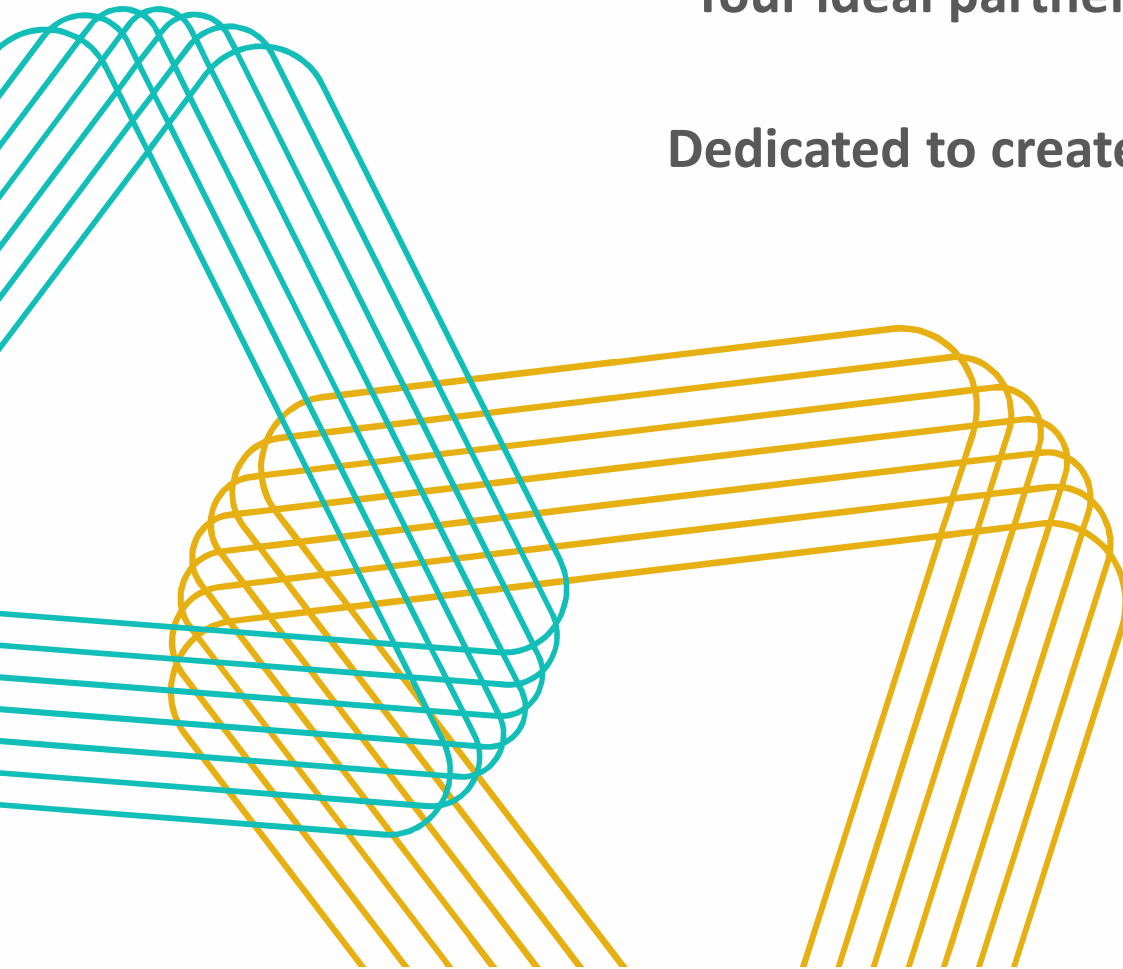


# BIOMINAS BRASIL

Your ideal partner to succeed in life sciences in  
Latin America

Dedicated to create and develop business in life  
sciences since 1990



**Biominas**  
BRASIL

## BIOMINAS BRASIL ACTIVITIES ARE DISTRIBUTED IN FOUR MAIN BUSINESS AREAS

- Partnerships
- Reports
- Networking events
- Project Management

**MARKET  
RELATIONS**

- Technology Scouting
- IP & Regulatory Framework
- Licensing & Tech Transfer
- Strategic Planning
- Capital Raising
- Strategic Alliances  
M&A

**CONSULTING  
& BUSINESS  
DEVELOPMENT**

- 16 years of operation
- 15 resident companies
- 24 graduated companies
- R\$ 132 millions in revenue
- R\$ 19.2 in taxes

**BUSINESS  
INCUBATION**

- 12 investments and  
financing operations to start-  
up companies
- R\$ 24,7 million

**INVESTMENTS**

## CONSULTING & BUSINESS DEVELOPMENT: WE OFFER A DIVERSIFIED PORTFOLIO OF SERVICES FOR COMPANIES IN EVERY STAGE OF GROWTH

### Technology Scouting

Mapping, identification and analysis of technologies, research groups and companies in Brazil that match the client's specific needs.

### IP & Regulatory Framework

Patentability and freedom to operate in Brazil. Analysis of the Brazilian IP legislation in specific areas of interest and definition of regulatory pathway with timelines, costs and case studies.

### Licensing & Tech Transfer

Technology and patent valuation. Analysis of the Brazilian legislation to technology transfer from public institutions and implications to the client. Management of licensing deal process to assure maximum efficiency and best deal terms.

### Competitive intelligence & Feasibility studies

Landscape analysis to support entry and growth strategies in Brazil, including market size, growth trends and drivers, barriers of entry, main competitors, local clients and potential partners. Technical, Commercial and Economic Feasibility of new products, technologies and business units to support investment decision.

### Capital Raising

Analyze and identify the best sources of capital - Equity; Debt or Grant - as well as support all the process to raise the money.

### Strategic Alliances

Prepare the strategy to enter in Brazilian market (Joint Venture, M&A, co-development or licensing), joining up with client until the deal closing.

### M&A

Support to M&A transactions helping in the identification of best targets, evaluation of intangible assets and due-diligence analysis. We can work together with M&A Boutiques and Investment bankers as well.

# CONSULTING & BUSINESS DEVELOPMENT: OVER THE LAST 7 YEARS WE ADVISED SEVERAL INTERNATIONAL AND BRAZILIAN COMPANIES, UNIVERSITIES AND INVESTORS



HOSPITAL SÍRIO-LIBANÊS



G7 BIOENERGY



# MARKET RELATIONS: ACTIVITIES TO CREATE OPPORTUNITIES FOR BUSINESS AND NETWORKING IN THE LIFE SCIENCE SECTOR

## Reports

- Biominas Report - Life Science Sector since 2001
- Report *The Brazilian life science industry: pathways for growth (2011)*, in partnership with PwC.
- From Bench to Market - A practical guide for pharmaceutical innovation (2012)
- From Bench to Market – A practical guide for food ingredient innovation (2013)

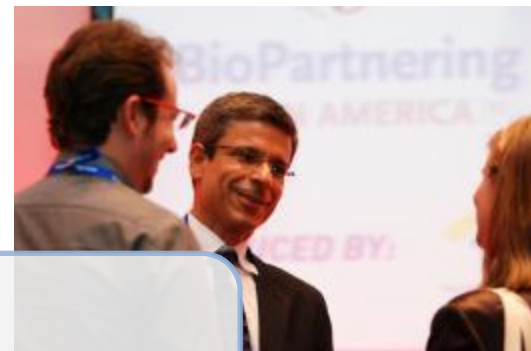


## Project Management

- Public programs to foster the development of bioscience companies (PRIME Program / FINEP)
- Innovation projects in private companies (Sebraetec / Sebrae)
- International projects - Econormas Mercosul



# MARKET RELATIONS: ACTIVITIES TO CREATE OPPORTUNITIES FOR BUSINESS AND NETWORKING IN THE LIFE SCIENCE SECTOR



## Events

- Biolatina 2008
- Brazilian Pavillion at BIO 2008, 2009
- *BioPartnering Latin America* (BPL) 2010, 2011, 2012
- ***BioPartnering Latin America 2013* (10 a 12 de setembro, Rio de Janeiro/RJ)**

## Partnerships

- BID/FOMIN for the Technology Transfer Program
- MG State Government, City of BH, UFMG for the Incubator Habitat
- Technology Innovation Program with INTERFARMA
- PSI Biotechnology with APEX Brasil





3.000 m<sup>2</sup> building, with complete infrastructure to host life sciences companies.

206 projects received and analyzed in the pipeline.

	INCUBATED COMPANIES	GRADUATED COMPANIES
Present	15 resident companies	24 graduated companies
Results	from 1997 to 2013 total	from 2002 to 2012 total
Revenues	R\$ 131.591.891	R\$ 640.992.550
Taxes	R\$ 19.240.233	R\$ 86.251.346

## INVESTMENTS: BIOMINAS BRASIL INVESTED AND FINANCED 12 START-UP COMPANIES

In 1999, Biominas Brasil and the Interamerican Development Bank established a partnership called the **Technology Transfer Program**. The program allowed Biominas to invest and finance start-up companies in Brazil.

In 5 years, Biominas Brazil invested in 6 companies and financed other 6 companies, totalizing R\$ 24.7 million in resources.

