



# Bibliometric analysis on Behavioral Economics: period 2000-2020

## Análisis bibliométrico sobre la Economía del comportamiento: período 2000-2020

DOI: <https://doi.org/10.17981/econcuc.43.2.2022.Econ.1>

Review Paper.

Reception date: 16/06/2021

Return date: 12/10/2021


Acceptance date: 07/03/2022

Publication date: 14/03/2022

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To cite this article:

Morales Castro, A., Acevedo Campos, D. & Aguado Cortés, C. (2022). Bibliometric analysis on Behavioral Economics: period 2000-2020. *Económicas CUC*, 43(2), 177–200. DOI: <https://doi.org/10.17981/econcuc.43.2.2022.Econ.1>

### Abstract

The purpose of this research is to describe the main characteristics and steps about how elaborate an intellectual bibliography of global academic production related to the topic “economic behavior” in economy, business administration and management, making a descriptive analysis of the structure, intellectual contain and development. Methodology consisted in a bibliometric analysis of the science database Web of Science, using R, a mathematic and statistic software. A database was built with 12668 articles related to “economic behavior” and “behavioral economy” from 2000 to 2020. Data analysis revealed a level of correlation between both searches, nevertheless, this was not an absolute correlation, which highlight the importance of a good delimitation of bibliometric parameters. **Keywords:** Bibliometrics; economic behavior; behavioral economics

### Resumen

La presente investigación tiene como objetivo describir las principales características de construir una estructura intelectual bibliográfica de la producción científica mundial relacionada con el comportamiento económico en los campos de economía, administración y negocios, a partir de un análisis descriptivo de la estructura, contenido y evolución. La metodología corresponde a un análisis bibliométrico de literatura de la principal base de datos científica Web of Science, utilizando software especializado y programación en R. Se construyó una base de datos con 12 668 artículos relacionados con las frases “comportamiento económico” y “economía del comportamiento” desde el año 2000 al 2020. El análisis mostró cierta correlación entre ambas búsquedas, aunque no completa, por lo cual se muestra la importancia de delimitar correctamente los parámetros bibliométricos.

**Palabras clave:** Bibliometría; comportamiento económico; economía conductual

JEL: A12, A13, I12.

## INTRODUCTION

Derivate from the Nobel Prize in Economic awarded to psychologist Daniel Kahneman in 2002 and economist Richard Thaler in 2017, the number of investigations and publications in the field of behavioral economics has increased worldwide. Through recognizing the importance of approaching the economic problems from the behavioral sciences, better models have been achieved to explain peoples' decisions, although the economic theory assumes that people behave rationally, understanding it as searching the greatest profit with the least effort (Smith, 2020), numerous empirical investigations have found that this assumption is not always fulfill and that systematically individuals violate this principle under different situations, such as a marked preference for small but immediate rewards, instead of larger rewards with a longer waiting time (temporal discount: Loewenstein, Read & Baumeister, 2003; Rachlin & Green, 1972).

In this context, and preferring the individual benefit over the common benefit, although in the long term everyone is affected and ends up in a worse situation (public goods dilemma and tragedy of the commons: Santoyo, López y Colmenares, 2004; Kollock, 1998; Hardin, 1968) or choosing under a series of systematic biases and mental shortcuts, that although they facilitate the decision process, tend to increase the frequency of decision errors (perspective theory: Campos, 2017; Kahneman, 2014; Kahneman & Tversky, 1979).

However, when doing a search about the articles and research about behavioral economics, we find that diverse sources are not entirely related to this study field, in part, because the same concepts derived from this investigations are not completely unify, because as Cruz (2001) says, this discipline has received different names since its origins depending of the discipline of the investigator that makes the study: Tarde (2011) and the Austrian Economic School propose the term *economic psychology* and Katona (1951) and part of Europe started to use the term *psychological economy*.

While Simon (1979) and the American schools choose to call it behavioral economics, or economic behavior, of which the last terms would be the most common, among other reasons, as the consequence of the Nobel Prizes awarded to Kahneman (2003) and Thaler (2017), belonging to American schools. Behavioral economics is the branch if the economy that tries to combine and integrate the psychology perceptions into the economics and is present in the same principles of neoclassical economics that incorporate Adam Smith, Irving Fisher y John Maynard Keynes.

For this reason, it is necessary to verify whether the results obtained with the term "economic behavior" are the same as those obtained with similar terms, taking into account that "behavioral economics" is an interdisciplinary branch, while "economic behavior" could include explanations and models from economics that not necessarily consider the interdisciplinary work between economics and the behavioral sciences, for which a brief definitions for both concept will be given and then the results of the analysis will be presented.

Behavior can be understood as a certain way of acting, acting good or acting correctly according to the Royal Spanish Academy- RAE for its acronym in Spanish. However, this definition is too abstract until it is put in context. From the economic perspective, behavior consists of the way in which individuals make decisions regarding the management of resources such as the purchase/sale of goods and services, the generation of income, as well as the allocation of said resources, among other financial choices. On the other hand, psychology considers behavior as the set of actions and reactions from an organism against a stimulus that comes from outside or inside the same organism (Watson, 2003).

Making this distinction is important, because when performing the search of the concept “economic behavior” in the databases, it would be expected that a wide variety of references could be found, since these could cover any behavior or action related to the economic sphere, both at a microeconomic level of consumption, sales of goods and services, income generation, loan applications, interest payments or investment decision, up to a macroeconomic level such as the behavior of interest rates, monetary and fiscal policy international treaties, among other.

