TRIPLE HELIX VI

6th Biennial International Conference on University, Industry & Government Linkages

"Emerging Models For The Entrepreneurial University: Regional Diversities Or Global Convergence"

EMERGING ENTREPRENEURIAL UNIVERSITY MODELS: BRAZIL AND LATIN AMERICA PERSPECTIVE / DIVERSITY OR GLOBAL CONVERGENCE

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SINGAPORE, 16TH APRIL 2007

LATIN AMERICA

AREA 21,069,501 sq Km

POPULATION: 530 millions

COUNTRIES: 20 independent countries and several dependent territories

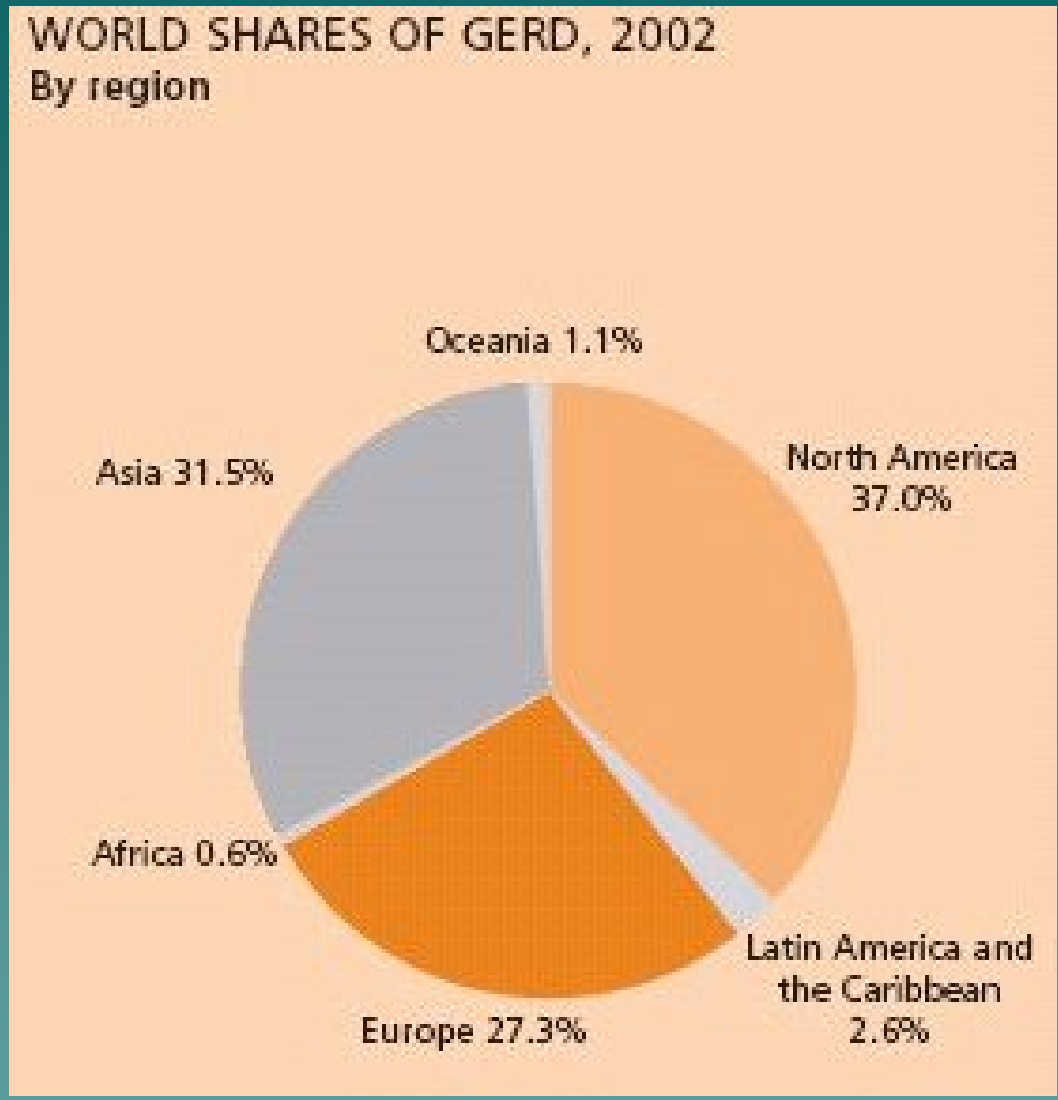
LANGUAGE: Spanish is predominant with few exceptions (p.e. Brazil, Portuguese language)