### FINANCING OPERATIONS



### SUCCESSFUL INVESTMENTS



Investment Period:  
4 years  
Return (multiple):  
4 X



Investment Period:  
5 years  
Return (multiple):  
2,5 X

### UNSUCCESSFUL INVESTMENTS



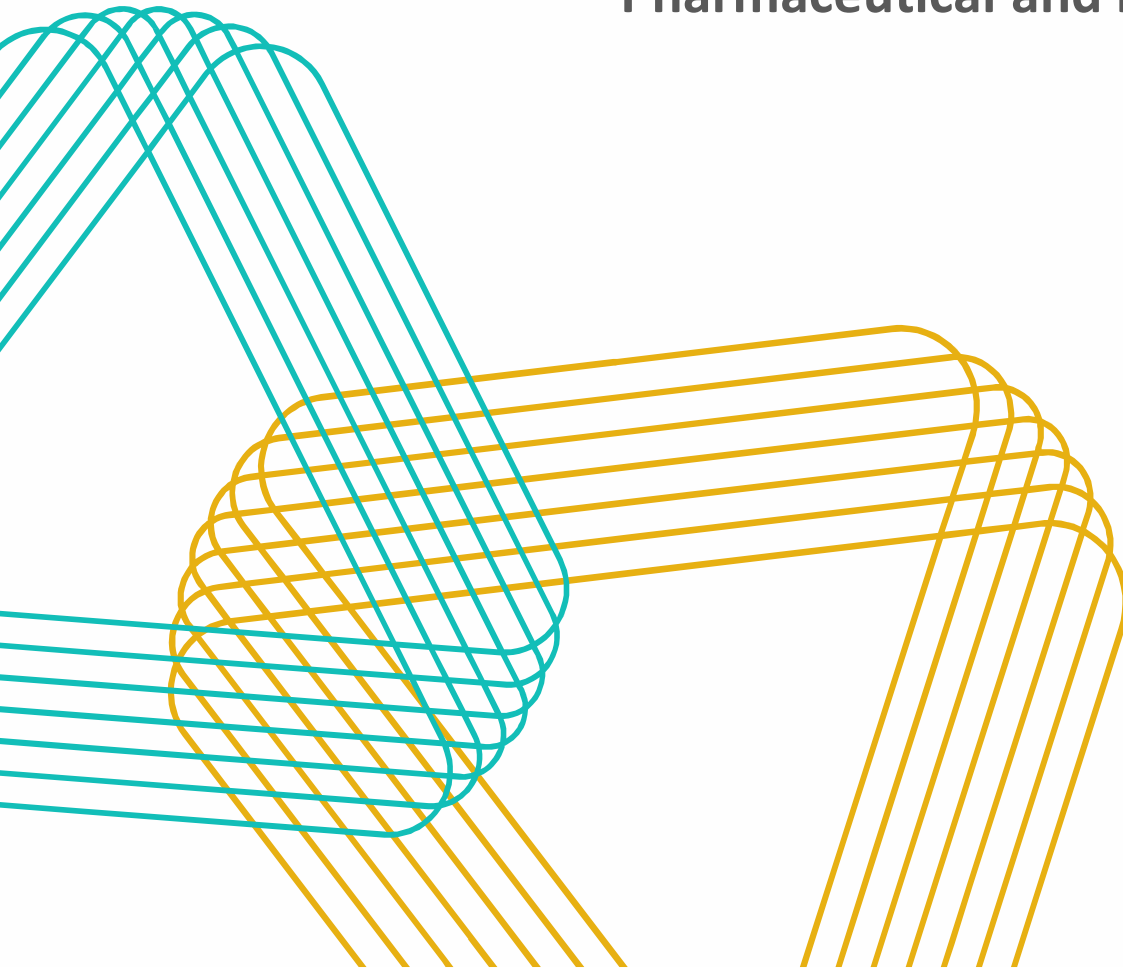
### SHAREHOLDERS





# BIOMINAS BRASIL

Pharmaceutical and life sciences industry in Brazil



**Biominas**  
BRASIL

## Main points

- Accessing the Brazilian market is the priority for most international and local companies. The number of M&A and partnering deals is rising. The government is encouraging partnerships to produce drugs in the country.
- Although there were advances in the last few years, Brazil has still to work with important challenges, specially in terms of regulatory issues, infrastructure to biologics production and manpower.
- Innovation is happening in the country, due to the research competence in several areas, but most of the technologies are still in early stages of development. The number of life science companies is growing.
- There is a strong demand for pharmaceutical and biological drugs, but other areas also offer good opportunities, as medical devices, healthcare IT and diagnostics.

# Brazil: one of the top world economies

MailOnline

Home News U.S. Sport TV&Showbiz Femal Health Science Money RightMinds

## Brazil overtakes UK as sixth biggest economy as Britain falls behind a South American nation for the first time

- Figures show a dramatic illustration of changing global fortunes
- China, Japan, Germany, France and the U.S. occupy the top five places
- Brazil fast-becoming one of the powerhouses of the global economy

By NICK FAGGE

Last updated at 1:01 AM on 26th December 2011

Comments (27) Share 1 Tweet (137) Like (157)

Britain has been deposed by Brazil as the sixth largest economy in the world, latest figures show.

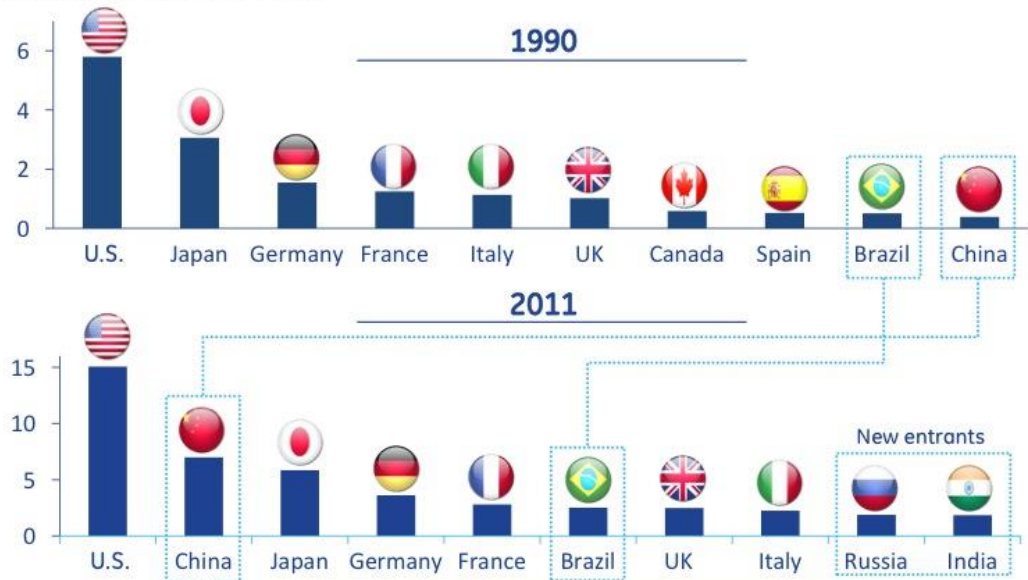
In a dramatic illustration of changing global economic fortunes, the UK has fallen behind a South American nation for the first time.

The figures, from the Centre for Economic and Business Res annual world economic league table, show Britain is now the richest country in the world.



# Changing economies – top 10

(\$ trillion, GDP in current U.S.\$)



Markets constantly evolving ... growth markets ~50% of GDP by 2025

6  
GE Global Investor Day  
March 7, 2012

## Gross domestic product 2012

Ranking	Economy	(millions of US dollars)
1	United States	15,684,800
2	China	8,227,103
3	Japan	5,959,718
4	Germany	3,399,589
5	France	2,612,878
6	United Kingdom	2,435,174
7	Brazil	2,252,664
8	Russian Federation	2,014,775
9	Italy	2,013,263
10	India	1,841,717

# Distribution of the Brazilian population per consumption classes

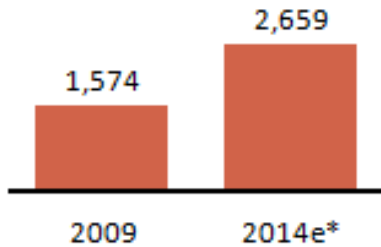
EVOLUTIVO						
Classe	2005	2006	2007	2008	2009	2010
	%	%	%	%	%	%
AB	15	18	15	15	16	21
C	34	36	46	45	49	53
DE	51	46	39	40	35	25



