

# Economics in Latin America: a bibliometric analysis

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**Abstract** Bibliometrics is a research field that studies quantitatively the bibliographic material. This study analyzes the academic research developed in Latin America in economics between 1994 and 2013. The article uses the Web of Science database in order to collect the information and provides several bibliometric indicators including the total number of publications and citations, and the *h*-index. The results indicate that Brazil, Mexico, Chile, Argentina and Colombia are the only countries with a significant amount of publications in economics in Web of Science although Costa Rica and Uruguay have considerable results in per capita terms. The annual evolution shows a significant increase during the last 5 years that seems to continue in the future, probably with the objective of reaching similar standards than the most competitive countries around the World. The results also show that development, agricultural and health economics are the most significant topics in the region.

**Keywords** Latin America · Economics · Bibliometrics · Web of Science

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## Introduction

Economics is an old discipline that aims to improve the living conditions of the population. Research in economics has been developed for many centuries since early Greek and Roman civilizations. An important consolidation process occurred with the publication of “The Wealth of Nations” by Adam Smith in 1776. During the last 200 years, many other important contributions have been developed by many economists. From a modern academic perspective, an important consolidation of the academic community occurred with the creation of the American Economic Association in 1885 and the American Economic Review in 1911. Similar associations also appeared in Europe with the British Economic Association in 1890 (now the Royal Economic Society) as the most remarkable example. Later, Europe has established a supranational entity that encompasses most of the European national associations: the European Economic Association created in the mid-1980s. Today, there are many associations around the world doing research in economics. In Latin America, it is worth noting the Latin American and Caribbean Economic Association (LACEA) founded in 1992.

During the last decades research has increased exponentially worldwide in all the disciplines including economics. Due to this strong increase, it is becoming more difficult for an individual researcher to follow all the newest developments in the field. An important issue for solving this problem is the use of computers and internet. They facilitate a lot the access and processing of information because now researchers can read most of the information through internet. In order to classify the bibliographic material, bibliometrics (Broadus 1987) has emerged as a significant field in the area of library and information sciences. It is very useful for analyzing a research topic providing summarized results of the leading trends.

Bibliometrics has been studied by many authors in a wide range of disciplines including management (Podsakoff et al. 2008), entrepreneurship (Landström et al. 2012), innovation (Fagerberg et al. 2012) and accounting (Merigó and Yang 2015). In economics, there are a lot of bibliometrics studies. Coupé (2003) and Scott and Mitias (1996) studied the leading economists and economics departments providing worldwide rankings. A similar analysis was also developed by Kocher and Sutter (2001) and García-Castrillo et al. (2002) but more oriented to the country perspective. Kim et al. (2006) studied the most cited papers in economics since 1970. He found that 85 % of them were written by US institutions. Laband and Piette (1994) studied the impact of economics journals between 1970 and 1990. Axaroglou and Theoharakis (2003) studied the journal quality perceptions. Kalaitzidakis et al. (2011), Hudson (2013), Laband (2013) and Stern (2013) presented an updated ranking of economic journals according to different indicators. Pieters and Baumgartner (2002) studied the network of the economic journals between them and with sister disciplines. Other studies have focused on a specific topic in economics including Baltagi (2007) in econometrics and Wagstaff and Culyer (2012) in health economics.

Some other authors have studied a specific region instead of a worldwide perspective. Dusansky and Vernon (1998) ranked US economics departments. Kirman and Dahl (1994) presented the publications in economics by European institutions. Kalaitzidakis et al. (1999) deepened in this issue focusing on ten leading economic journals between 1991 and 1996. Combes and Linnemer (2003) provided updated results for the European region until 2000. Koljatic and Silva (2001) studied the leading countries in Latin America and the journals where they publish more. Yu and Gao (2010) studied economic research institutions in China and Du and Teixeira (2012) through the results found in the China

Economic Review. Davies et al. (2008) analyzed economics research in Canada, Rodríguez (2006) and Ramos et al. (2007) in Spain, Sternberg and Litzenberger (2005) in Germany and Harzing and Mijnhardt (2015) in Netherlands.

The aim of this study is to analyze academic research in economics in Latin America. The focus is on the productivity and influence of Latin American countries analyzing a global perspective and their influence throughout time. The analysis also divides the publications by specialized categories in order to see the profile of each country. Moreover, the work also presents the collaboration connections with other countries around the World. The results clearly indicate that Brazil, Mexico, Chile, Argentina and Colombia are the only countries that publish a significant number of articles. Costa Rica and Uruguay provides equivalent results in per capita terms but the absolute figures are very low.