GDP: 3627.5 billions USD (2002)

KEY INDICATORS: LATIN AMERICA AND THE WORLD (2002)

	GDP	% w	Population (in millions)	% w	GERD	% w	R&D Intensity	GERD Per inhabitant
World	47 599.4	100	6 176.2	100	829.9	100	1.7	134.4
North America	11 321.6	23.8	319.8	5.2	307.2	37.0	2.7	960.5
Asia	16 964.9	35.6	3 667.5	59.4	261.5	31.5	1.5	71.3
Europe	13 285.8	27.9	795.0	12.9	226.2	27.3	1.7	284.6
Latin America	3 627.5	7.6	530.0	8.6	21.7	2.6	0.6	40.9
Brazil	1 300.3	2.7	174.5	2.8	13.1	1.6	1.0	75.0
Oceania	639.5	1.3	31.8	0.5	8.7	1.1	1.4	274.2
Africa	1 760.0	3.7	832.2	13.4	4.6	0.6	0.3	5.6

GDP Gross Domestic Product in billions US$ purchasing power party (PPPs)
GERD Gross Domestic Expenditure in R&D, in billions US$ PPPs
R&D Intensity: ratio between GERD and GDP multiplied by 100
Source: UNESCO SCIENCE REPORT 2005



Source: UNESCO SCIENCE REPORT 2005

Latin America have been experiencing a slight downturn. The region's share in world GERD fell from 3.1% in 1997 to 2.6% in 2002.

As the UNESCO report explains, "three countries – Brazil, Mexico and Argentina – account for 85% of the region's GERD, leaving the remainder with average expenditure of no more than 0.1% of GDP – with the small but notable exception of Cuba, at 0.6%."

RESEARCHERS INDICATORS: LATIN AMERICA AND THE WORLD (2002)

	Researchers (thousands)	% World	Researchers per million inhabitants	GERD per researchers (US$ thousands)
World	5521.4	100	894.0	150.3
Latin America	138.4	2.5	261.2	156.5
Brazil	54.9	1.0	314.9	238.0

Source: UNESCO SCIENCE REPORT 2005

CHARACTERISTICS OF SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT IN LATIN AMERICA

GOVERNMENT

- The institutions that promote and execute R&D are weak
- R&D is not a political priority

FIRMS

- High technological dependence
- Little enterprise participation in R&D

UNIVERSITIES

- Concentration of researchers (and research facilities) in universities
- Majority teaching universities
- Small proportion of Doctorates in the scientific community

CHANGING SCENARIO IN BRAZIL

GOVERNMENT

- Explicit governmental policies for R&D MCT and MDIC
- Innovation Law
- Graduate program