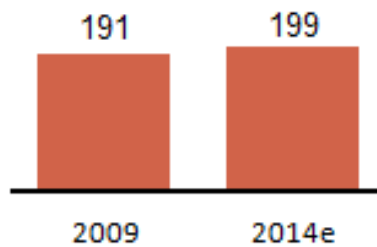
# Brazilian growth

## Brazil's population is growing larger and wealthier...

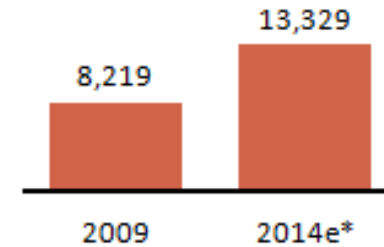
**GDP 2009**  
Billions, USD



**Population 2009**  
Millions

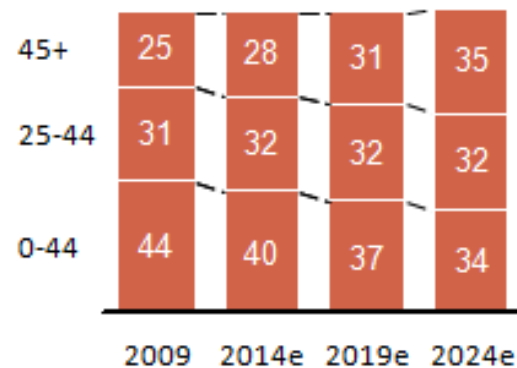


**GDP/capita 2009**  
USD/person

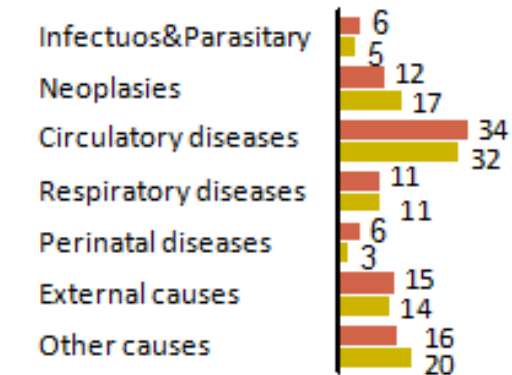


....while aging also increases lifestyle illnesses such as cancer and diabetes

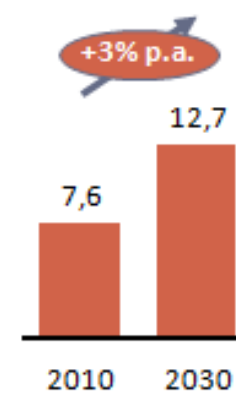
**Population by age**  
%



**Causes of mortality**  
%

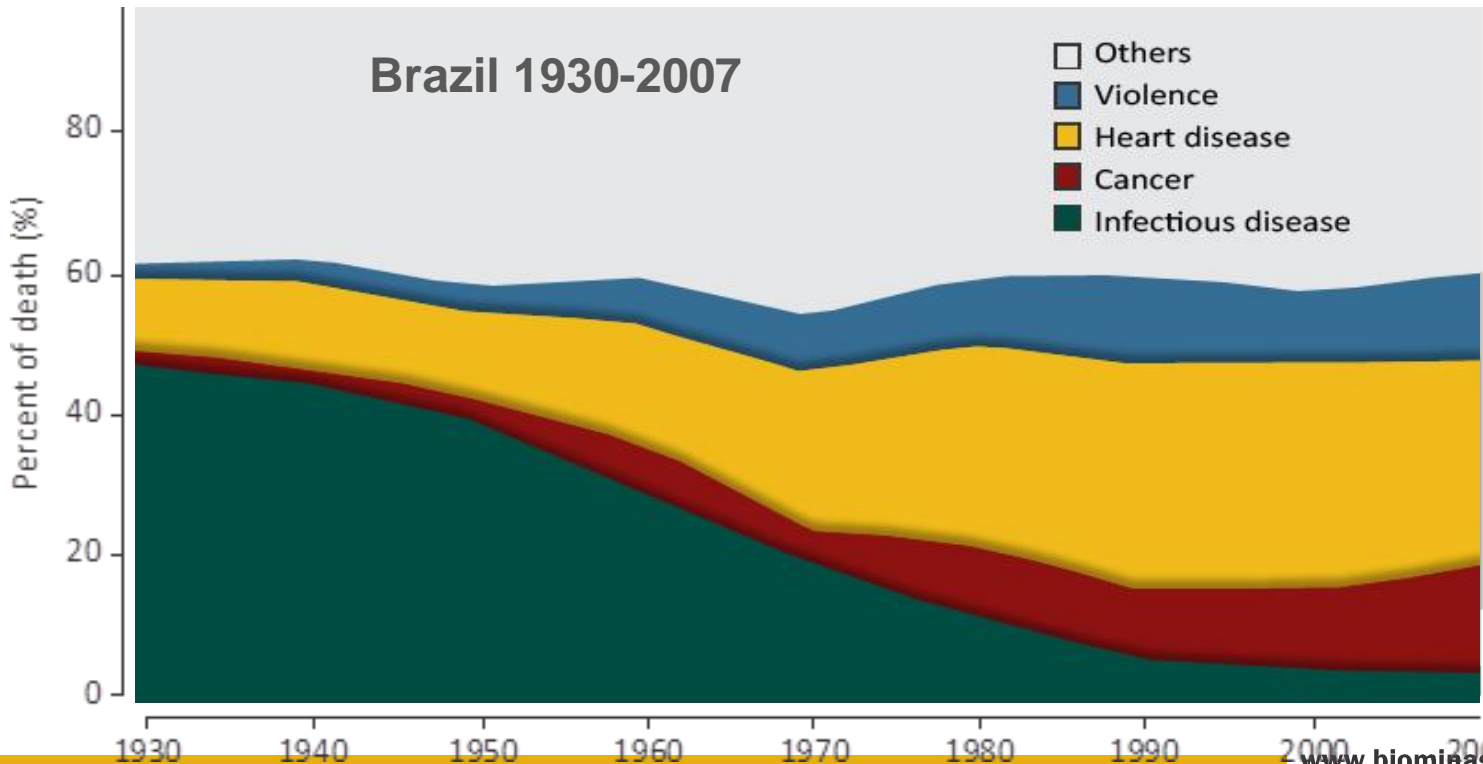
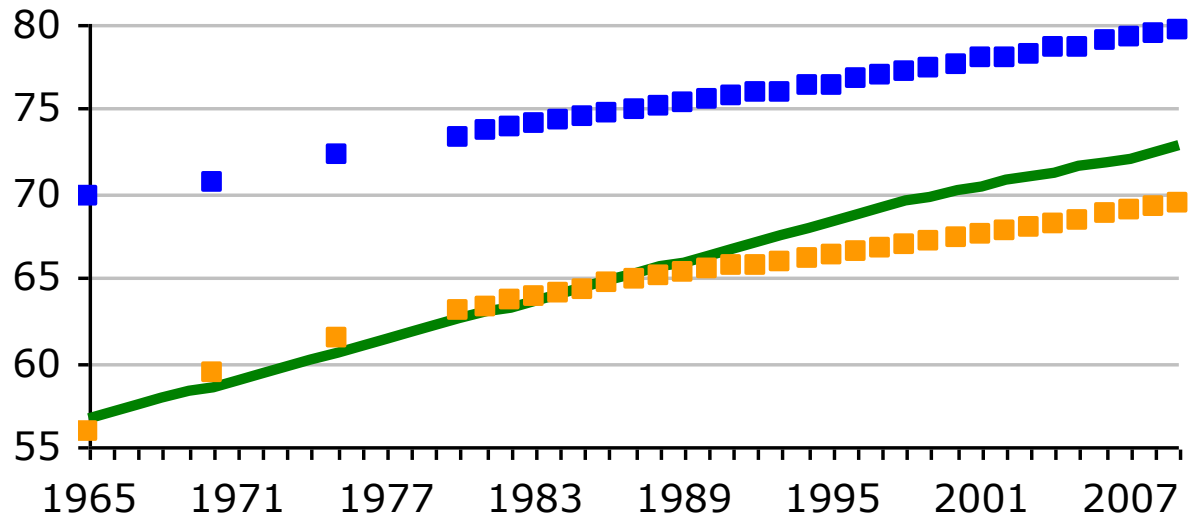