The rest of the study is organized as follows. “**Methods**” section briefly presents the methods used in the paper. “**Results**” section analyzes the results of the work and section “**Conclusions**” summarizes the main findings and conclusions of the article.

## Methods

Bibliometric studies are useful for many purposes including general overviews of a research field and the analysis of leading researchers (Bjork et al. 2014). One of the main issues for providing an interesting bibliometric analysis is the determination of the most significant indicators for measuring the bibliographic material. In the literature, there is a lot of discussion on this question. Podsakoff et al. (2008) argued that the number of citations was more significant than the number of papers because it measures the influence of a researcher. However, in many other studies, the preference is to use the total number of publications. In summary, the number of articles measures the productivity and the number of citations the influence. In this study, a combined perspective is given in order to be more informative so each reader can consider those indicators that are in accordance with his interests (Merigó et al. 2015a). Other indicators to be used in the article are the *h*-index (Hirsch 2005) and the citations/papers ratio (Merigó et al. 2015b). The *h*-index measures from a set of studies *X*, the number of works *Y* that have received *Y* or more citations. Thus, if an author or a country has an *h*-index of 10, it means that he has 10 papers that have received 10 or more citations.

Another important question found in the study is that economics is a very broad discipline. Therefore, when analyzing the publications it was necessary to classify the material in categories. In order to do so, the article follows the methodology developed by the Comité National de la Recherche Scientifique (CNRS) of France for classifying the academic journals. The section 37 of CNRS of Economics and Management develop a categorization of journals indicating the quality of the leading journals in the field. The article uses the version 3.01 of October 2011 which is the current official version used by the Chilean National Science Foundation (CONICYT). This document is available at the following webpage: <https://www.gate.cnrs.fr/spip.php?rubrique31&lang=en>. Following the methodology of the CNRS report, this study divides economics in fifteen categories which are shown in Table 1.

The CNRS report is very useful for selecting the top journals in economics. Since the number of papers published by Latin American institutions is very low in economics, the use of the Top 5 or 10 journals in economics was not enough to provide a complete representation of the field. Therefore, a broader perspective was needed. The solution used

**Table 1** Fifteen economic categories according to the CNRS report

| Abbreviation | Category   |
|--------------|--|
| AEEE         | Agricultural, Environmental and Energy Economics     |
| DTE          | Development and Transition Economics                 |
| ECMT         | Econometrics   |
| ET           | Economic Theory                                      |
| FI           | Finance and Insurance                                |
| GE           | General Economics                                    |
| HE           | Health Economics                                     |
| HET          | History of Economic Thought                          |
| IO           | Industrial Organization                              |
| LE           | Law and Economics                                    |
| LPE          | Labor and Population Economics                       |
| M            | Macroeconomics, International and Monetary Economics |
| PE           | Public Economics and Public Choice                   |
| SJ           | Spanish Journals                                     |
| URE          | Urban, Spatial and Regional Economics                |

in this paper is to consider all the 339 journals in economics included in Web of Science (WoS). The list of journals is available at: <http://science.thomsonreuters.com/cgi-bin/jrnlst/jlresults.cgi?PC=SS&SC=GY>. However, in order to establish the rankings, a selective process that only considers seventy journals is developed. These journals are considered to be the leading ones in the field and are selected according to the CNRS report. Only those that received an evaluation of one (first level) were considered in the Top 70. The only exception was the American Economic Journals (AEJ), which are new journals without evaluation. Note that in the latest report of the CNRS, two of the AEJ journals are given an evaluation of two. However, there is almost no discussion that these new journals are of high quality and soon they will be leading journals in the field, at least among the Top 70. The list of Top 70 journals with their current impact factor and CNRS category is available in Table 1 of the Online Supplement.

WoS is a database that includes publications from all the known sciences. Currently, it indexes more than 15,000 journals and 50 million articles. It is divided in about 250 categories and 150 research areas. The search process was developed between September and December 2014. The material used in the analysis was filtered by using the WoS category of Economics and an additional filter that considered only the Latin American countries. Moreover, the study considered a period of 20 years between 1994 and 2013. Note that there are many other databases that could be used in the analysis including Google Scholar, Scopus and Econ Lit. However, this work only focuses on the results of WoS which are assumed to be of the highest quality (Yu and Shi 2015).

