

Consensus and Dissensus Among Economic Science Academics in Mexico¹

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Abstract

This paper reports results on consensus in economic opinions, scientific aspects of economics, as well as preferences and scientific activities, based on a survey applied to a defined population of economic science academics in Mexico. The results show that in the analyzed population there are areas of consensus, which, at least partially, is consistent with what was found in previous studies. The survey, which is broader than those used in other studies, identifies topics with significant dissensus whose determinants should be examined in future studies.

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INTRODUCTION

The purpose of the research ‘Consensus and dissensus among economic science academics in Mexico’ is to know the opinions of academics on various topics, both of general interest, which do not require specialised economic knowledge, as well as scientific aspects and the state of research and teaching of economics in the country. The data collected would also make it possible to identify the determinants of consensus levels in each area considered.²

According to Kuchař (2014: p. 1), ‘consensus is a conventional source of justified beliefs.’ In general, studying consensus among expert is relevant because this kind of consensus could have a strong effect in public opinion; *i.e.* informing public policy. Learning about the opinions of academics allows to have an appropriate perspective of the current state of economics teaching and research in Mexico. In addition, although it is probable that economic thought changed from one generation to another, the ideas of academics could help predict the development of economic thought of future economists, to the extent that the relationship between academics and students is not only the transfer of specialised knowledge, but of lasting ideas.

This document is structured as follows. First part reviews research related to this work. Second part presents methodological aspects of defining the target population, survey design and data analysis. Third part summarises the main results —mostly through response percentages and, where appropriate, relative entropy statistics— for questions and statements from all sections of the survey. In illustrative cases, results are compared with those of other studies. Finally, we present final remarks and set forth future lines of research.

1. BACKGROUND

Analyzing the opinions of economics profession is not new. In the first study using formal methodology, Kearn et al. (1979) conducted a questionnaire of 30 questions on microeconomic and macroeconomic issues to measure the opinions and degree of consensus among U.S. economists. Later, Frey et al. (1984) obtained results on the degree of agreement for economists in Germany, Austria, France, and Switzerland; Block and Walker (1988) did the same for Canada and Ricketts and Shoesmith (1992) for the United Kingdom. These authors essentially followed

² The authors accept to make raw data available on request or together with the published article. The data is only available in Spanish.

the questionnaire of Kearn et al. (1979). Versions for several countries followed these studies. Urzúa (2007) examined a large population of economists, with 30 statements in principle based on those originally designed by Kearn et al. (1979), but some were modified or replaced to adapt them to the Mexican context.

These papers generally conclude that there are core topics with high degrees of consensus. In this sense, Caplan (2006) found that, from a survey on public policy issues given to economists as well as non-economists in the United States, there is a high degree of similarity among the opinions of economists, in addition to an important divergence between those of economists and non-economists. However, these studies also warn that despite many areas of consensus among economists, there is also a relevant divergence and segmentation of thought within the profession, whose degree and subject matter of disagreement varies significantly for various reasons. For example, May, McGarvey, and Whaples (2014) found divergent opinions on various topics among female and male economists. Frey et al. (1984) noted that there may be important divergences between economists depending on the country of residence.

While previous studies focused on a general population of economists, Colander and Klamer (1987) presented results of a survey applied to PhD students in economics from six of the most recognised universities in the United States, which was followed up on almost 20 years later (Colander, 2005). In addition, Colander (2008) conducted a similar analysis of graduate students in Europe, while Lora and Ñopo (2009) and Colander and Ñopo (2011) did so for Latin America. Previously, Gruber (1991) had published an article on Canadian graduate students. Ahumada and Butler (2009) examined the characteristics of six bachelor's degree programs in economics in Mexico, as well as students' opinions about them, while Correa-Mautz (2016) gave surveys to both undergraduate and graduate Chilean economics students.

Although teaching techniques and content have changed, Colander and Klamer (1987) and Colander (2005) assert that graduate education in the United States has tended to focus on transmitting highly specialised knowledge. Also, there are a perception that in Europe and Latin America, to a different extent, universities have adopted United States-style postgraduate programs (Colander and Ñopo, 2008; Correa-Mautz, 2016). Babb (2001) observes that there is convergence in the use of technical tools to solve common problems, regardless of the level of development (France *versus* Mexico) and the cultural context (India *versus* Argentina).