**Diabetes incidence**  
Mn people (20-79 years)



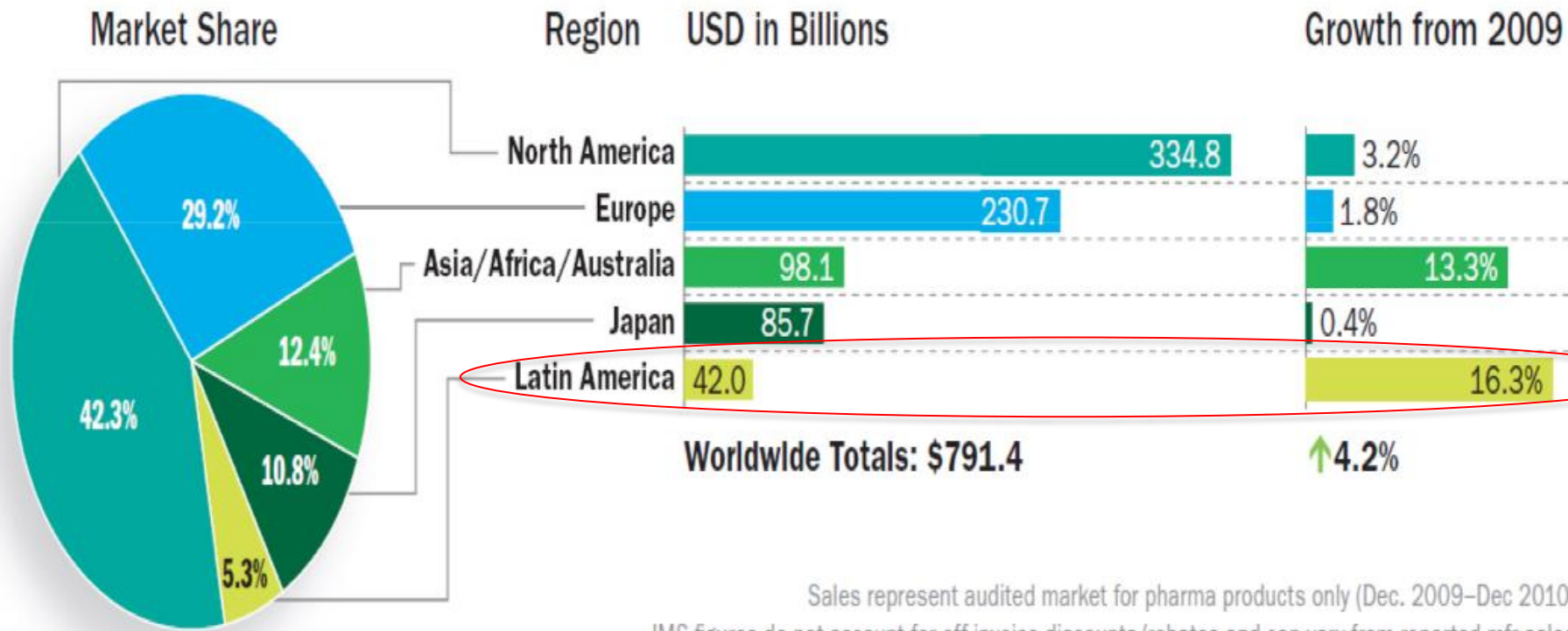


# Life expectancy



# Growing pharmaceutical market in Latin America

## Global Pharma Sales by Region

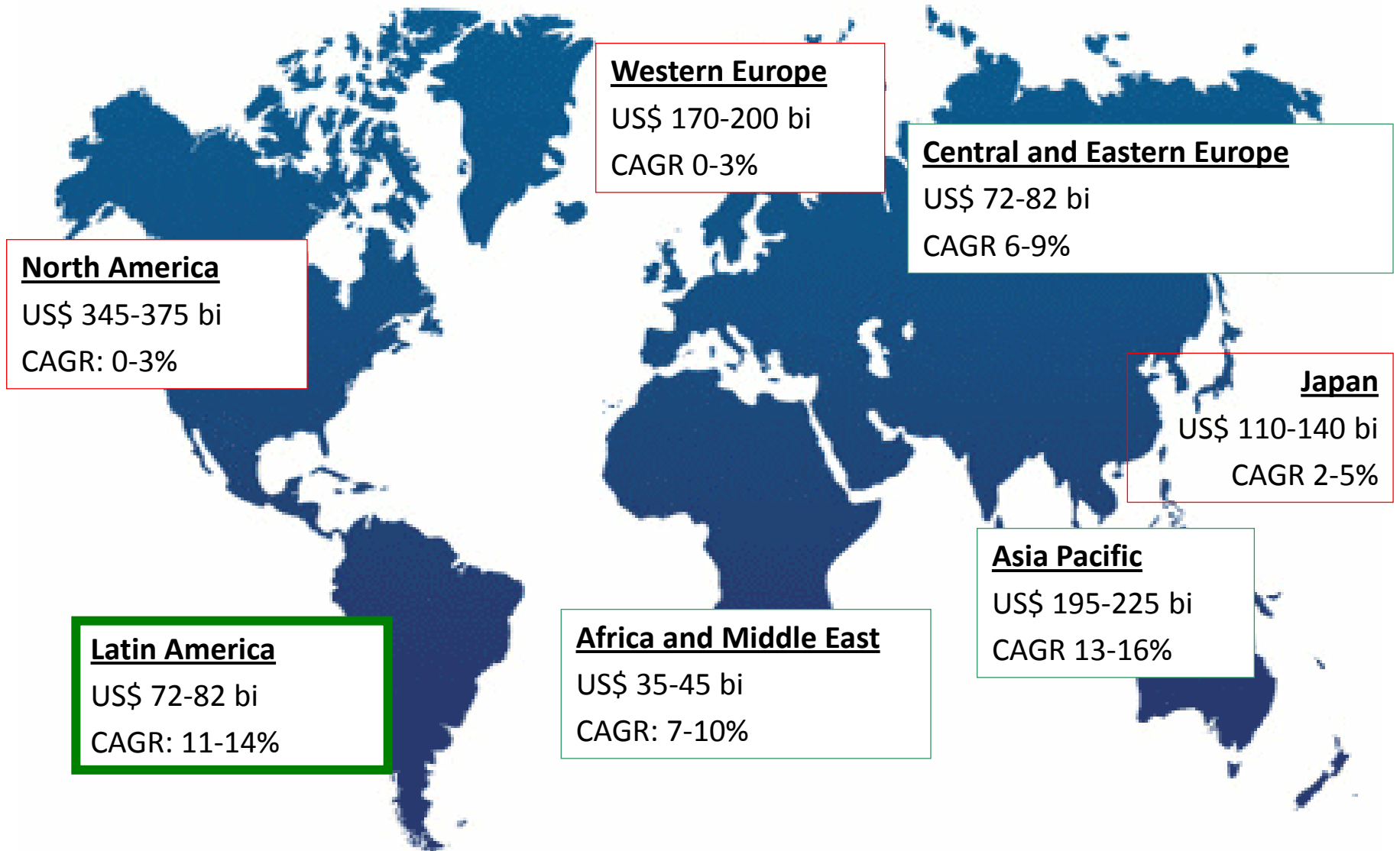


Source: IMS Health, MIDAS

Sales represent audited market for pharma products only (Dec. 2009–Dec 2010)  
 IMS figures do not account for off-invoice discounts/rebates and can vary from reported mfr sales

# Pharmaceutical Market

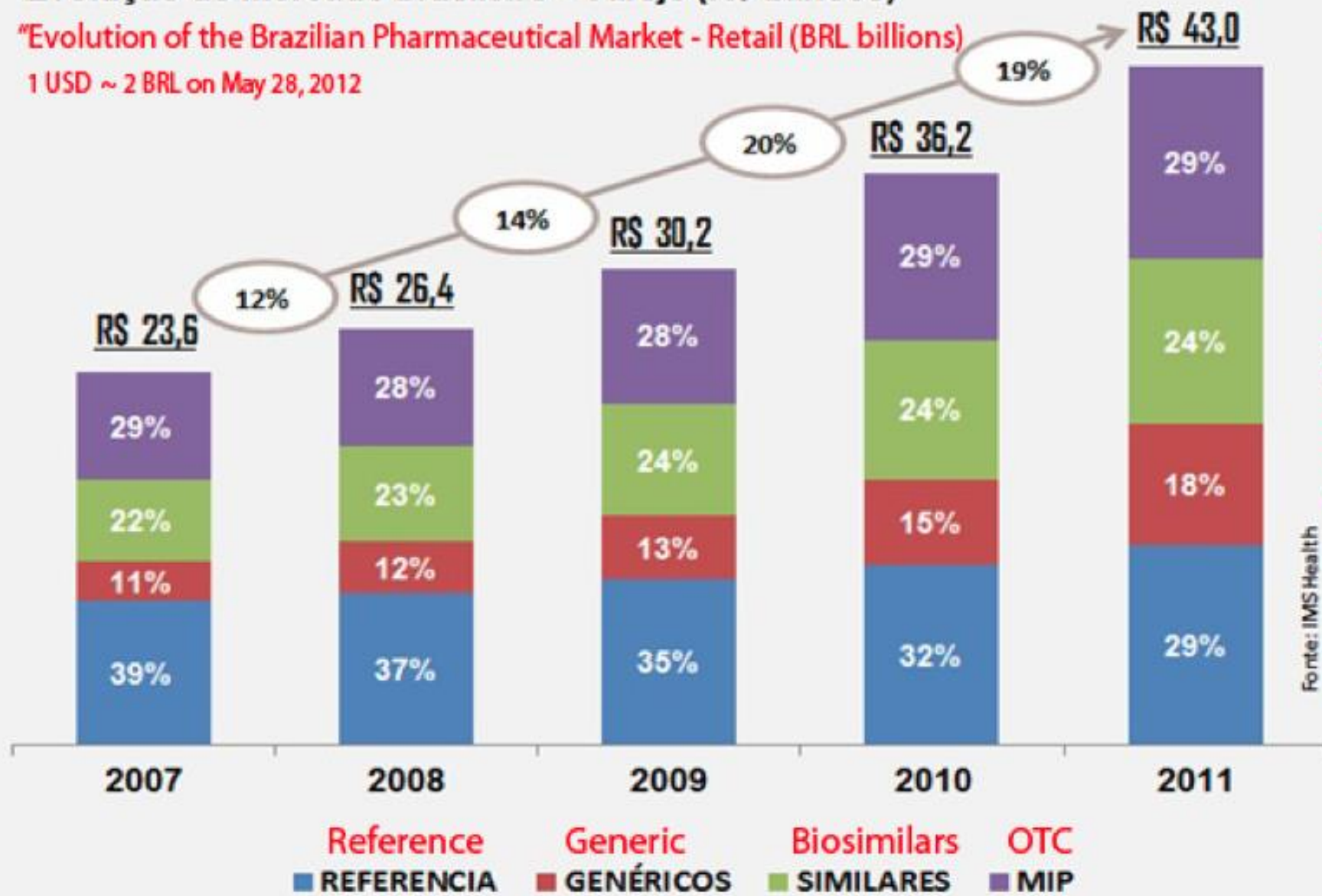
## Present and Growth Forecast 2011-2015



## Evolução do mercado brasileiro - Varejo (R\$ bilhões)

"Evolution of the Brazilian Pharmaceutical Market - Retail (BRL billions)

1 USD ~ 2 BRL on May 28, 2012



Fonte: IMS Health  
MAT Dezembro

Source: IMS Health

# Market growth in Brazil

## Global country rankings

RANK	2006	INDEX
1	United States	100
2	Japan	35
3	▲1 France	13
4	▼1 Germany	13
5	▲4 China	9
6	▼1 Italy	8
7	▲1 Spain	6
8	▼2 UK	6
9	▼2 Canada	6
10	▲1 Brazil	5
11	▲1 Australia	3
12	Mexico	3
13	South Korea	3
14	Russia	3
15	▼1 India	2
16	▲8 Turkey	2
17	▼2 Netherlands	2
18	▼2 Belgium	2
19	▲1 Greece	2
20	▼2 Poland	2

RANK	2011	INDEX
1	United States	100
2	Japan	36
3	▲2 China	21
4	Germany	14
5	▼2 France	12
6	▲4 Brazil	9
7	▼1 Italy	9
8	▼1 Spain	7
9	Canada	7
10	▼2 UK	7
11	▲3 Russia	5
12	▼1 Australia	4
13	▲2 India	4
14	▼1 South Korea	4
15	▼3 Mexico	3
16	Turkey	3
17	▲3 Poland	2
18	▲9 Venezuela	2
19	▼2 Netherlands	2
20	▼2 Belgium	2

RANK	2016	INDEX
1	United States	100
2	▲1 China	39
3	▼1 Japan	36
4	▲2 Brazil	15
5	▼1 Germany	13
6	▼1 France	11
7	Italy	8
8	▲5 India	7
9	▲2 Russia	7
10	▼1 Canada	6
11	▼1 UK	6
12	▼4 Spain	5
13	▼1 Australia	4
14	▲8 Argentina	4
15	▼1 South Korea	4
16	▼1 Mexico	3
17	▲1 Venezuela	3
18	▼2 Turkey	3
19	▲8 Indonesia	2
20	▼3 Poland	2

▼▲ Change in ranking over prior 5 years

### Appendix notes

Ranking in all years based on spending in constant US\$ at Q4 2011 exchange rates.