Although bibliometric studies are very useful for representing the main trends in a research area, it is worth mentioning some limitations that may occur due to the specific characteristics of the investigation conducted. First, the analysis is focused on publications that have Latin American affiliation. However, many leading Latin American economists work abroad so their publications are not included in the analysis although they are Latin American citizens and with strong research connections with the region. The aim of the study is to focus strictly on those individuals working in the region in order to see how the

**Table 2** Global ranking of Latin American countries in economic research

| R  | Country         | Top 70 |      |       |    | All journals |      |      |       | V  | NU     | NA   | NP |    |       |
|----|-----------------|--------|------|-------|----|--------------|------|------|-------|----|--------|------|----|----|-------|
|    |                 | TP     | TC   | C/P   | H  | T8           | TP   | TC   | C/P   |    |        |      |    | H  |       |
|    |                 |        |      |       |    |              |      |      |       |    |        |      |    |    | P/Pop |
| 1  | Brazil          | 414    | 5145 | 12.43 | 35 | 20           | 1441 | 8888 | 6.17  | 42 | 2.066  | 3802 | 16 | 17 | 11    |
| 2  | Mexico          | 294    | 4495 | 15.29 | 34 | 23           | 1002 | 7129 | 7.11  | 38 | 2.403  | 2412 | 10 | 2  | 15    |
| 3  | Chile           | 248    | 5104 | 20.58 | 30 | 29           | 1043 | 8412 | 8.07  | 37 | 14.075 | 2428 | 9  | 14 | 13    |
| 4  | Argentina       | 152    | 2132 | 14.03 | 23 | 14           | 709  | 3487 | 4.92  | 27 | 3.667  | 1354 | 7  | 10 | 5     |
| 5  | Colombia        | 111    | 1506 | 13.57 | 21 | 3            | 326  | 2442 | 7.49  | 25 | 2.297  | 932  | 4  | 2  | 2     |
| 6  | Peru            | 27     | 447  | 16.56 | 9  | 0            | 123  | 550  | 4.47  | 13 | 0.889  | 245  | 1  | 4  | 0     |
| 7  | Costa Rica      | 27     | 342  | 12.67 | 19 | 0            | 55   | 474  | 8.62  | 12 | 5.542  | 193  | 1  | 0  | 0     |
| 8  | Uruguay         | 21     | 216  | 10.29 | 7  | 3            | 93   | 538  | 5.78  | 11 | 6.164  | 207  | 2  | 1  | 1     |
| 9  | Bolivia         | 11     | 338  | 30.73 | 8  | 3            | 24   | 442  | 18.42 | 10 | 1.031  | 86   | 0  | 0  | 1     |
| 10 | Ecuador         | 11     | 302  | 27.45 | 8  | 0            | 32   | 448  | 14    | 12 | 0.699  | 93   | 0  | 0  | 0     |
| 11 | Nicaragua       | 8      | 265  | 33.12 | 7  | 0            | 12   | 285  | 23.75 | 8  | 1.316  | 48   | 0  | 0  | 1     |
| 12 | Guatemala       | 8      | 58   | 7.25  | 6  | 0            | 25   | 66   | 2.64  | 6  | 0.517  | 53   | 0  | 0  | 0     |
| 13 | Venezuela       | 8      | 42   | 5.25  | 3  | 0            | 202  | 191  | 0.95  | 5  | 0.263  | 98   | 0  | 0  | 0     |
| 14 | Honduras        | 6      | 146  | 24.33 | 5  | 0            | 12   | 175  | 14.58 | 7  | 0.741  | 43   | 0  | 0  | 0     |
| 15 | Trinidad Tobago | 5      | 129  | 25.8  | 4  | 0            | 23   | 177  | 7.7   | 6  | 3.728  | 63   | 0  | 0  | 1     |
| 16 | French Guiana   | 3      | 61   | 20.33 | 3  | 0            | 3    | 61   | 20.33 | 3  | 11.995 | 15   | 0  | 0  | 0     |
| 17 | Panama          | 3      | 53   | 17.67 | 2  | 0            | 8    | 162  | 20.25 | 5  | 0.776  | 20   | 0  | 0  | 0     |
| 18 | Dominican Rep.  | 2      | 32   | 16    | 2  | 0            | 9    | 45   | 5     | 4  | 0.192  | 28   | 0  | 0  | 0     |
| 19 | Paraguay        | 1      | 49   | 49    | 1  | 0            | 3    | 57   | 19    | 3  | 0.147  | 9    | 0  | 0  | 0     |
| 20 | El Salvador     | 1      | 7    | 7     | 1  | 0            | 5    | 20   | 4     | 3  | 0.158  | 7    | 0  | 0  | 0     |
| 21 | Cuba            | 1      | 6    | 6     | 1  | 0            | 6    | 10   | 1.67  | 2  | 0.089  | 6    | 0  | 0  | 0     |
| 22 | Guyana          | 1      | 6    | 6     | 1  | 0            | 3    | 6    | 2     | 1  | 1.251  | 10   | 0  | 0  | 0     |
| 23 | Haiti           | 0      | 0    | 0     | 0  | 0            | 1    | 6    | 6     | 1  | 0      | 2    | 0  | 0  | 0     |