Nevertheless, although behavioral economics is also linked to all the actions mentioned above, it has been described, among other definitions, as an interdisciplinary subject that brings together the psychology, the sociology and the anthropology to economics, which studies the mechanisms and psychological processes underlying consumption and other economic behaviors, as the collection conceptual, methodological and technological proposals that seek to add psychological variables to traditional explanations of economic phenomena (Cruz, 2001), or as a branch of economics that seeks to comprehend (rather than prescribe) the reasoning of individuals in a more —human— way, in order to generate economic models more similar to reality, understanding that individuals do not always act rationally and usually act based on different systematic biases (Briceño, Orozco y Galvis, 2018).

The growing interest in behavioral economics also stems from the fact that it proposes an alternative model to that of classical economics, in which there is a normative model of how individuals should decide, and which considers that the human being always behaves rationally and selfishly, guided by the search for maximum profit with minimum effort, of which the greatest exponent would be the *Homo economicus* described by Smith (1794).

However, far from defining how individuals should act, behavioral economics presents a descriptive model, which, based on empirical evidence and numerous researches (Kahneman, 2014; Sunstein and Thaler, 2009; Simon, 1990; Kahneman and Tversky, 1979; Ainslie, 1975), has found the appearance of systematic errors and biases in economic decision-making, which happens because unlike *Homo economicus*, ordinary people have a limit on the information capacity they can process, are influenced by its context and personal biases, and it would be practically impossible to calculate all possible scenarios for every decision taken, so we can only aspire to a limited rationality (Simon, 1990).

In this regard, [Kahneman \(2014\)](#) mentions a model of two systems which reflect the different thinking mechanisms we use to make decisions: the first system, helps us to make quick and automatic decisions, with little or no effort and which our brain likes a lot because of the low energy cost it represents. However, it is this same quickness which can easily induce making mistakes, so that is when the second system comes into action, which takes up more energy, but allows for more complex calculations, and tends to be associated with the experience of acting, choosing and concentrating.

Considering these definitions, it follows that the “behavioral economics” will always analyze some type of “economic behavior”, but not all “economic behavior” will be analyzed from the “behavior economics” approach. Therefore, the present analysis seeks to provide information that helps to make more precise searches about this discipline, to identify the way in which it has been developed over the last 20 years and corroborate the degree of correlation between the two searches by means of a bibliometric analysis.

## METHODOLOGY

With the purpose to establish a bibliographic classification of the term “Economic behavior”, a data set was compiled with 12.668 papers from *Web of Science*, a digital database owned by *Clarivate Analytics*, with a wide collection of academic papers, books, and research articles from frontier scientists around the world, which provides the full citing data and references for all the registered documents.

Once the database was built, a bibliometric methodology was applied to graphic the frequency over time, common keywords, number of cites, number of academic institutions and collaboration networks between authors and institutions. Bibliometric is a research methodology in the field of science literature, which consists of a statistical analysis from scientific databases to summarize the field of study and facilitate the elaboration of a knowledge map.

Bibliometric analysis also allows to evaluate the connectivity network between keywords, cites, authors, and academic institutions ([Aguado-Cortes & Castaño, 2020](#)). Common subjects of study with this methodology are frequency, connectivity, centrality and clusters of authors, academic institutions, and countries. With this data, researchers can explore the development and tendency of papers, field of knowledge, citing patterns, author’s networks, relevance and impact of authors or papers ([Liang & Liu, 2018](#)).

The principal database of *Web of Science* was used for the research. Then a search was run by the filter “theme” and the phrase “economic behavior”, and the categories: “Economy, Business and management”. Period: 2000 -2022. Index: SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI. Through this search, 12 688 academic papers were identified with the search criteria, among 44 150 782 existing documents from *Web of Science* database.

Afterwards, a bibliometric analysis was run using R software (Aria & Cuccurullo, 2017), a free-license statistic program with great versatility to analyze wide amounts of data.

The code used to execute the analysis is describe in the following lines:

### *Steps to data processing in R*

1. Install *bibliometrix* R package (Aria & Cuccurullo, 2017) then introduce the code *biblioshiny*:

```
a. library (bibliometrix)
b. biblioshiny
```

2. The exported file could be read by R with the comand *readFiles*:

```
a. D <-readFiles("http://www.bibliometrix.org/datasets/savedreecs.bib")1
b. es. D <- readFiles ("file1.txt", "file2.txt", ...) 2
```

### *Bibliometric analysis*

3. To execute a descriptive analysis of the bibliographic frame the command *biblioAnalysis* was used. This function calculates the principal bibliometric measures with the syntaxis:

```
a. results <- biblioAnalysis(M, sep = ";")
```

### *Matrix of bibliographic networks*

4. At last, a bibliographic network was elaborated with the command *biblioNetwork*. This function calculates the more frequent networks of the bibliographic frame: *Coupling, Co-citation, Co-occurrences & Collaboration*.