Index in each year based on ratio of country spending to U.S. spending (in constant US\$) in the year.

Source: IMS Market Prognosis, May 2012

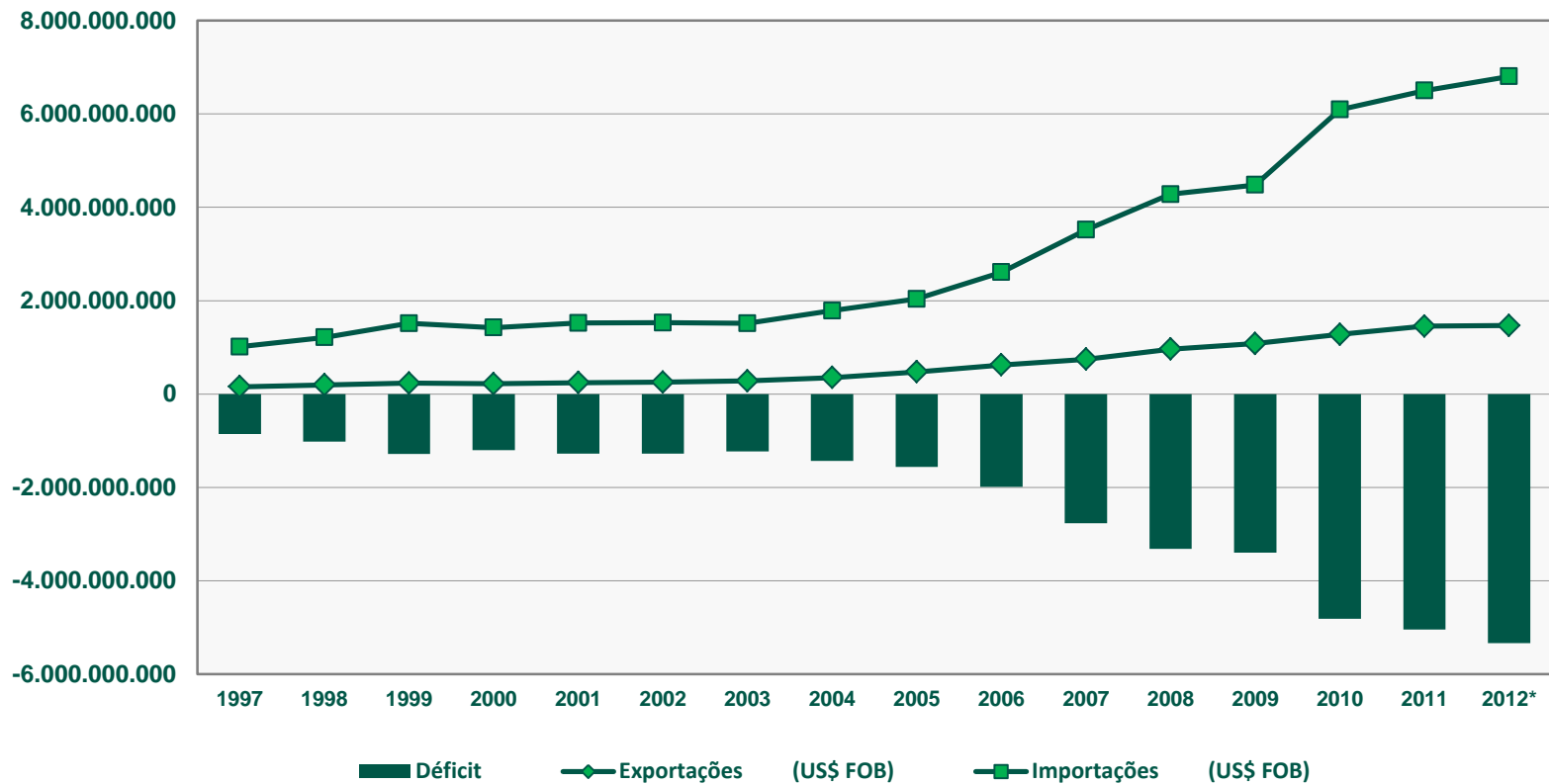


# Healthcare Scenario

## The Pharmaceutical Trade Balance

### Brazilian Exports and Imports

NCM Chapter 30 Period: 1997 to 2012\* - US\$ FOB

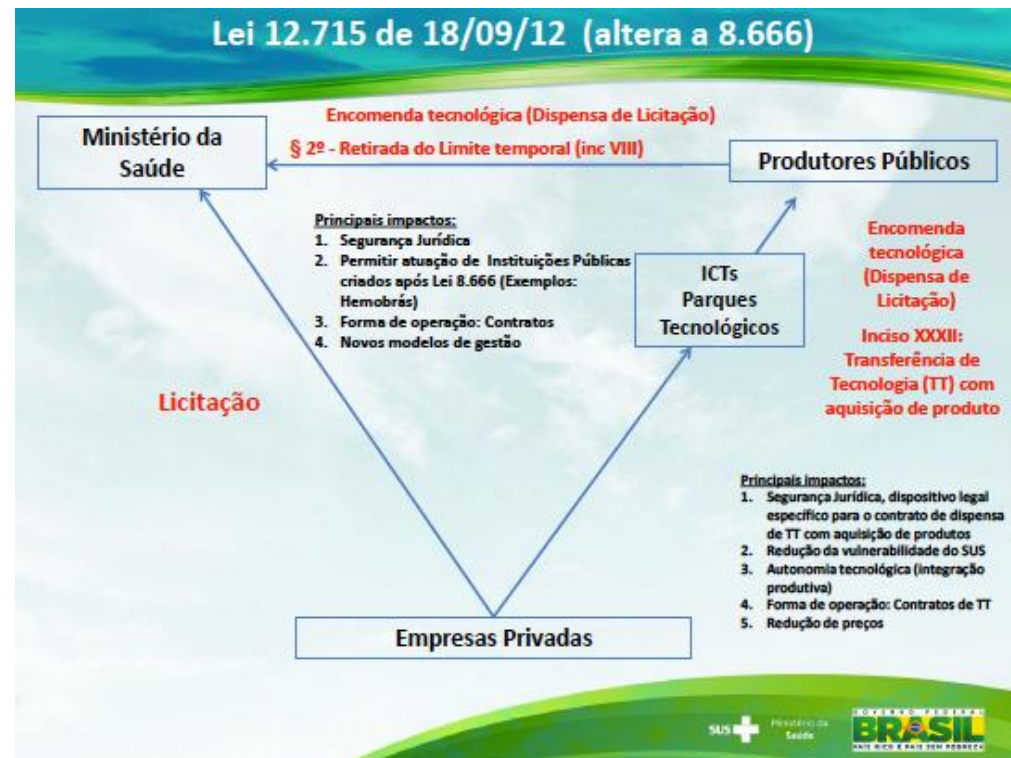


Fonte: MDIC/Secex/Sistema Alice

\* 12 meses móveis de Agosto 2011 a Julho 2012

# PDPs: Partnerships to Productive Development

- 63 partnerships announced
- 62 products, being 53 drugs, 5 vaccines, 4 products for health and 1 R&D
- 23 therapeutic groups
- 57 partners involved, being 16 public laboratories and 41 private companies
- Partnerships announced represent R\$ 5,9 billion/year in public expenses





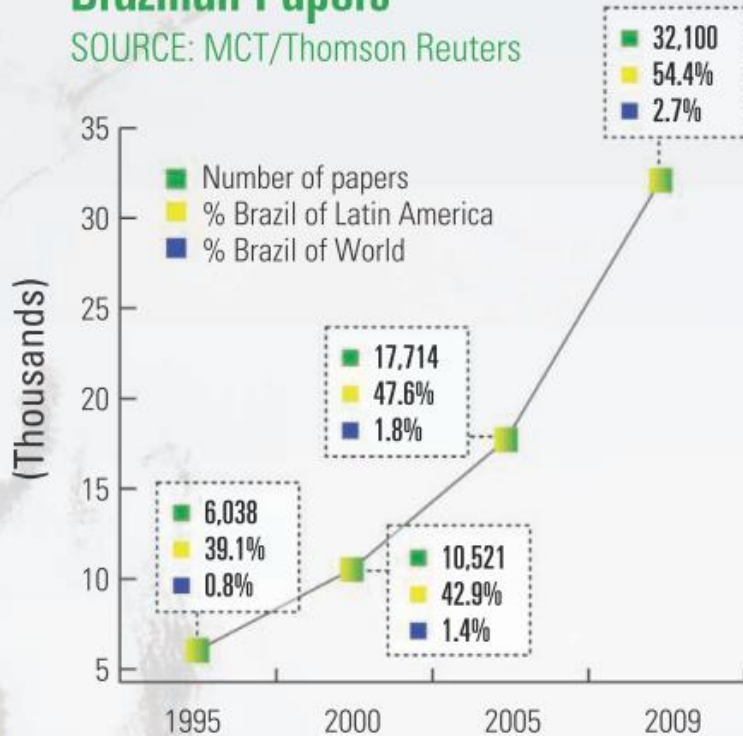
3 DECEMBER 2010 VOL 330 SCIENCE [www.sciencemag.org](http://www.sciencemag.org)