**Table 2** continued

| R  | Country | Top 70 |    | T8  |   | All journals |    | P/Pop | V | NU | NA | NP |
|----|---------|--------|----|-----|---|--------------|----|-------|---|----|----|----|
|    |         | TP     | TC | C/P | H | TP           | TC |       |   |    |    |    |
| 24 | Belize  | 0      | 0  | 0   | 0 | 0            | 0  | 0     | 0 | 0  | 0  | 0  |
| 25 | Surinam | 0      | 0  | 0   | 0 | 0            | 0  | 0     | 0 | 0  | 0  | 0  |

R rank; TP and TC total number of publications and citations; C/P citations divided by publications; H, H-index; T8, Number of publications in the Top 8 journals; P/Pop publications divided by the population of the country; V value according to the CNRS report (level “1” = 5, “2” = 3, “3” = 2, “4” = 1); NU, NA and NP number of universities, authors and publications in the Top 50 of Latin America

Latin American research institutions are progressing in this field. A second limitation is that the research characteristics are different between topics so it is not easy to compare such a broad discipline as economics. Therefore, many publications may receive more impact because they are integrated in a bigger network than other articles and because they may have a broader interdisciplinary perspective. In order to solve this issue, the work divides the journals in fifteen categories. But still it is easy to find deviations in this context. Finally, WoS gives one unit to each affiliation included in the paper. Therefore, there is no direct distinction between papers with one single affiliation or more. Some studies have considered this issue by using the adjusted number of articles (Coupé 2003). For country analysis, no significant deviations are expected because most of the institutions follow similar patterns. Thus, this issue has not been considered in the study.

## Results

Currently, there are 5048 articles published between 1994 and 2013 in the category of Economics with at least one Latin American affiliation. If only the Top 70 journals mentioned in the previous section is considered, the number is reduced to 1363 articles. In this Section, let us analyze the leading Latin American countries in economic research. First, a global perspective is presented considering collaborations with external countries. Second, a specific analysis that divides the publications in the fifteen categories mentioned in Table 1 is developed. And third, a temporal evolution for each country is considered distinguishing between the number of articles in the Top 70 journals and the total number of publications.

### Economic research rankings in Latin American countries

During the last years, Latin American countries are experiencing a strong economic growth that is positively affecting the growth of academic research in these countries. Table 2 presents a ranking of the most productive Latin American countries in economics during the last 20 years and Table 3 some representative results from other regions. The analysis is divided in publications in the Top 70 journals and in all the economic journals indexed in WoS. Moreover, it is indicated the number of Top 50 universities, authors and highly cited papers that each country has in the Latin American ranking (Bonilla et al. 2015).

Brazil is the most productive country which is quite obvious due to his huge size. In per capita terms, Chile is clearly the leading country and shows a productivity equivalent to

**Table 3** Publications of some representative regions

| Country | Top 70 |           |         |     | T8     | All journals |           |       |     | P/Pop |
|---------|--------|-----------|---------|-----|--------|--------------|-----------|-------|-----|-------|
|         | TP     | TC        | C/P     | H   |        | TP           | TC        | C/P   | H   |       |
| USA     | 55,235 | 1,396,954 | 25.2911 | 353 | 11,628 | 111,329      | 1,782,477 | 16.01 | 357 | 173.5 |
| EU      | 29,402 | 517,943   | 17.6159 | 218 | 2572   | 107,519      | 1,013,425 | 9.42  | 238 | 58.5  |
| Canada  | 4939   | 91,018    | 18.43   | 119 | 704    | 13,156       | 153,514   | 11.66 | 125 | 140.6 |
| China   | 1384   | 24,642    | 17.8    | 67  | 192    | 6054         | 53,532    | 8.84  | 80  | 1.01  |
| Japan   | 1306   | 12,984    | 9.94    | 46  | 78     | 6012         | 32,288    | 5.37  | 55  | 10.2  |