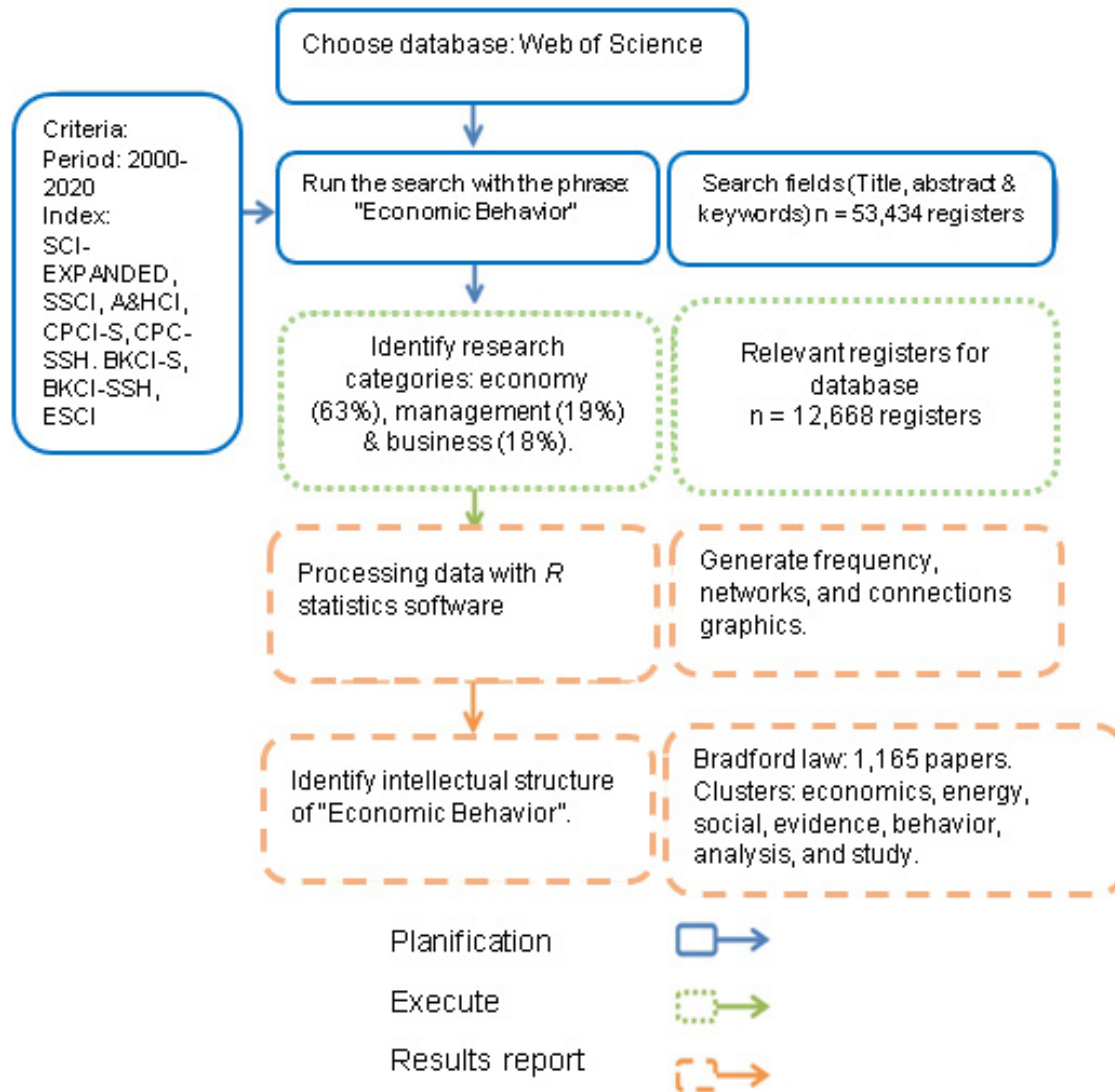
```
a. To calculate classic network of co-citation: NetMatrix <-
biblioNetwork(M, analysis = "co-citation", network = "references", sep = "."
b. To calculate network of co-citation:
e. NetMatrix <- biblioNetwork(M, analysis = "co-citation", network = "refer-
ences", sep = ". ")
f. net=networkPlot(NetMatrix, n = 30, Title = "Co-Citation Network", type
= "fruchterman", size=T, remove.multiple=FALSE, labels=0.7,edgesize = 5)
c. To calculate network of co-ocurrences of keywords: _
g. NetMatrix <- biblioNetwork(M, analysis = "co-occurrences", network = "key-
words", sep = ";")
```

<sup>1</sup> D is a large character's vector. The command *readFiles* contains the name of downloaded files from the web site *Web of Science*.

<sup>2</sup> The command *readFiles* combines all the text files in a single large character's vector. The format change to UTF-8.

As an output of this process, an overview of different conceptual structures was obtained, which is showed at the results (Kraus et al., 2020).

Finally, with the purpose of summarize the identification process of scientific literature related to “Economic Behavior”, Figure 1 is presented. This Figure is based on methodology for bibliometric analysis of Fuentes et al. (2020) which consists of the following stages: a) Planification, b) Execution and c) Results report.



**Figure 1.** Flowchart of bibliometric análisis.  
Source: Own elaboration.

## RESULTS

As mentioned previously, one of the benefits of bibliometric analysis is that it allows to obtain the intellectual bibliographic structure in a summary way, which facilitates the information analysis and shows the main works of the field of knowledge that interests us. When analyzing the terms “economic behavior” and “behavioral economics” a total of 12 668 documents are obtained, of which the principal information is presented in Table 1.

