Universities (QS Ranking 2013) – USP is #1
- **38,800** Masters and **11,400** PhDs formed **annually**
- **2,7% of worldwide indexed papers** by Thomson/ISI (more than 40,000 annually)
- New government R&D incentive plans: **Embrapii** and **Inova Empresa/Finep** (30 billions reais in 2 years)
- Laws and regulation changes will benefit science to technology
- Entrepreneurs must do their share - innovating