developed countries such as Japan. From a general perspective, only Brazil, Mexico, Chile, Argentina and Colombia have published a significant number of articles in the field over the last 20 years. Costa Rica and Uruguay obtain remarkable results in a per capita perspective but in absolute numbers they results are very low due to the small size of these countries. If looking to Latin America as a whole, the study indicates that their productivity is still far away from Europe and North America but it presents similar standards than China. This is a clear indication that the forecasts for the future expect a huge academic increase of these two regions although still a lot of time has to pass before they can reach the European and American standards in this field.

Next, let us look into the collaboration of Latin American countries with external countries. Table 4 presents the ten countries with the highest number of articles jointly written with Latin America.

As expected, the USA is the most influential country in Latin America, especially due to his size. However, if looking into per capita terms, many European countries have a similar degree of collaboration with Latin America than the USA. None of the Asian countries have a significant degree of collaboration with Latin America especially because they do not publish so much in economics as they do in other research areas such as engineering and computer science.

### Most productive countries divided by categories

Since economics is a very broad discipline that encompasses many subfields, it is important to classify the research publications between different topics. In this study, fifteen categories are identified as representative of economics and taking a Latin American perspective. Tables 5, 6 and 7 present the productivity of each country in each of the categories. Note that the value ( $V$ ) is calculated according to the CNRS report and the explanations given in Table 2.

Chile is the leader in Urban and Regional Economics and Industrial Organization. For most of the other categories, Brazil is the leader with the exception of Spanish Journals where Mexico is the most productive one. It is worth noting that many countries have not published any study in many categories which shows the non-developed academic

**Table 4** List of countries with highest co-authorship with Latin America

| R  | Country     | Top 70 |        |       |    | T8 | All journals |        |       |    | P/Pop | V    |
|----|-------------|--------|--------|-------|----|----|--------------|--------|-------|----|-------|------|
|    |             | TP     | TC     | C/P   | H  |    | TP           | TC     | C/P   | H  |       |      |
| 1  | USA         | 598    | 12,611 | 21.09 | 51 | 58 | 1226         | 16,694 | 13.62 | 56 | 1.892 | 6813 |
| 2  | UK          | 93     | 1672   | 17.98 | 20 | 4  | 261          | 3185   | 12.2  | 26 | 1.451 | 878  |
| 3  | Spain       | 72     | 626    | 8.69  | 11 | 5  | 247          | 1195   | 4.84  | 16 | 1.543 | 621  |
| 4  | Germany     | 39     | 425    | 10.9  | 13 | 1  | 99           | 693    | 7     | 16 | 0.484 | 321  |
| 5  | Canada      | 38     | 615    | 16.18 | 14 | 5  | 91           | 1061   | 11.66 | 18 | 1.081 | 331  |
| 6  | France      | 38     | 505    | 13.29 | 12 | 1  | 111          | 819    | 7.38  | 14 | 0.576 | 355  |
| 7  | Netherlands | 20     | 715    | 35.75 | 13 | 3  | 59           | 894    | 15.15 | 14 | 1.190 | 202  |
| 8  | Australia   | 19     | 156    | 8.21  | 7  | 0  | 52           | 497    | 9.56  | 11 | 0.821 | 163  |
| 9  | Italy       | 17     | 178    | 10.47 | 7  | 2  | 72           | 380    | 5.28  | 12 | 0.284 | 176  |
| 10 | Switzerland | 16     | 836    | 52.25 | 9  | 0  | 32           | 899    | 28.09 | 11 | 1.980 | 107  |