# Scientific Development & Production of Knowledge

## Brazilian Science Begins to Boom

### Brazilian Papers

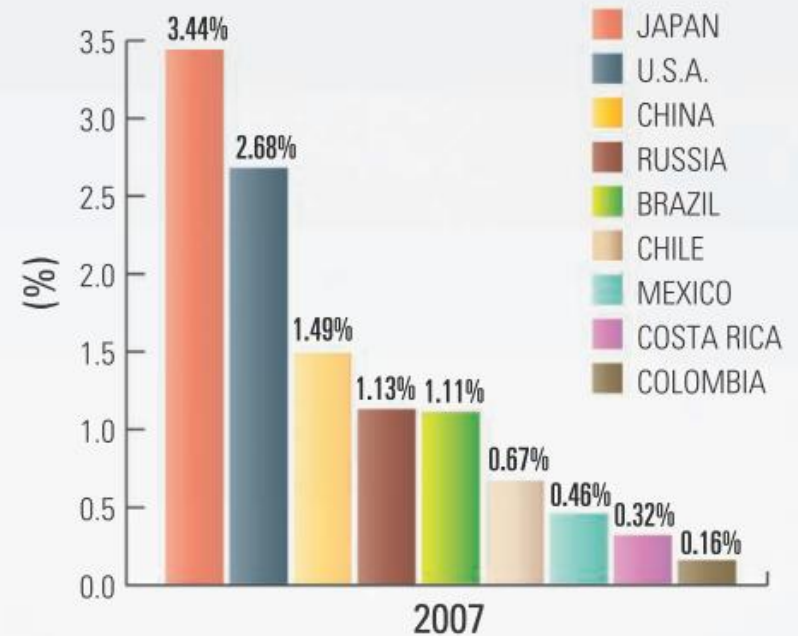
SOURCE: MCT/Thomson Reuters



2009 figure elevated due to increase in number of indexed journals

### R&D Spending as % of GDP

SOURCE: IADB



**1.19% of the 2009 GDP. Source: MCTI**





## *The Brazilian life science industry* Pathways for growth

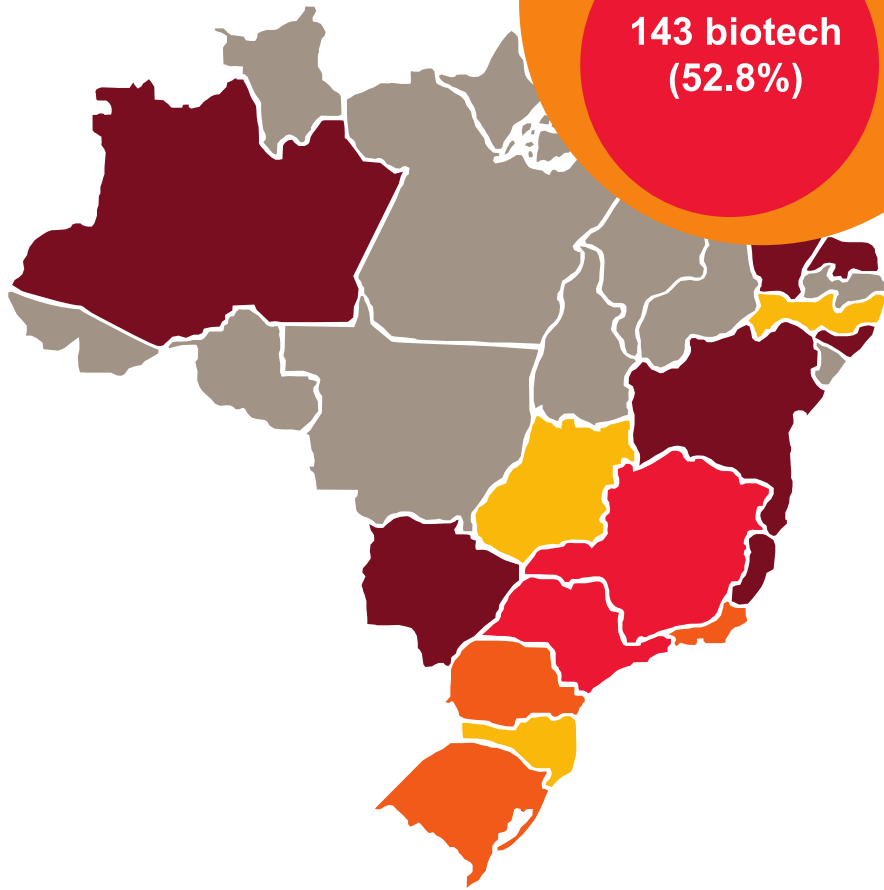
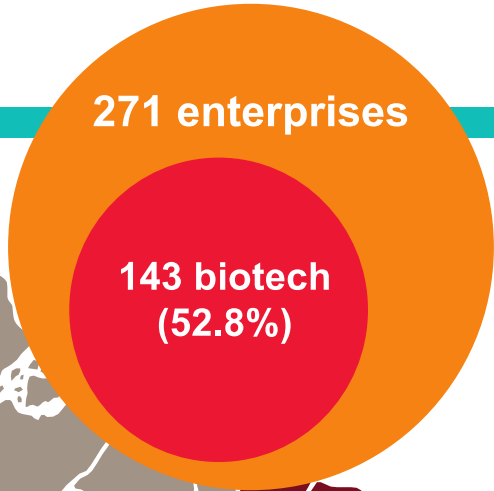
### The Brazilian innovation ecosystem

- Intellectual protection and technology transfer
- Capital
- Public policies
- Specialized manpower

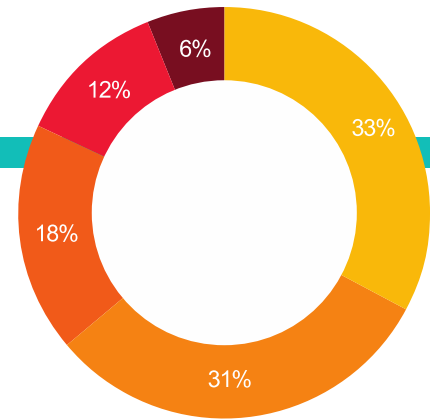




# Industry Profile

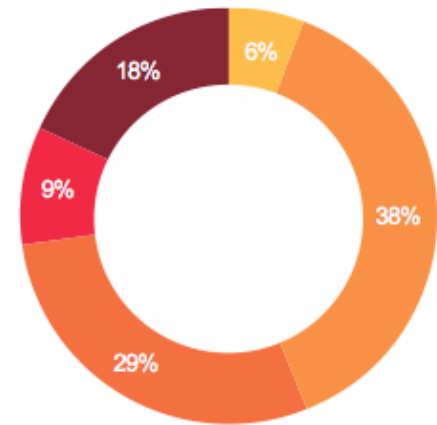


- 0
  - 1 to 4
  - 5 to 9
  - 10 to 39
  - 40 to 150
- Source: Biominas/PwC Survey, 2011



- Human health
- Agribusiness
- Reagents
- Mixed
- Environmental

## Companies by age

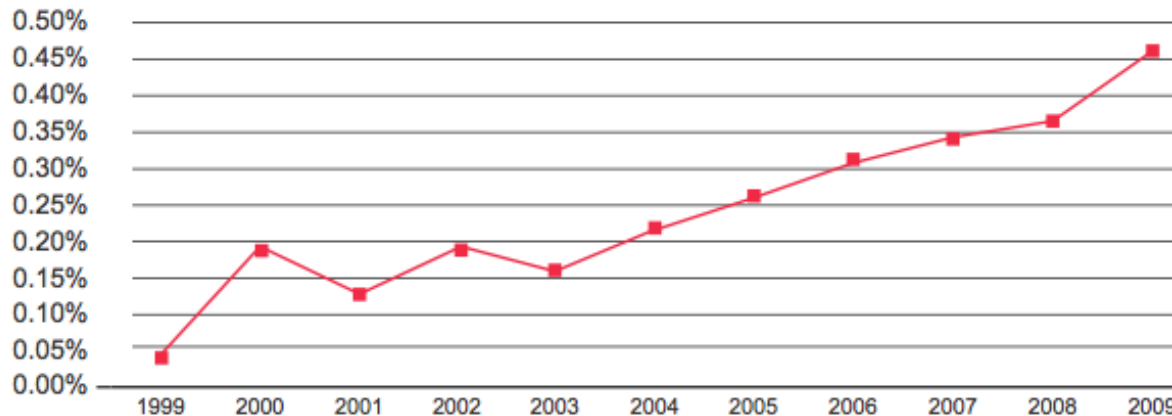


- 2 years or less
- 2 to 5 years
- 5 to 10 years
- 10 to 15 years
- Over 15 years