**TABLE 1.**  
*General data of bibliometric analysis*

Field	Results	Description
Documents	12 668	Total number of documents.
Type of documents	2 298	Frequency distribution.
Key Words	12 420	Occurrence of words in the documents (includes title, abstract, keywords).
Author's Key words	25 028	Frequency of author's key words.
Period	2000 - 2020	Years considered in the research.
Average cites per document	16.94	Average cites related to number of articles per author.
Authors	23 493	Total number of authors.
Single-author's documents	6 992	Number of documents with one author.
Documents with more than one author	20 168	Number of documents with more than one author (It could be a greater number than authors due it considers different categories).
Documents per author	0.539	Average number of documents related to the number of authors.
Authors per document	1.85	Average number of authors related to the number of documents.
Co-authors per document	2.28	Average number of coauthors per document.
Collaboration rate	2.24	Total number of documents with different authors/documents with different number or authors.

Source: Own elaboration.

As observed in **Table 1**, the bibliometric analysis considers the main indicators of scientific production, among which is the number of documents, the frequency by the type of document, the editors' key words and the words selected by the authors, period covered by the documents, average of citations by documents, number of authors, documents per author, author per documents, co-authors, and rate of collaboration. These indicators give an overview about the number of documents produced, whether if they focus on a few authors or whether if is a subject that has been dealt extensively from different perspectives, as well as the degree of connection between the documents.

Another factor considered in the main information is the type of documents produced, which is presented in **Table 2**. Knowing the type of documents helps to know how developed the field of knowledge analyzed is.

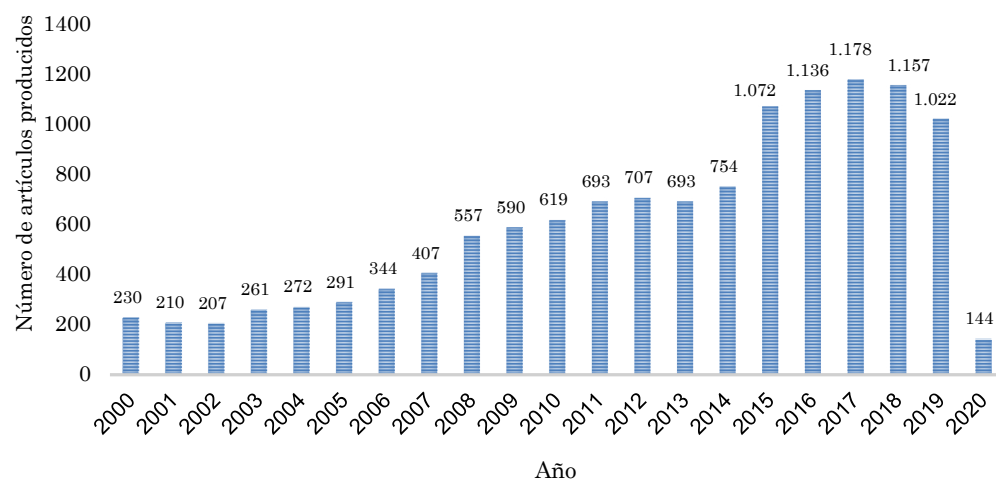
For example, in the case of novel subjects or frontier knowledge, it is possible that the number of books may be smaller, while the number of articles is much larger, among other reasons because the field of knowledge is still under construction. This is the case for the analysis of "economic behavior" and "behavioral economics", since the number of articles represents the 75% of the found documents, meanwhile the books and book chapters represents only the 4.16%.

**TABLE 2.**  
*Types of documents of database.*

Type of document	Number of documents
Papers	9 496
Paper; book chapter	484
Paper; conferences	350
Paper; withdraw publication	1
Biographic element	2
Books	23
Books review	37
Correction	2
Editorial material	101
Editorial material; book chapter	20
Meeting summary	11
Conferences	1 784
Reprint	3
Reprint; book chapter	1
Review	221
Review; book chapter	8

Source: Own elaboration.

Another of the results obtain from bibliometrics is a quantitative mapping of the annual scientific production of documents related to the field of knowledge analyzed. In the case of “economic behavior” and “behavioral economics” his study became popular since 2002 and in 2017, when the Nobel Prize was awarded to the psychologist Daniel Kahneman and economist Richard Thaler, respectively.



**Figure 2.** Annual scientific production.  
Source: Own elaboration.



As shown in **Figure 2**, these facts correspond to a progressive increase in the publications of “economic behavior”, having a sustain increase from 2002 to 2012, decreasing slightly in 2013 and 2014, but increasing again from 2015 to 2019, two years before and two years after Thaler was awarded with the Nobel Prize. On the other hand, 2020 has a serious decrease, but this happened mainly because the analysis counted until the first quarter of the year and because the COVID-19 pandemic affected the number of publications at a global scale.

Subsequently, with the objective of focus the search, the documents were filtered by categories of research in economics, administration and business which represented the 63%, 19% and 18% of the total of the constructed database respectively. Once these filters were applied, an analysis of the most relevant sources (with the largest number of publications) for “economic behavior” was carried out, which is presented in **Table 3**. With respect to the bibliometric analysis, this type of information allows the researcher to focus his search of references, as well as a better overview of the sources where he might find more information on the field of knowledge of his interest.