**Table 5** Number of publications by categories: AEEE, DTE, ECMT, ET and FI

|                 | AEEE |      | DTE |     | ECMT |     | ET  |     | FI |     |
|-----------------|------|------|-----|-----|------|-----|-----|-----|----|-----|
|                 | TP   | V    | TP  | V   | TP   | V   | TP  | V   | TP | V   |
| Brazil          | 723  | 1850 | 169 | 597 | 218  | 585 | 123 | 538 | 81 | 212 |
| Mexico          | 420  | 1008 | 139 | 507 | 91   | 304 | 90  | 339 | 40 | 107 |
| Chile           | 255  | 686  | 146 | 496 | 72   | 177 | 34  | 141 | 36 | 131 |
| Argentina       | 214  | 470  | 62  | 194 | 49   | 138 | 31  | 130 | 18 | 54  |
| Colombia        | 104  | 297  | 67  | 277 | 24   | 57  | 14  | 55  | 4  | 9   |
| Peru            | 38   | 92   | 38  | 113 | 1    | 3   | 0   | 0   | 1  | 2   |
| Costa Rica      | 59   | 177  | 16  | 54  | 0    | 0   | 1   | 5   | 1  | 5   |
| Uruguay         | 21   | 48   | 13  | 28  | 4    | 16  | 11  | 45  | 5  | 12  |
| Bolivia         | 23   | 62   | 7   | 21  | 0    | 0   | 2   | 4   | 1  | 3   |
| Ecuador         | 33   | 91   | 8   | 31  | 0    | 0   | 1   | 3   | 0  | 0   |
| Nicaragua       | 7    | 20   | 9   | 28  | 0    | 0   | 0   | 0   | 0  | 0   |
| Guatemala       | 9    | 33   | 8   | 26  | 0    | 0   | 0   | 0   | 0  | 0   |
| Venezuela       | 20   | 46   | 6   | 25  | 9    | 19  | 0   | 0   | 9  | 21  |
| Honduras        | 12   | 34   | 3   | 15  | 0    | 0   | 0   | 0   | 0  | 0   |
| Trinidad Tobago | 24   | 51   | 19  | 53  | 1    | 2   | 1   | 5   | 0  | 0   |
| French Guyana   | 3    | 9    | 0   | 0   | 0    | 0   | 0   | 0   | 0  | 0   |
| Panama          | 16   | 39   | 1   | 5   | 0    | 0   | 0   | 0   | 0  | 0   |
| Dominican Rep.  | 5    | 17   | 2   | 4   | 0    | 0   | 0   | 0   | 0  | 0   |
| Paraguay        | 2    | 4    | 1   | 5   | 0    | 0   | 0   | 0   | 0  | 0   |
| El Salvador     | 1    | 2    | 1   | 5   | 0    | 0   | 0   | 0   | 0  | 0   |
| Cuba            | 3    | 10   | 3   | 5   | 1    | 2   | 0   | 0   | 0  | 0   |
| Guyana          | 3    | 8    | 1   | 2   | 0    | 0   | 0   | 0   | 0  | 0   |
| Haiti           | 2    | 3    | 0   | 0   | 0    | 0   | 0   | 0   | 0  | 0   |
| Belize          | 3    | 6    | 0   | 0   | 0    | 0   | 0   | 0   | 0  | 0   |
| Surinam         | 2    | 5    | 0   | 0   | 0    | 0   | 0   | 0   | 0  | 0   |

environment that these countries are facing. From a general perspective, it is clear that Agricultural Economics is that category with more influence in Latin America. Additionally, they also show a strong interest in Development and Health Economics. Moreover, they have also published a significant number of studies in General Economics and Spanish Journals. These results are quite logical taking into account that Latin America is mostly a developing and a Spanish speaking region that gives priority to developing issues.

**Temporal evolution of the publications in economics by Latin American countries**

Research in economics has increased worldwide throughout time. In Latin America, the trend is the same although the figures are much lower than developed countries. Table 2 of the Online Supplement presents the annual evolution of publications in economic journals indexed in WoS between 1994 and 2013 for each Latin American country.