Information on the opinions of academics in the field of economics is normally obtained from surveys conducted with members of associations of economists,³ which allows the target population to be delimited in a certain way but does not ensure that those surveyed are academics. Whaples (2006), who gave a survey to members of the American Economic Association, reported that 68.1% of respondents had the academic sector as their main employer. Frey, Humbert, and Schneider (2010), for members of an association of German-speaking economists, reported that 36% of respondents were professors and 80% were scientifically oriented economists. Stastny (2010, 2011), for the Czech Republic, reported 56% of academics. In the case of Mexico, Urzúa (2007) indicated that 60% of respondents worked in public and private universities.

For their part, Gámez (1997) and Gámez and García (1999) surveyed a sample composed exclusively of academics in Spain, while De Benedectis and Di Maio (2011, 2016) did the same for academic economists in Italy. Mendes de Souza (2015), following De Benedectis and Di Maio (2011) in defining the population and questionnaire design, studied the academic economists in Portugal.

In these studies of academic economists, one finds, as in studies of broader populations of economists, that there are issues of consensus. In these studies, it has been emphasised that differences in opinions may be due to individual characteristics, academic profiles or personal and political values (De Benedectis and Di Maio, 2011), as well as adherence to schools of thought (De Benedectis and Di Maio, 2016; Mendes de Souza, 2015).

2. METHODOLOGY

2.1. Target population

De Benedectis and Di Maio (2011) pointed out that previous studies started from loosely defined groups of economists. This work, in line with Gámez (1996) and De Benedectis and Di Maio (2011), precisely defines the target population.

Economic science academics meet the following characteristics: 1) They carry out teaching activities in centres, departments, schools, institutes and faculties offering bachelor's, master's or

³ For example, in the United States to members of the American Economic Association and in Canada to members of the Canadian Economic Association. Urzúa (2007) surveyed members of the formerly Mexico's Colegio Nacional de Economistas (National Association of Economists).

doctorate programs in economics or significantly related degrees;⁴ 2) They conduct research activities in centres belonging to educational institutions in which economic research is conducted, but not necessarily teaching activities;⁵ and 3) They may have full-time or part-time contracts, which implies that subject-area lecturers are included.

Defining this target population has the following implications. First, not everyone included would have a formal college degree (bachelor's, specialty, master's, or doctorate) in economics.⁶ Second, despite the above, they are professionals who have economists as colleagues and are directly involved in economic research or economist training, so it is likely they have acquired knowledge in economics.⁷ Note that even if only economists were recruited, it would not be a general population of economists, but one of people engaged in academic activities, whether full-time or part-time.

In April 2017, 1,315 academics assigned to Mexican economic teaching and research institutions were asked by e-mail to complete an online questionnaire. This list was created with the support of the Asociación Nacional de Instituciones de Docencia e Investigación Económica, A. C. (National Association of Teaching and Economic Research Institutions - ANIDIE), which issued a communiqué to the directors of economic teaching and research institutions asking them to provide updated lists with the e-mail addresses of their currently working academics. In cases where there was no response or it was not possible to establish contact, the websites of the institutions were consulted.

2.2. Questionnaire

The online questionnaire included questions used by Colander and Klamer (1987), Correa-Mautz (2016), De Benedectis and Di Maio (2011), Frey, Humbert, and Schneider (2010) and Urzúa (2007), as well as some prepared expressly. For questions taken from studies in English, we employed translations used in previous studies of Spanish-speaking populations (Correa-Mautz,

⁴ This was done exceptionally for some institutions such as El Colegio de Tlaxcala and Centro de Investigación en Alimentación y Desarrollo (Centre for Food and Development Research), where postgraduate courses in regional development are taught.

⁵ This means that researchers working in think tanks were not invited.

⁶ In Mexico, an economist is legally considered to be a person who has a bachelor's degree in economics.

⁷ There is a reason to gather information from academics who are not formally economists. In most cases it was impossible to determine, *a priori*, whether or not the members of the board that was formed were economists.

2016; Urzúa, 2007), whenever possible, or translated as accurately as possible into Spanish. We used the same answer options displayed in the studies from which the questions were taken, in order to avoid semantic changes and favor comparability.