**TABLE 3.**  
*High-relevant sources.*

Fuentes	Número de artículos
Revista del Comportamiento Económico y Organización	235
Economía Ecológica	195
Revista de Ética Empresarial	189
Política Energética	175
Revista de Psicología Económica	154
Economía Aplicada	153
Modelado Económico	97
Cartas Económicas Aplicadas	81
Revista de Investigación Empresarial	79
Transporte Investigación Política y Práctica	72
Revista de Economía Comparativa	71
Ciencias de la Administración	66
Administración Turística	66
Economía Energética	65
Revista de Dinámica y Control Económico	65

Source: Own Elaboration.

In addition, the H Index of the sources was obtained, so named by the researcher Jorge Hirsch from the California University, which allows to evaluate the quality and productivity of the sources. As shown in **Table 4**, a correlation with the H Index was analyzed, that is composed by the number of quotes a scientific article receives

according with the sources and constitute one of the best indicators to measure the relevance of the published documents. This is an indicator which, based on the balance between the number of publications and their citations, allows comparisons between different scientists (Hirsch & Buena-Casal, 2014).

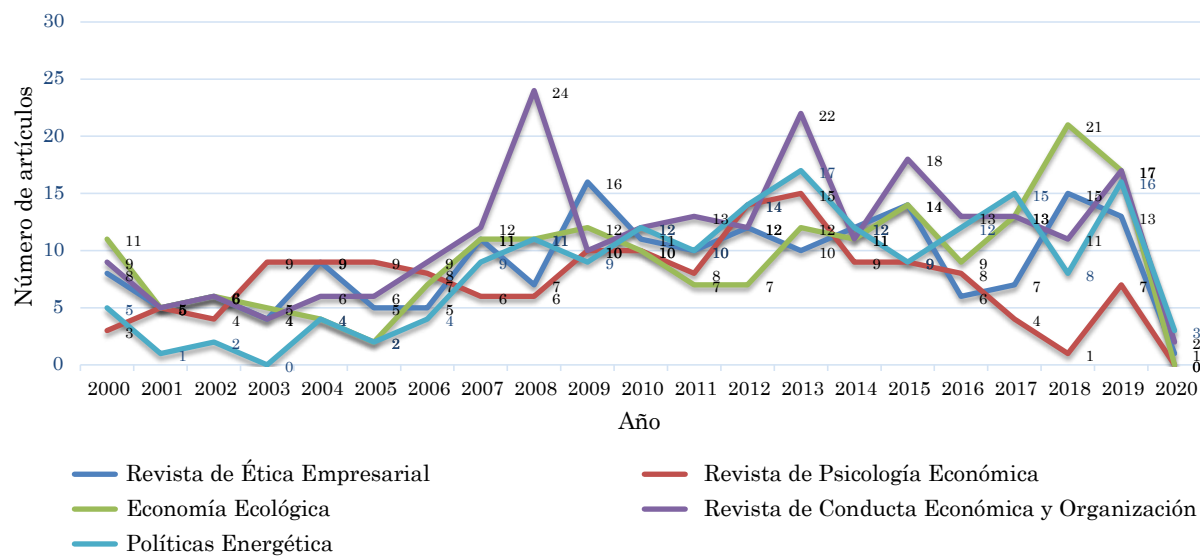
**TABLE 4.**  
*H-Index of sources.*

Sources	H-Index
Política Energética	41
Economía Ecológica	40
Revista de Ética Empresarial	36
Revista de Comportamiento Económico y Organización	33
Revista de Psicología Económica	33
Administración Turística	31
Ciencias de la Administración	28
Revista de Investigación Empresarial	27
Revista de Perspectivas Económicas	27
Transporte Investigación Política y Práctica	24
Revista de Economía de la Salud	24
Revista de Economía Pública	24
Economía Energética	22
Juegos y Comportamiento Económico	21
Revisión Económica Europea	21
Revista de Banca y Finanzas	21
Revisión Económica Americana	21
Revista de Economía Comparativa	19
Revista Internacional de Estudios del Consumidor	19
Revista Europea de Investigación Operativa	19

Source: Own elaboration.

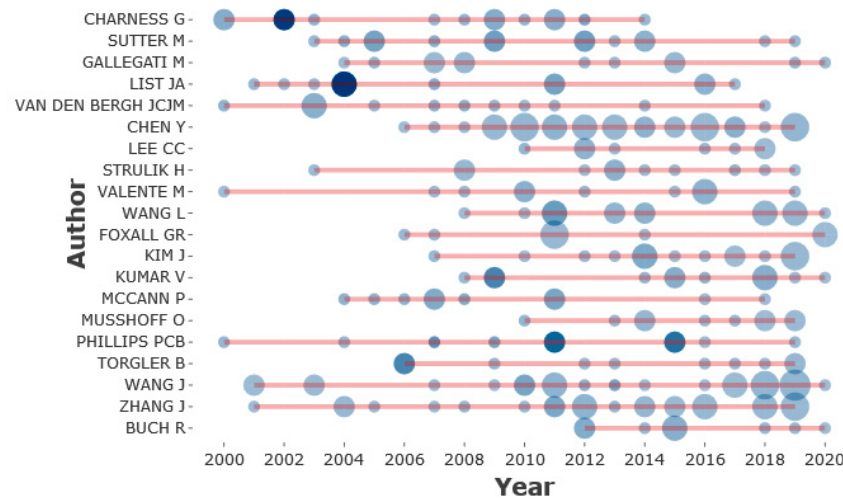
The H Index is an impact indicator for the scientific investigations and see the development of the scientific field between “economic behavior” and “behavioral economics”. The higher the level of the H Index, there is more influence on the scientific production.