Source: Biominas/PwC Survey, 2011

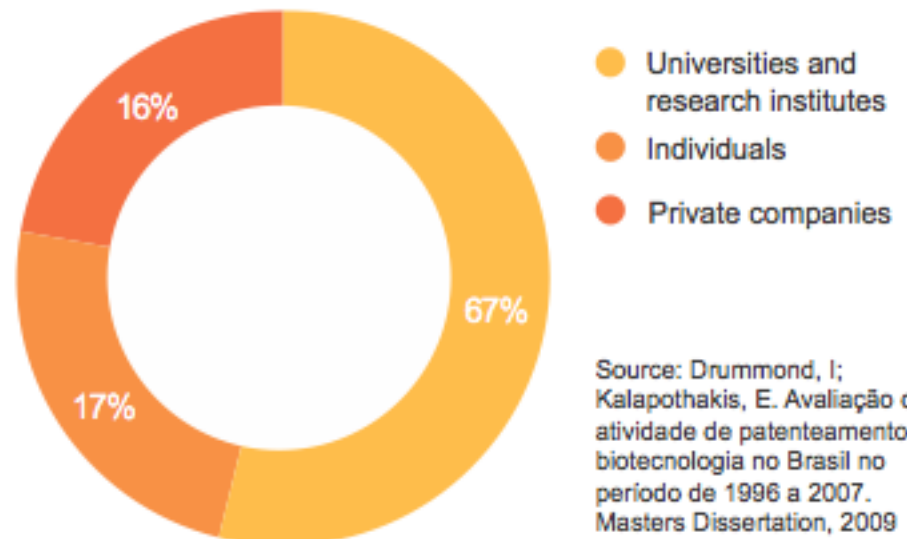
# Intellectual Protection

**Figure 2 - Brazil's share of all life science patents filed via PCT<sup>4</sup> (1999-2009)**



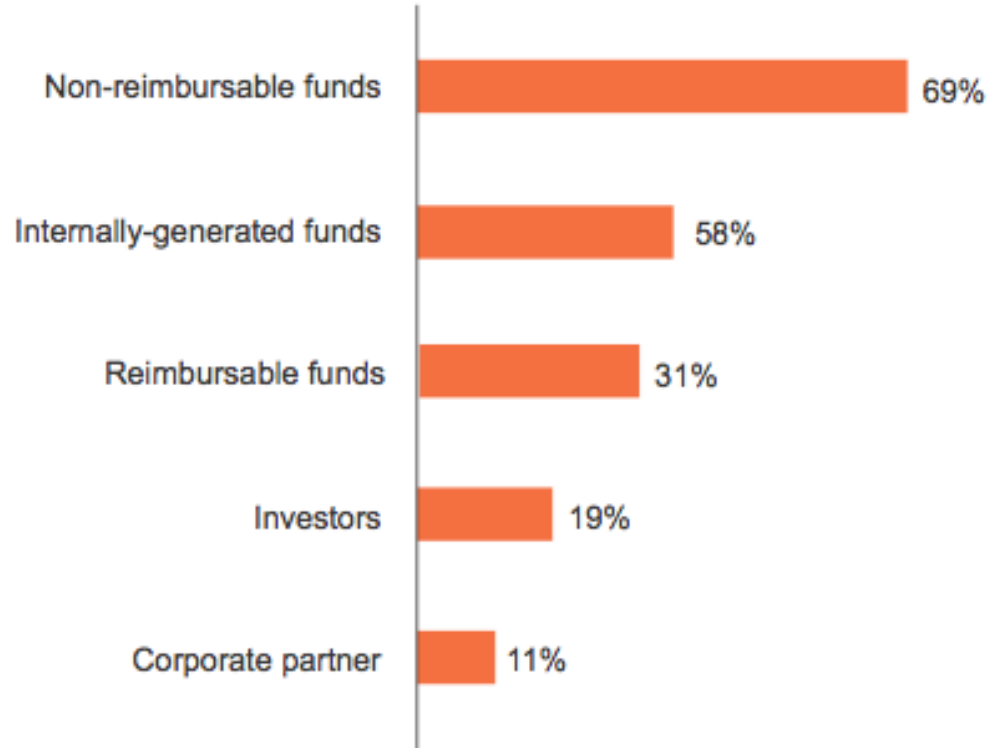
Source: OECD StatExtracts, Complete Data Base, available at: <http://stats.oecd.org/index.aspx>

**Figure 3 - Filings with the INPI in the C12N<sup>5</sup> subclass by resident category (1996 to 2007)**



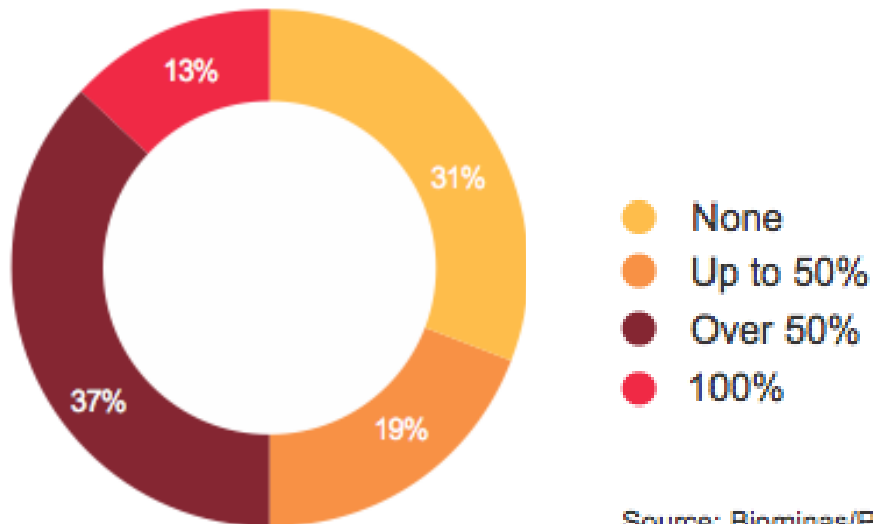
Source: Drummond, I; Kalapothakis, E. Avaliação da atividade de patenteamento em biotecnologia no Brasil no período de 1996 a 2007. Masters Dissertation, 2009

**Graph 6 -** Indicate the principal sources of funds for Research & Development activities at your company (select up to two options)



Source: Biominas/PwC Study, 2011

**Graph 9 -** What was the approximate percentage of government funds to R&D investment?



Source: Biominas/PwC Study, 2011

# HEALTHCARE IN BRAZIL: Pharma and biotech

## Recent VC movements in Brazil

Financing: The venture capital industry in the country is still consolidating, but recent movements reveal the interest of international groups in exploring this new frontier.

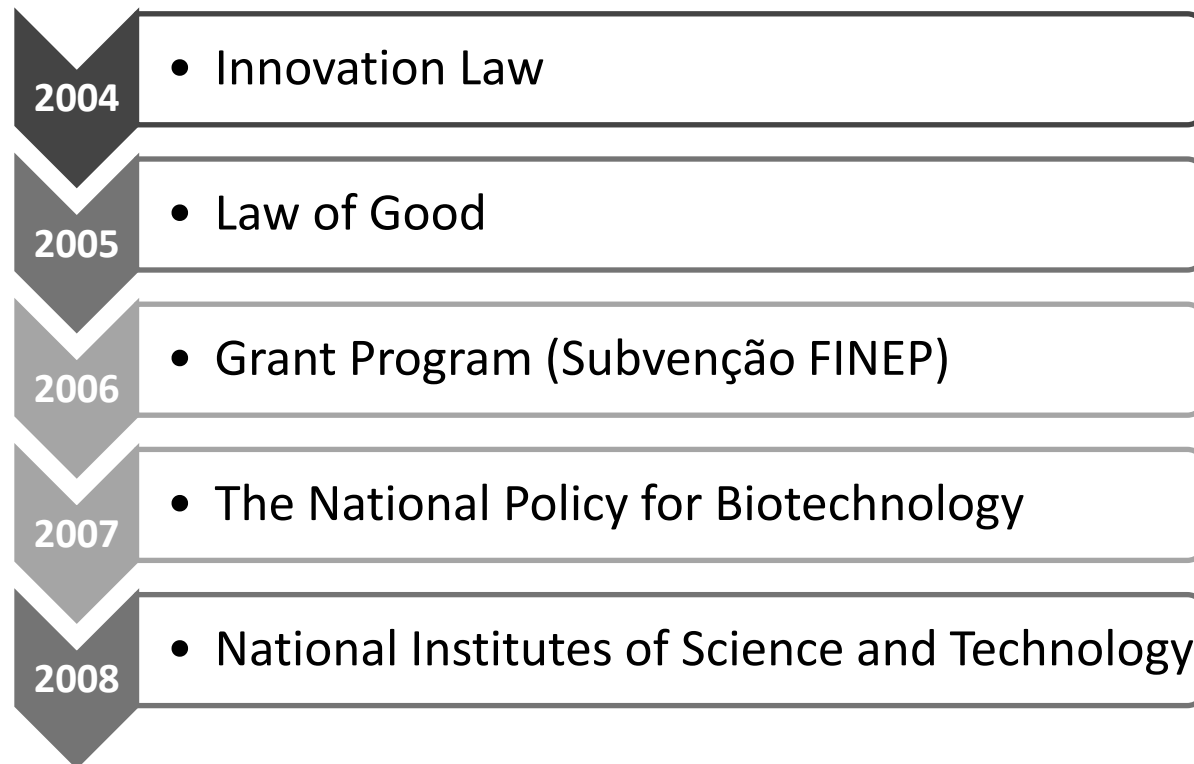
Main funds with investments  
in life science companies in  
Brazil