Table 1 gives the sections of the survey, as well as the number of items that make them up. One difference between this study and previous works is that the survey used is more extensive and addresses more topics. For example, Section I is comparable to what Urzúa did, but with 16 instead of 30 statements. Urzúa (2007) had no items on other topics, except personal data. Colander and Klammer (1987) used fewer items and did not ask about economic performance and research and teaching.

Table 1
Contents of the survey

Section	Topic	Contents
I	Economic opinions	16 statements
II	Opinions on the country's economic performance	2 questions
III	Opinions on economics as a science	6 statements
IV	Perceptions of success	8 statements
V	Importance of studying other disciplines	10 disciplines
VI	Importance of economic assumptions	7 statements
VII	Methodological orientation	1 question
VIII	Research and teaching	4 questions y 4 statements
IX	Data on persons surveyed	13 questions

Source: Prepared by the authors.

The online survey could be completed between April and July 2017. 265 valid responses were received, giving a response rate of 20.2%. One concern about the validity of Internet surveys is the degree to which the self-selection of respondents biases or distorts results. Since this is a population of academics who have access to and, one would expect, are familiar with the use of computers and the Internet, we believe that the use of an online questionnaire is not particularly distorting.

2.3. Data analysis

To measure the degree of consensus and dissensus for each question and statement, we use entropy in information theory or Shannon entropy, which is the statistic most used in studies of this type. The entropy index associated with the range of possible answer options for each question or statement is $E = -\sum_{i=1}^n p_i \log_2(p_i)$, where n is the maximum number of effective response options, p_i is the relative frequency for each effective response option, and \log_2 is logarithm base 2. Since cases are excluded where respondents do not express an opinion—for example, ‘Don't know’ or ‘No opinion’—there are questions and statements with three or four effective response options.⁸ Relative entropy is $\varepsilon = E/(\text{maximum possible entropy}) * 100\%$. Possible ε values vary between 0 and 100%. It takes values of 0% when all observations are for only one response and 100% when all are equally distributed in the response options (i.e. uniform distribution). The measurement of ε is not linear, since large changes in the distribution of observations produce small changes in the measurement; in other words, a value of 50% should not be interpreted as the midpoint between total consensus and total dissensus. In this work, values of ε equal to or less than 80% indicate consensus.⁹

One problem with ε is that it does not indicate the direction of consensus, that is, whether there is agreement or disagreement. The calculation of percentages for each response option provides a general view of the direction of the consensus and makes it easier, when relevant and considering methodological differences, to compare the results obtained in similar studies. Since we do not have databases of other studies, no formal statistical tests are conducted in this report to compare distributions.

In previous works on consensus, ε is usually measured only for economic opinion statements, such as those in Section I (see Table 1). In this study, measurements of ε are given not only for economic opinions, but also for items in Sections III, IV, V, VI and VIII.

⁸ Namely, for the calculation of entropy statistics and percentages, the option ‘Don't know’ or equivalent was excluded, so the questions and statements have different numbers of answers, with 265 the maximum number of possible answers. This rule applies to all questions and statements in all sections of the questionnaire. Unless otherwise noted, the tables, figures, and calculations in this document only consider real responses. The Annex has the number and effective response rates for the questions and statements in some sections of the questionnaire.

⁹ Fuller and Geide-Stevenson (2003) also propose to use 80% or less, along with the requirement that a majority of respondents choose the same response option. The second criterion is not adopted in this study, since it would be possible to identify statements that enjoy high acceptance or rejection by means of a low level of consensus.

3. RESULTS

3.1. Personal data (Section IX)

We summarise the profile of the economic science academics as follows:

- Gender: 30.9% female and 69.1% male.
- Age: 14.3% 35 or younger, 26.4% between 36 and 45, 27.2% 46 to 55, 20.8% 56 to 65 and 11.7% 65 or older. The minimum age was 20, the maximum was 75 and the median was 49.
- Academic activity:¹⁰ 89.1% full-time and 10.9% part-time.
- Academic institution:¹¹ 87.9% in public institutions, 10.2% in private institutions, 1.1% in both types of institutions and 0.8% did not answer.
- Maximum level of studies: 67.2% with a doctorate, 10.2% with doctorate studies, 16.6% with a master's degree, 4.2% with master's degree studies, 1.1% with a specialty degree and 0.8% with a bachelor's degree or equivalent.
- Field of maximum level of studies: 65.3% in economics; 19.6% in other social sciences; 11.3% in administrative sciences, accounting and finance; and 3.8% in mathematics, statistics and engineering.
- Country where the maximum level of studies was obtained: 69.8% in Mexico, 18.5% in Europe, 9.8% in the United States and Canada, and 1.9% in the rest of Latin America.
- University studies in economics:¹² 93.2% yes and 6.8% no.