Another aspect to analyzed from the main sources is the number of publications per year. This is known as the “source dynamics” and is useful for observing the growth or decrease of the publications during the period of interest. For the “economic behavior” analysis **Figure 3** shows the dynamics of the sources over a period of 20 years, where it is observed that the Revista de Conducta Económica y Organización had the highest productivity in 2008 with 24 publications.



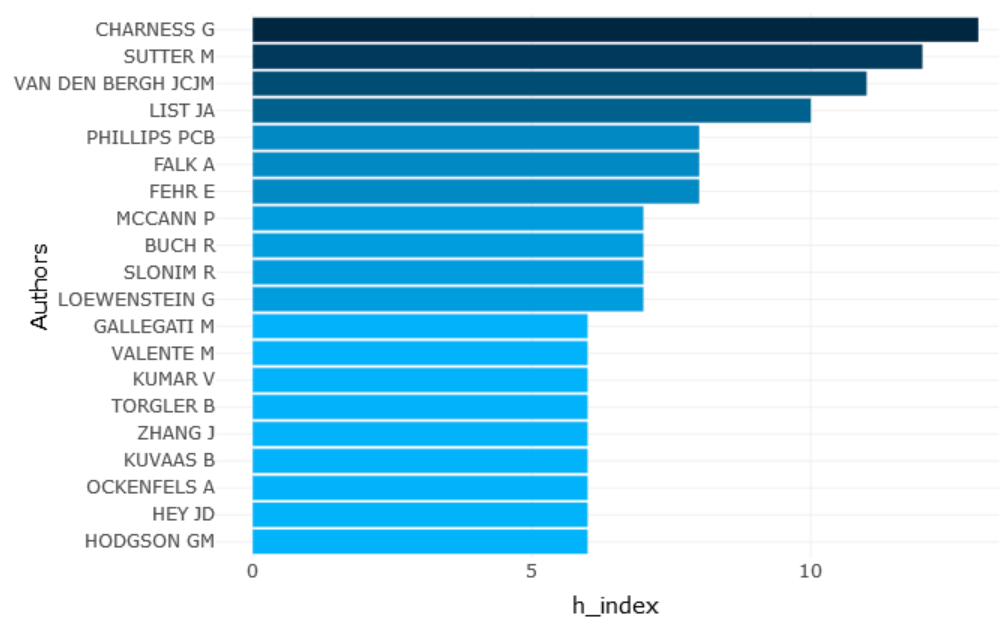
**Figure 3.** Source's dynamics.  
Source: Own elaboration.

Subsequently, the authors' production (in terms of number of publications) was calculated over 20 years, as shown in **Figure 4**. In this type of graphic, the author with the highest number of quotes appears in a darker tone, as in the case of Charness, G. and Rabin, M. that in 2002 published 2 articles with an average of 71.52 quotes per year or as List, Ja. who in 2004 published 3 articles and had an average of 74.94 quotes per year, to mention the most prominent.



**Figure 4.** Author's production over time.  
Source: Own elaboration.

As with the sources, the authors' analysis can be complemented by the H Index, presented in **Figure 5**. This provides a metric of the authors' productivity and the level of citations of their publications. In other words, it allows them to be ranked according to the entire database of the most cited articles and the number of citations they have received in other publications.



**Figure 5.** Author's impact.

Source: Own elaboration.

In addition, from the bibliometric analysis, **Table 5** was obtained, which summarizes the information of the main authors, their publication with the greatest impact (number of citations) and the source where it was published. It should be mentioned that this list contains the documents that could have the greatest impact on the field of “economic behavior”, considering the most cited articles of the *Web of Science* database.

**TABLE 5.**  
*Principal Authors and their papers.*

Autor	Year	Title	Source	Number of cites
Charness, G. & Rabin, M	2002	Understanding social preferences with simple testing.	Revista Trimestral de Economía	1 298
Harrison, G. W. & List, J.	2004	Field experiments.	Revista de Literatura Económica	993
Grewal, D., Levy, M. & Kumar, V.	2009	Managing the customer experience in retail: an organizing framework.	Revista de venta al por menor	344
Phillips, P. C. & Sul, D.	2007	Transition model and econometric convergence tests.	Econométrica	300
Alm, J. & Torgler, B.	2006	Cultural Differences and Moral Taxes in the United States and Europe.	Revista de Psicología Económica	289
Phillips, P. C., Wu, Y. & Yu, J.	2011	Explosive behavior in the 1990s Nasdaq: when did the exuberance of asset values escalate?	Revisión Económica Internacional	283