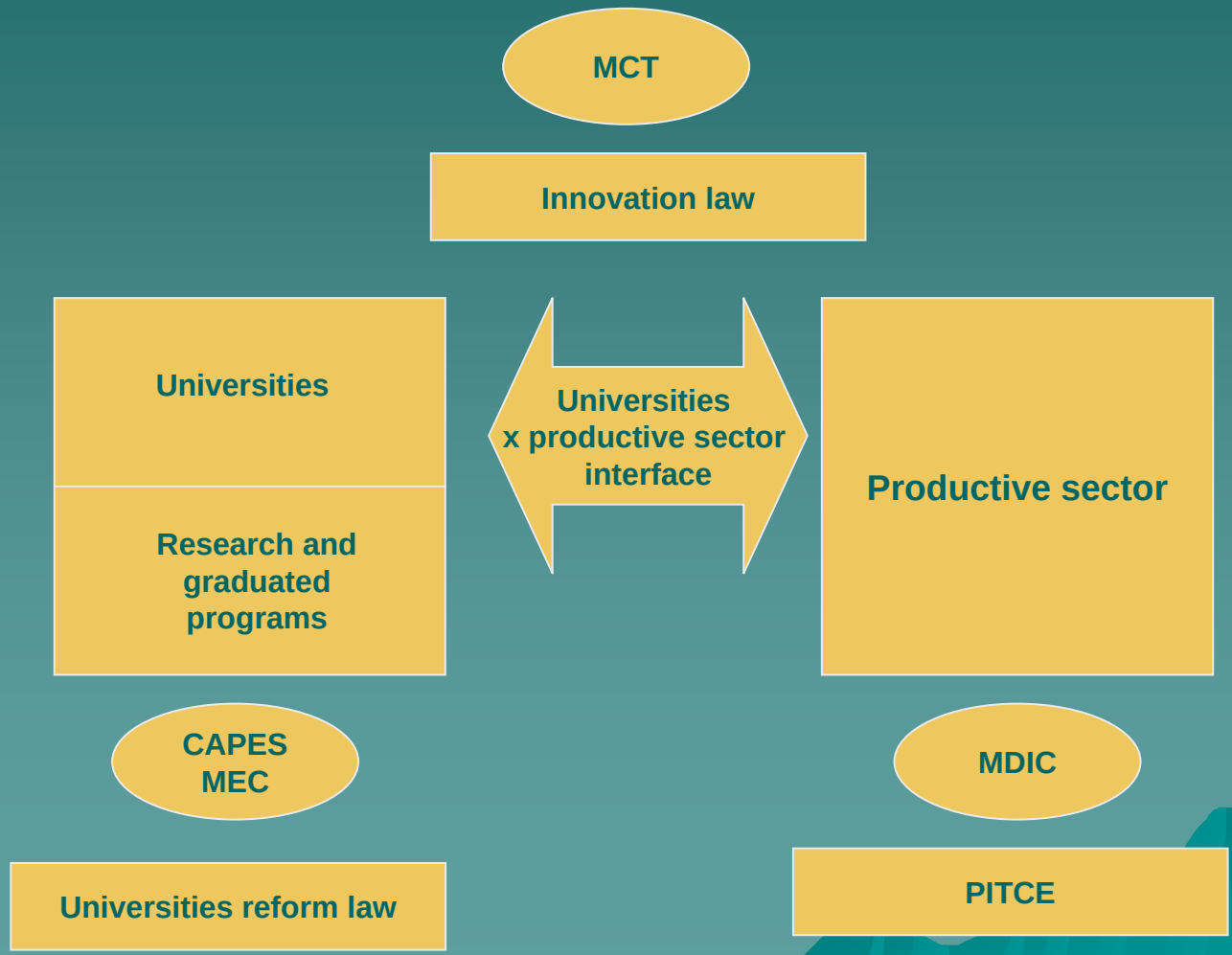
FIRMS

- Technological independence in some sectors (offshore, aircraft)
- Small but increasing enterprise participation in R&D

UNIVERSITIES

- A large concentration of researchers (and research facilities) in universities and public institutes
- Some important research universities
- Large proportion of Doctorates in the scientific community

Broad spectrum of policy instruments that affect innovation performance been implemented



BRAZIL PARADOX

% world scientific production	% world GERD	% world total of patents (USPTO)
1,7%	1,6%	0,2%

university

government

firms

Universities & Higher Education Institutions in Brazil

HEI type	Univ.	Total HEI
Federal	52	97
State	33	75
Municipal	5	59
Total Public	**90**	**231**
For-profit	25	1.520
Non-profit	61	414
Total Private	**86**	**1.934**
Total HEI	**176**	**2.165**

Universities & graduate programs

Only MSc	1 - 3 PhD	4 - 9 PhD	10 - 25 PhD	More than 25 PhD
101	56	14	14	11

	2003
Ph.D. degrees	**8,094**
MsC degrees	**27,630**
Ph.D. new students	**11,343**
M.Sc new students	**35,305**

Source: INEP (2006) Census

Brazilian entrepreneurial university

- Technology Transfer Offices;
- Entrepreneurship (economic and social) courses at graduate and undergraduate levels;
- Incubators of all sort, from technological firms to low-tech popular cooperatives;
- Science Parks

Technological Transfer Offices

- 25 TTOs at Brazilian universities, most of them in public universities (70%)

- Activities: ranging from technological services, negotiation of projects and elaboration of contracts, to intellectual property protection, patents, commercialization of technology, technological forecasting

Incubators

- Brazilian universities incubators: started at the end of the 1980s
- Main types of incubators: Technological, Traditional, Mixes, Popular Cooperatives

- Year base 2006: 377 incubators of all types, with nearly 130 being technological incubators, linked to universities and research centres.

- There are 2,327 firms incubated, 1,678 graduated firms and 1,613 associated firms.