**Table 6** Number of publications by categories: GE, HE, HET, IO and LE

|                 | GE  |      | HE  |     | HET |     | IO |     | LE |    |
|-----------------|-----|------|-----|-----|-----|-----|----|-----|----|----|
|                 | TP  | V    | TP  | V   | TP  | V   | TP | V   | TP | V  |
| Brazil          | 365 | 1111 | 319 | 871 | 67  | 258 | 39 | 116 | 12 | 34 |
| Mexico          | 164 | 695  | 190 | 547 | 29  | 82  | 30 | 84  | 6  | 15 |
| Chile           | 162 | 681  | 60  | 181 | 8   | 26  | 48 | 172 | 7  | 33 |
| Argentina       | 90  | 376  | 58  | 157 | 30  | 97  | 23 | 61  | 9  | 26 |
| Colombia        | 53  | 153  | 50  | 161 | 21  | 60  | 14 | 39  | 3  | 8  |
| Peru            | 20  | 38   | 50  | 128 | 1   | 2   | 6  | 9   | 0  | 0  |
| Costa Rica      | 6   | 15   | 12  | 40  | 0   | 0   | 1  | 3   | 1  | 2  |
| Uruguay         | 16  | 79   | 9   | 28  | 2   | 5   | 3  | 9   | 0  | 0  |
| Bolivia         | 5   | 37   | 14  | 53  | 0   | 0   | 2  | 4   | 0  | 0  |
| Ecuador         | 3   | 6    | 17  | 50  | 0   | 0   | 0  | 0   | 0  | 0  |
| Nicaragua       | 1   | 5    | 20  | 61  | 0   | 0   | 0  | 0   | 0  | 0  |
| Guatemala       | 4   | 7    | 18  | 51  | 0   | 0   | 2  | 3   | 0  | 0  |
| Venezuela       | 11  | 36   | 8   | 22  | 1   | 1   | 1  | 3   | 1  | 1  |
| Honduras        | 1   | 2    | 11  | 30  | 0   | 0   | 0  | 0   | 0  | 0  |
| Trinidad Tobago | 6   | 20   | 17  | 47  | 2   | 2   | 1  | 3   | 0  | 0  |
| French Guyana   | 0   | 0    | 2   | 4   | 0   | 0   | 0  | 0   | 0  | 0  |
| Panama          | 0   | 0    | 3   | 9   | 0   | 0   | 0  | 0   | 0  | 0  |
| Dominican Rep.  | 3   | 7    | 6   | 12  | 0   | 0   | 1  | 1   | 0  | 0  |
| Paraguay        | 1   | 2    | 4   | 11  | 0   | 0   | 1  | 1   | 0  | 0  |
| El Salvador     | 0   | 0    | 5   | 12  | 0   | 0   | 1  | 1   | 0  | 0  |
| Cuba            | 0   | 0    | 22  | 58  | 0   | 0   | 0  | 0   | 0  | 0  |
| Guyana          | 1   | 3    | 0   | 0   | 0   | 0   | 0  | 0   | 0  | 0  |
| Haiti           | 0   | 0    | 12  | 38  | 0   | 0   | 0  | 0   | 0  | 0  |
| Belize          | 0   | 0    | 0   | 0   | 0   | 0   | 0  | 0   | 0  | 0  |
| Surinam         | 0   | 0    | 6   | 16  | 0   | 0   | 0  | 0   | 0  | 0  |

Over the last 20 years, Brazil, Mexico, Chile and Argentina are the most productive countries. During the last 5 years Colombia has grown a lot and now publishes an equivalent number of articles than the previous four countries. The rest of the countries publish a very low number of papers and some of them sometimes do not publish any study in 1 year.

Focusing on high quality journals, Table 3 of the Online Supplement presents the annual evolution for only the Top 70 journals mentioned in the previous sections.

Brazil, Mexico and Chile publish regularly in the Top 70 journals. Argentina and Colombia also publish a considerable number of articles although the significant figures of Colombia come from the last years. The rest of the countries do not publish almost any article in the Top 70. Some countries have never published any study in these selective journals or less than ten publications.