Main investors and funds in  
operations in 2013



## Public policies: Science and Innovation

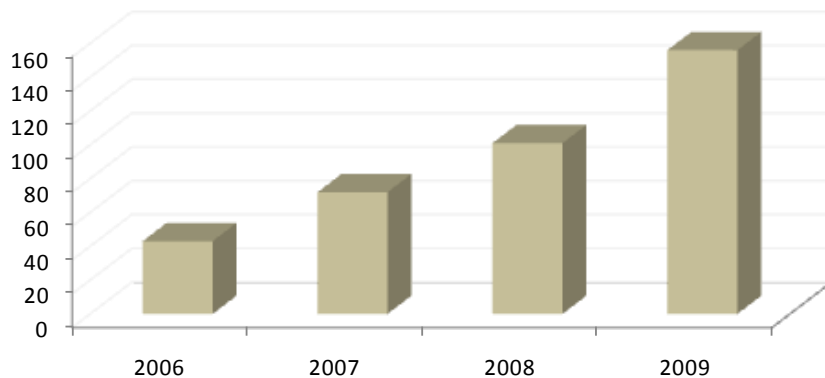




## Public Policies: promoting a culture of innovation in Brazil

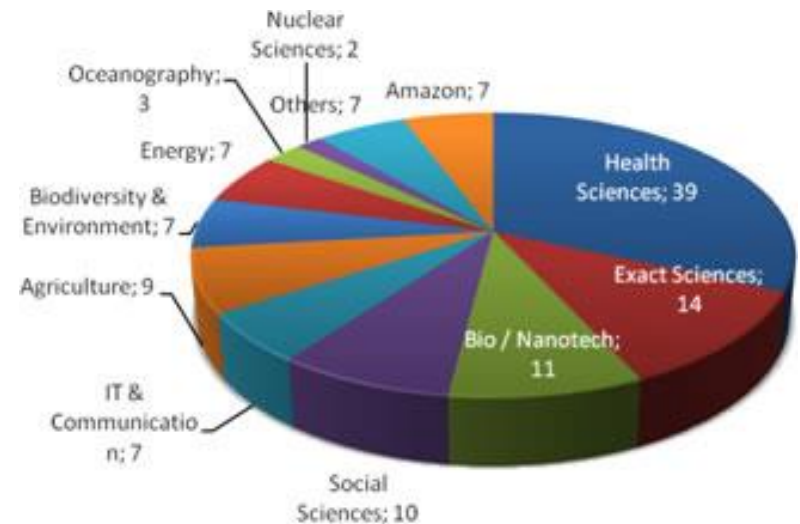
Since the publication of the Innovation Law in 2004, universities and research institutes were obliged to create TTOs. The purpose was to stimulate the innovation in Brazil. Currently the number of TTOs in Brazil is more than 200.

***TTOs in Brazil have significantly increased due to the Innovation Law***



### 123 National Institutes of Science & Technology (INCT) Distribution per Area of Research

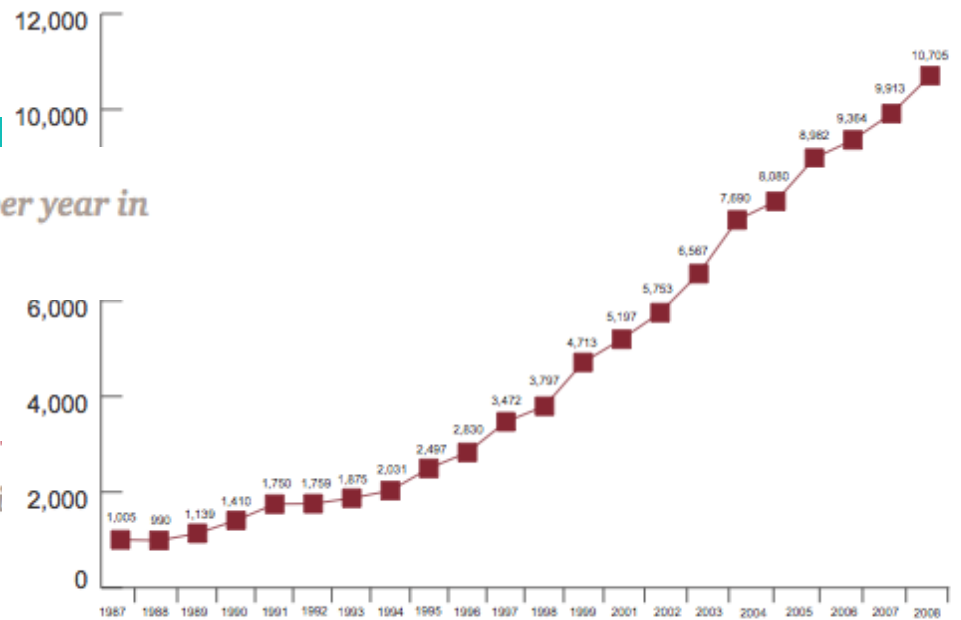
Source: CNPq October 2009



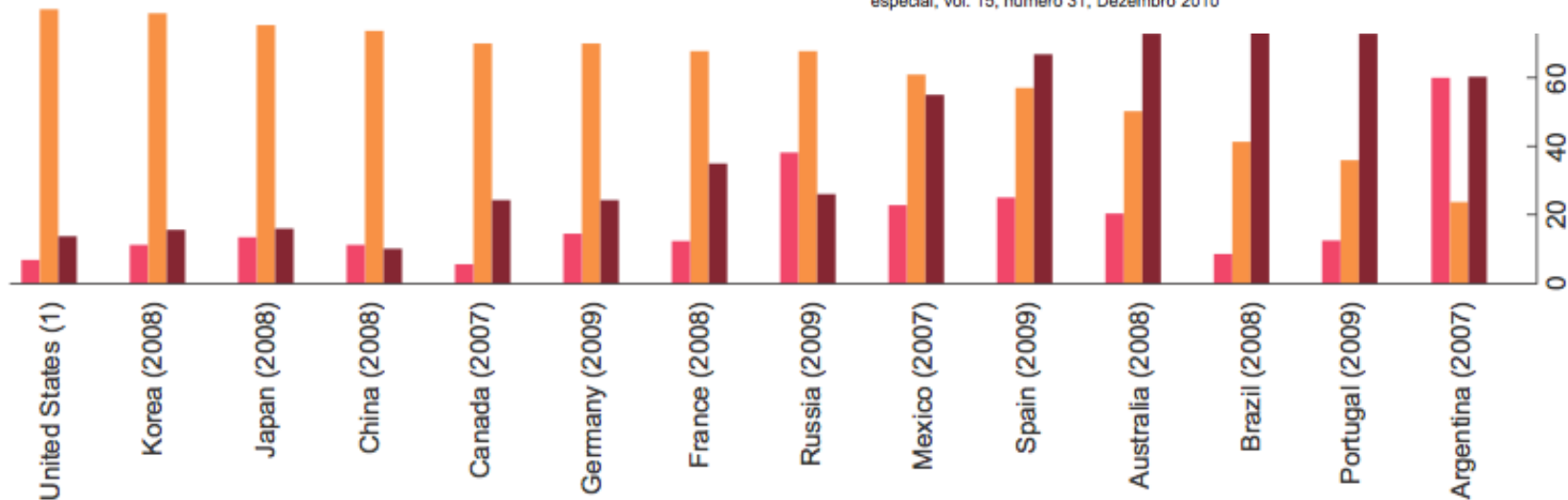
CNPq created the National Institutes of Science and Technology (INCT), which function as a national S&T network. The institutes were funded with approximately \$330 million in investments. Health Sciences and Biotechnology / Nanotechnology comprise almost 40% of all INCTs.

# Specialized manpower

**Figure 6 - Evolution of doctorate degrees granted per year in Brazil, 1987-2008**



**Figure 9 - Distribution of Full-time researchers, by i**



Source: Centro de Gestão e Estudos Estratégicos, Parcerias estratégicas - edição especial, vol. 15, número 31, Dezembro 2010

- Government
- Companies
- Universities

Note (1): Most recent data available are: Government (2002), Companies (2007) and Universities (1999).  
 Source: Coordenação Geral de Indicadores - ASCAV/SEXEC - Science and Technology Ministry

# HEALTHCARE IN BRAZIL: Pharma and biotech

## Recent Initiatives in Research & Development Alliances in Brazil

Studying the landscape

Active Scouting

Alliances and investments in place



## Scenario - Advances in the last 3-5 years

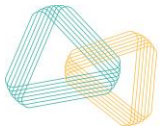
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1. Governmental programs to foster innovation and develop bioindustry
2. Increasing number of technology transfer offices at the main universities
3. Initiatives to establish venture capital funds dedicated to life sciences
4. Local big companies investments and interest in innovative products
5. International big companies effort to reach scientific projects
6. Increasing number of new start up companies
7. Improved regulatory environment
8. Public mechanisms to finance small companies (until 2010 and 2013)

## Challenges for the next years

---

1. Access to the brazilian biodiversity
2. Re-create public mechanisms to finance innovative small companies
3. Support high quality start-ups and growing-stage companies
4. IP issues: Less inclusive patentability criteria than industrial countries
5. Improve technology transfer processes from university to companies
6. Gaps in infra-structure, as pre-clinical and biologic production
7. Regulatory framework in development
8. Train and develop human resources, specially in scale-up and management



**Biominas**  
**BRASIL**

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President & CEO

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