Autor	Year	Title	Source	Number of cites
List, J. A.	2004	Neoclassical Theory versus Prospecting Theory: Market Evidence.	Econométrica	264
Phillips, P. C. & Yu, J.	2011	Date of the time of financial bubbles during the high-risk crisis.	Economía Cuantitativa	177
Phillips, P. C., Shi, S. & Yu, J.	2015	Tests for Multiple Bubbles: Historical Episodes of Exuberance and Collapse in the S&P 500.	Revisión Económica Internacional	170
Kocher M. & Sutter M.	2005	The Decision Maker Matters: Individual vs. Group Behavior in Experimental Beauty Contest Games.	Revista Económica	150
Phillips P. & Sul D.	2009	Economic transition and growth.	Revista de Econometría Aplicada	140
Torgler, B.	2006	The Importance of Faith: Moral Taxes and Religiosity.	Revista de Comportamiento Económico y Organización	131
Sutter, M.	2009	Deception through telling the truth? Experimental evidence from individuals and teams.	Revista Económica	131
Wang, J. T. Y., Spezio, M. & Camerer, C.	2010	Pinocchio's Pupil: Using Eye Tracking and Pupil Dilation to Understand Truth and Deception in Sender-Receiver Games.	Revisión Económica Americana	129
Faggian, A., McCann, P. & Sheppard	2007	Some evidence that women are more mobile than men: gender differences in the migration behaviour of graduates in the UK.	Revista de Ciencia Regional	119
Sutter, M. & Kocher, M.	2004	Agent Favoritism: Bias's Case at the Home of Arbitrators.	Revista de Psicología Económica	116
McCann, P.	2008	Globalization and economic geography: the world is curved, not flat.	Cambridge. Revista de Regiones Economía y Sociedad	111
Podoshen, J. S., Li, L. & Zhang, J.	2011	Materialism and Consistent Consumption in China: A Cultural Cross-Examination.	Revista Internacional de Estudios del Consumidor	106
Charness, G. & Sutter, M.	2012	Groups make better interested decisions.	Revista de Perspectivas Económicas	104

Source: Own elaboration.







**Figure 9.** Intellectual bibliographic structure.  
Source: Own elaboration.

**Figure 9** not only represents the networks between key words, but also identified the clusters with specific colors. There are seven clusters: economic, energy, social, evidence, behavior, study, and analysis, which are shown in detail in **Table 7**.

The centrality of the terms allows us to create a strategic diagram such as **Figure 9**, which is a bidimensional space constructed by plotting with themes according to their values of centrality and density range (if we use the median to classify groups) or values (if we use de mean) in length of two axes, centrality in axe X and density in axe Y. The strategic graphics with range values are more commonly used than those with those values, because of their readability. We can find four types of topics according to the quadrant in which they are located (**Cobo et al., 2011**):

- Topics in the upper right quadrant are well developed and are important for structuring a field of research. They are known as the principal themes of the specialty, as they have a strong centrality and high density. The location of themes in this quadrant implies that they are externally related with concepts applicable to other topics that are closely related conceptually.
- Topics in the upper left quadrant are well developed with internal links, but with unimportant external links, and are therefore unimportant for the field of knowledge. These subjects are highly specialized and peripheral in nature.
- Topics in the lower left quadrant are undeveloped and marginal. The themes in this quadrant have low density and centrality, representing mainly emerging or missing topics.
- Topics in the lower right quadrant are important to a field of research but are not developed. So, this quadrant groups basic, general, and cross-cutting themes.

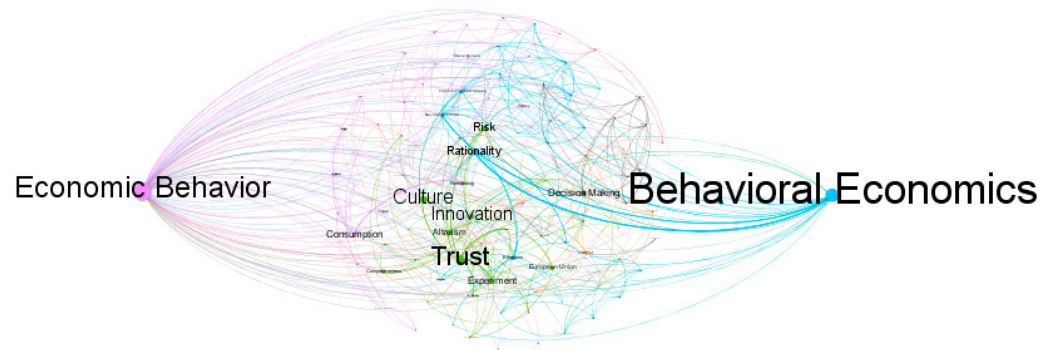


**TABLE 7.**  
*Clusters of intellectual bibliographic structure.*

Cluster	Keywords	Frequency
Economic		141
	behavior	77
	environmental	42
	role	34
	impact	33
Energy		43
	consume	39
	politics	38
	focus	37
	change	31
Social		89
	management	28
	corporative	25
	trust	25
	capital	20
Evidence		100
	Economic sciences	49
	experimental	38
	theory	28
	risk	28
Behavior		43
	consumer	29
	customers	19
	experience	19
	influence	18
Study		35
	case	33
	attitudes	27
	structure	14
	quality	14
Analysis		64
	model	47
	market	36
	consequences	30
	empirical	30

Source: Own elaboration.

Once analyzed, the term “economic behavior” it was correlated with “behavioral economics” to find the existing relations within the database built from the relevant records (Figure 10). The analysis allowed to find the word that coincide between the terms mentioned, highlighting “innovation” with a degree of correlation of 683 (Table 8).