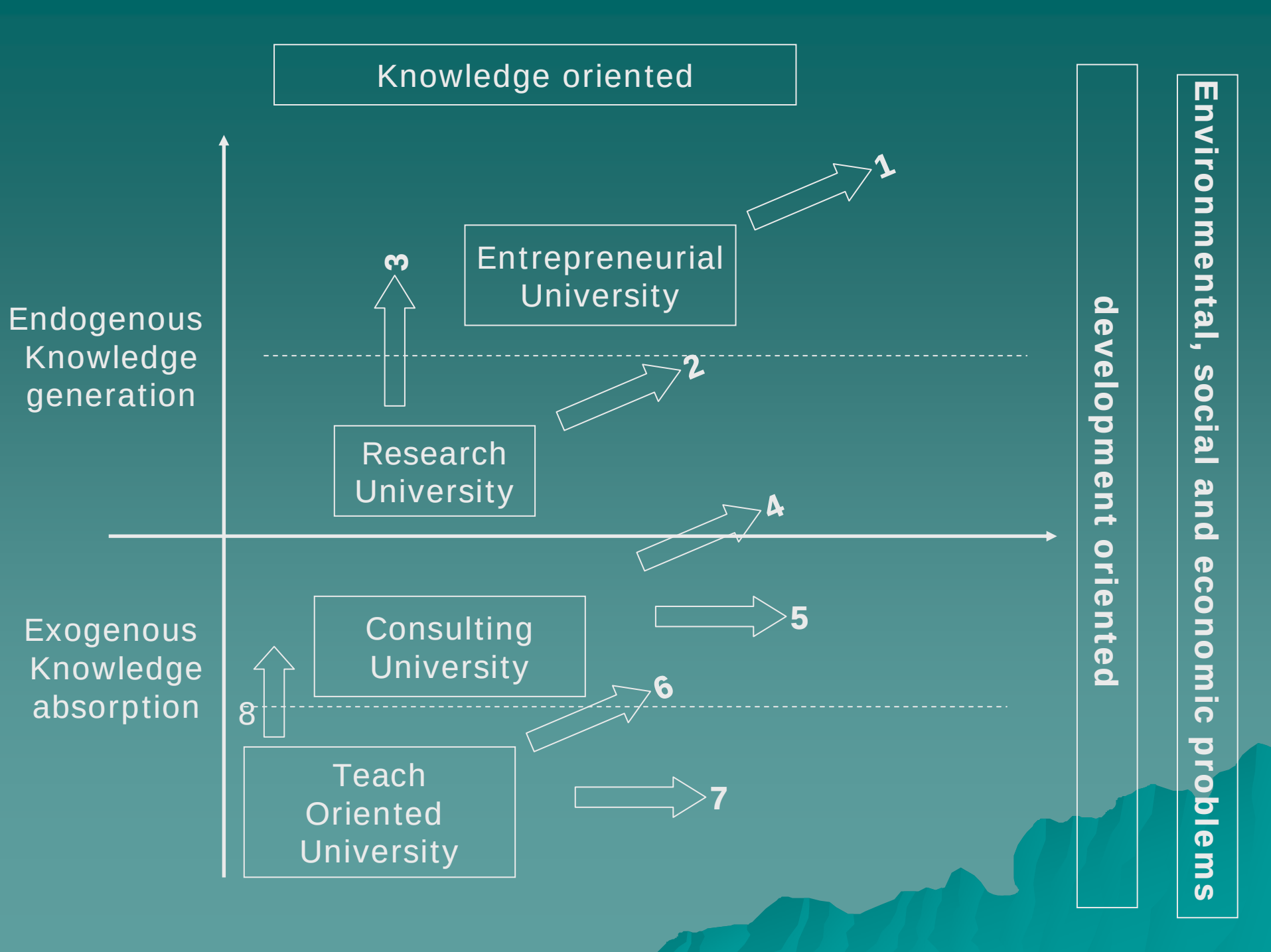
- They provide jobs for nearly 30,000 persons most of them highly-qualified people.

Brazilian S&T Parks

Currently, the Brazilian agency for innovation (FINEP) has a portfolio of 25 projects of technology parks, although most of them are in a very early stage

Source: ANPROTEC 2004

Brazilian universities: a great variety of types


Knowledge oriented
Endogenous Knowledge generation
Exogenous Knowledge absorption
Entrepreneurial University
Research University
Consulting University
Teach Oriented University
1
2
3
4
5
6
7
8
development oriented
Environmental, social and economic problems

- Thank you

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