

## Scientific research at universities in emerging economies

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### Abstract

The objective of the project is to study research-intensive universities in the emerging economies have been developing in recent years. This theme is considered central for the S&T development, including industrial innovation, which justifies such a study in the countries that are trying to intensify those activities, in order to expand their international competitiveness. University research is a relevant aspect of that effort, as it serves as the knowledge basis for other innovation activities, with important impacts, including that on productivity, on the economic outlook of a country.

### Key words:

Higher Education, Scientific Research, Emerging Economies, S&T development.

### Introduction

The concept of Research University it is applied for a subassembly of universities, in each countries, for whom the research activities can be considerable centrals in the institutional mission. This concept have his origins in the Carnegie Classification of Institutions on Higher Education<sup>1</sup>, which was first developed by the Carnegie Foundation for the advancement of teaching, using the American higher education system as a reference.

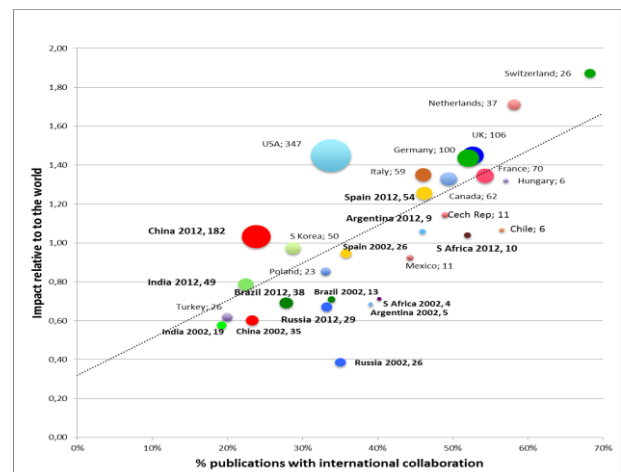
### Results and Discussion

In the past 15 years, the research activity has grown significantly in the so-called emerging countries. China, India, Brazil universities, for example, are taking place as Global Players. The Grow Rate of papers has been expressive in those countries.

**Chart 1.** Grow Rate of Papers in Emerging Countries<sup>2</sup>.

Country	2000	2014	% Grow Rate
China	26016	246773	949%
India	17176	57409	334%
Spain	22904	56805	248%
Brazil	11029	40568	368%
Russia	27642	30396	110%
Turkey	5439	26735	492%
Mexico	4948	12412	251%
South Africa	3752	11803	315%
Argentina	4486	8591	192%
Chile	1941	7426	383%

Growth, has not be given in the same way for all countries. Some of them also experiment an increase of international collaboration, as well in their impact rate. This discrepancy can be explain for a range of factors.



**Image 1.** Relation between International Collaboration and Impact Rate

A linear relation was found between the impact relative rate and the international collaboration. For a more rich approach a special view was given for Brazil and US Higher Educations System's. Using information like number of faculty, number of papers, number of doctoral formatted and the impact of publications, Brazilian Universities and US universities have been compared. Starting for it, a set of criteria's was establishment that typify intensive research activity universities in emerging countries.

### Conclusions

A more approach view shows that a huge number of input data influxes in the quality of research in a determinate institution and country. Questions like governance, founding, human resources impact directly in the research activity.

### Acknowledgement

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<sup>1</sup> <http://carnegieclassifications.iu.edu/> access in 29.06.2016

<sup>2</sup> InCites, ThomsonReuters (March/2014).