**Table 7** Number of publications by categories: LPE, M, PE, SJ and URE

|                 | LPE |     | M   |     | PE |     | SJ  | URE |     |
|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|
|                 | TP  | V   | TP  | V   | TP | V   | TP  | TP  | V   |
| Brazil          | 38  | 117 | 102 | 353 | 49 | 134 | 60  | 118 | 273 |
| Mexico          | 27  | 74  | 68  | 272 | 34 | 114 | 276 | 46  | 117 |
| Chile           | 24  | 70  | 61  | 207 | 37 | 112 | 140 | 163 | 437 |
| Argentina       | 18  | 50  | 58  | 226 | 36 | 120 | 41  | 22  | 54  |
| Colombia        | 12  | 36  | 30  | 90  | 12 | 32  | 21  | 24  | 62  |
| Peru            | 5   | 18  | 10  | 31  | 9  | 30  | 19  | 6   | 15  |
| Costa Rica      | 5   | 13  | 2   | 6   | 3  | 9   | 0   | 3   | 9   |
| Uruguay         | 4   | 9   | 10  | 34  | 4  | 9   | 11  | 1   | 2   |
| Bolivia         | 2   | 5   | 0   | 0   | 1  | 2   | 1   | 1   | 3   |
| Ecuador         | 2   | 8   | 0   | 0   | 1  | 2   | 4   | 4   | 10  |
| Nicaragua       | 2   | 8   | 0   | 0   | 1  | 2   | 0   | 1   | 5   |
| Guatemala       | 0   | 0   | 1   | 2   | 1  | 1   | 2   | 0   | 0   |
| Venezuela       | 3   | 13  | 2   | 7   | 1  | 2   | 5   | 5   | 15  |
| Honduras        | 1   | 5   | 0   | 0   | 0  | 0   | 0   | 0   | 0   |
| Trinidad Tobago | 2   | 5   | 3   | 9   | 7  | 14  | 0   | 1   | 3   |
| French Guyana   | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 0   | 0   |
| Panama          | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 1   | 3   |
| Dominican Rep.  | 0   | 0   | 1   | 5   | 1  | 2   | 1   | 1   | 2   |
| Paraguay        | 0   | 0   | 0   | 0   | 2  | 4   | 0   | 0   | 0   |
| El Salvador     | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 1   | 1   |
| Cuba            | 0   | 0   | 0   | 0   | 1  | 1   | 0   | 1   | 2   |
| Guyana          | 0   | 0   | 0   | 0   | 1  | 3   | 0   | 0   | 0   |
| Haiti           | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 2   | 10  |
| Belize          | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 0   | 0   |
| Surinam         | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 0   | 0   |

## Conclusions

This study has provided a general overview of academic research in economics in Latin America between 1994 and 2013. The results indicate that these countries are growing strongly although they still need to improve a lot. Brazil, Mexico, Chile and Argentina are the leading ones in this region. Colombia is showing an important growth and today it is publishing almost similar figures than the previous countries. The results of Chile are particularly remarkable because in per capita terms his productivity is by far the highest one and it is close to the standards of many developed countries including Japan and South Korea. Uruguay and Costa Rica also show considerable figures from a per capita perspective although they are lower than Chile and these countries are much smaller so their results do not become significant from a global perspective. Analyzing Latin America as an individual region, we see that his publication volume is much lower than North America and Europe but it is at a similar level than Japan and China. Therefore, this is a positive indication that this region is an emerging one which is growing a lot. However, the results

show that most of his international collaborations are with North American and European countries including the USA, UK and Spain.

Latin America publishes economic research in a wide range of topics. However, the findings of the paper indicate that their major interests are in the field of Development, Agricultural and Health Economics. These results are quite logic for developing countries because usually they need to give priority to developing issues such as health and agriculture. They also publish a lot in General Economics and have a local character being the most influential countries in Spanish and Portuguese journals. Although in other categories they publish less, they also show significant numbers in Econometrics, Macroeconomics, Urban and Regional Economics and Economic Theory. At a third level appears the categories of Public Economics, Finance and Insurance, History of Economic Thought, Industrial Organization and Labor and Population Economics. Law and Economics is the category that receives less attention by Latin American countries having published less than fifty articles over the last 20 years.

Finally, let us mention some key limitations that should be considered. First, Latin American research is very international because most of the leading researchers usually work in foreign countries. Therefore, when analyzing the publications of a country, only those that have been published with a local affiliation appear in the list. But the publications of Latin American citizens working abroad do not appear. In this context, it is interesting to question the significance of a publication of a Latin American person that works abroad. From a technical perspective, if an article is produced in a foreign institution, the official result does not affect Latin America. But from an implicit point of view, a value should be given to this publication. This issue is very relevant in this study because in economics it is very common that many leading Latin American authors work abroad (Bonilla et al. 2015). A second important limitation is that the WoS database gives one publication and citation unit to any affiliation included in an article. The problem is that the number of affiliations included in different studies is not the same so some deviations occur under this perspective. However, when studying countries this should not bring important differences because a country is very diverse having researchers in a wide range of fields. Thus, similar deviations should occur for all the countries so the results should be equivalent between them.

Finally, recall that this study aims to be informative although many exceptional situations may occur due to the specific characteristics of each research topic. Therefore, many particularities may occur producing better results for some particular issues but forgetting some other ones. Thus, the main objective of the article is to provide a general overview of economic research in Latin America identifying some of the leading trends in the region. But obviously, different perspectives may bring different interpretations and conclusions regarding the results found in the study. Moreover, important research may not appear in the results due to several factors that are not directly considered in the analysis including the involvement in journals and conferences and the general diffusion and promotion of economic research.

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