**Figure 10.** Correlation between “Economic behavior” vs “Behavioral economics”.  
Source: Own elaboration.

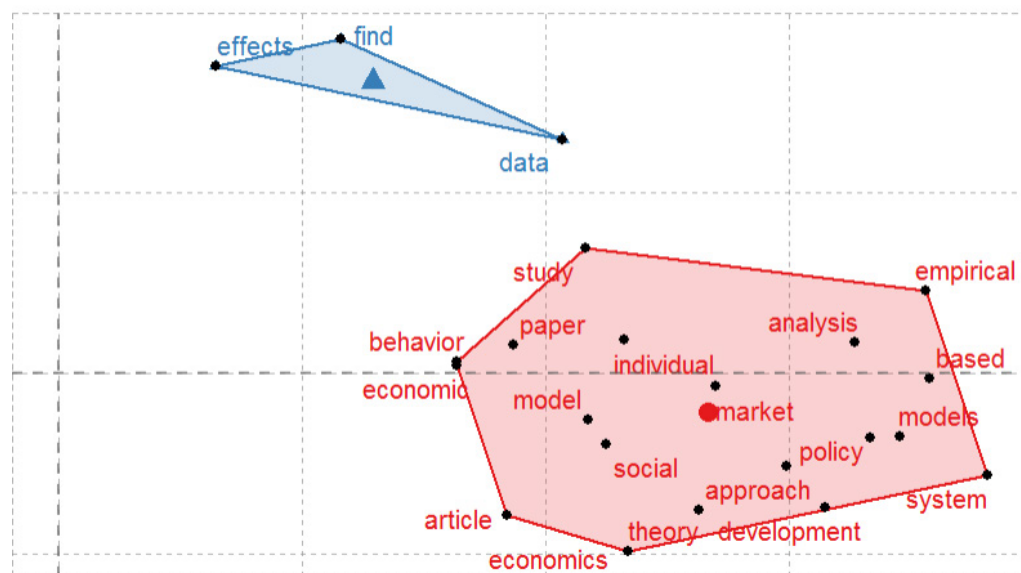
**TABLE 8.**

*Degree of correlation between “Economic behavior” and “Behavioral economics”.*

Keywords	Degree of correlation
Innovation	683
Entrepreneurship	617
China	610
Social corporate responsibility	569
Economic growth	513
Sustainability	484
Trust	451
Customer’s behavior	425
Economic behavior	419
Culture	382
Institutions	358
Economic crisis	348
Genre	336
Ethics	335
Experimental economy	329
Education	315
Cooperation	295
Human capital	291
Uncertainty	288
Climate change	285

Source: Own elaboration.

In addition, to know the degree of correlation between both searches, the articles and publications that coincided were identified, with which a coincidence of 165 references was found, representing a correlation of 14.16% with respect to the 1165 obtained with Bradford's law.



**Figure 11.** Factorial analysis of economic behavior.  
Source: Own elaboration.

Finally, a map of knowledge of economic behavior was constructed based on data from scientific articles, presented in **Figure 11**, with the aim of providing a relevant overview of the current stage and a general description of the structure of knowledge of economic behavior. In addition, this methodology has the potential to become a useful evaluation tool to monitor the evolution of knowledge on various emerging topics as the line of research. Finally, it should be mentioned that these terms are at the center of the conceptual structure, identified by terms such as: “theory”, “studies”, “policies”, “market”, “development”, “systems” and related to “data” and “effects.” Factor analysis is a multivariate technique that allows us to reduce the size of a sample without too much loss of information (**Fernando and Anguiano-Carrasco, 2010**).

## CONCLUSIONS

The bibliometric methodology is useful to identify trends and publication patterns in each study field, as in the case of economic behavior, in the areas of economics, administration and business during a given period, to narrow the time and see the evolution and trend since 2000 to 2020. It also allows us to identify the most relevant sources, the most cited authors and the most recurring words, the institutions with more publications, as well as the countries, and allows us to quantitatively identify the impact of the authors, sources, institutions, key words, and countries of the main scientific databases such as *Web of Science*.

Analyzing large amount of data with bibliometric allows to construct a bibliographic intellectual structure of the economic behavior in the fields of economics, administration and business, as well as to define its structure, content and evolution, facilitates the constructions of knowledge maps from the data of the available literature on articles, reports and patents with the objective of providing a relevant overview of the current topic and a general description of the knowledge structure. As observed in this research, bibliometrics is a methodology with the potential to become a useful assessment tool for monitoring the evolution of knowledge on various topics such as economic behavior and behavioral economics.

Of the total of 53 434 documents found in Web of Science, the core was identified using Bradford's Law, widely used in bibliometrics. Through this law, it was possible to identify the most relevant and transcendent sources, which consisted of 1 165 scientific articles on economic behavior. On the other hand, through bibliometrics it was possible to find the clusters that make up the bibliographic intellectual structure: economic, energy, social, evidence, behavior, study and analysis, as well as showing the concepts that make up each cluster

Finally, the bibliometric analysis allowed us to analyze the existing correlation between "economic behavior" and "behavioral economics", finding that of the 1165 main articles, only 14.16% of the documents were repeated, indicating a low level of correlation. This finding provides information

on the importance of properly delimiting a field of knowledge and fine-tuning the bibliographic search as more relevant terms are identified to that field. In this way, the database will not only be more accurate, but will allow a faster search of information for future analysis. It is therefore concluded that bibliometrics allows for the analysis of large quantities of data without losing quality by means of factor analysis, and, therefore, is a relevant technique that allows working with many variables to obtain relevant and concise information.

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#### ACKNOWLEDGMENTS

Output of the research project entitled: "Aplicación de las Finanzas conductuales a la toma de decisiones de ahorro para el retiro." The authors would like to thank the National Council of Science and Technology-Conacyt and the Postgraduate of the Faculty of Accounting and Administration of UNAM for their support in carrying out this research.

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