3.2. Economic opinions (Section I)

The first section of the questionnaire consists of 16 statements on opinions that do not require specific economic knowledge. These statements, in order to favor comparability, are basically a subset of Urzúa's 30 statements (2007). Table 2 shows the percentages of responses and the medians for each statement. Table 3 includes both the results of ε for the 16 statements, as their equivalents in Urzúa (2007). By comparing them with the results of Urzúa (2007) we explored

¹⁰ The translated phrasing of the question is: 'Do you engage in full-time academia (research and/or teaching)?'

¹¹ The phrasing is: 'Indicate institutional affiliation (multiple answers are possible if you are affiliated to more than one institution).'

¹² The phrasing of the question is: 'Is at least one of your degrees (bachelor's, specialty, master's, and/or doctorate) in economics?'

whether some opinions have changed over time. One methodological difference is that Urzúa (2007) focused on economists who did not necessarily have academic activities, whereas we included economists and non-economists having academic activities in the field of economics. Another difference is that, although both studies gave online surveys, Urzúa (2007) did not ask a predefined list of respondents to answer its questionnaire. In addition to these methodological differences, since we do not have the data from Urzúa (2007), no tests were carried out to verify that the distributions of the responses to each statement are statistically equal.

Table 2
Economic Opinions: response frequencies and medians
(Percentages, medians in bold)

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Import tariffs and quotas reduce overall economic welfare	18	39	39	5
2. Inflation is primarily a monetary phenomenon	9	35	41	15
3. The distribution of income in Mexico should be more equal	68	29	3	1
4. A minimum wage increases unemployment among young and/or unskilled workers	11	24	47	18
5. Central banks should include employment and/or economic growth as one of its objectives	39	39	15	7
6. The level of government spending should be reduced	14	25	46	15
7. The economic power of trade unions should be significantly limited	22	35	31	12
8. An international monetary system based on the free-floating exchange rates is effective	13	49	32	5
9. Increased central bank autonomy increases stability and economic growth	27	43	25	5
10. The federal budget should be balanced over the business cycle, rather than yearly	19	65	11	4
11. Antitrust laws should be enforced vigorously to reduce	49	45	5	2

monopoly power from its current levels				
12. Monetary supports are superior to in-kind supports	13	45	33	10
13. Pollution taxes allow for improved control of pollution rather than the implementation of maximum allowed levels	24	48	23	5
14. The energy sector should be treated like any other sector in terms of private investment	18	29	35	18
15. Government should be an employer of last resort	14	39	34	13
16. The redistribution of income is a legitimate role for government	38	43	14	5

Source: Prepared by the authors using own data.

Percentages do not necessarily add up to 100% due to rounding.

Table 3

Economic Opinions: relative entropies, Mexico, 2007 and 2017

(Percentages)

Statements	This study (2017)	Urzúa (2007)	Statements	This study (2017)	Urzúa (2007)
1	85	87	9	87	87
2	89	94	10	70	69
3 ^{a/}	56	61	11	66	64
4	90	93	12	87	84
5	87	93	13	86	82
6 ^{b/}	91	91	14	97	98
7	95	88	15	92	92
8	82	82	16	83	75

Source: Prepared by the authors using own data and data from Urzúa (2007).

^{a/} The Spanish phrasings differ in this study and in Urzúa (2007). The translated phrasing in Urzúa (2007): see note

13. ^{b/} The Spanish phrasings differ in this study and in Urzúa (2007). The translated phrasing in Urzúa (2007): ‘The level of government spending should be reduced (disregarding expenditures for stabilization)’.

Table 3 shows that only three statements have an ε less than or equal to 80%. Urzúa (2007), who did not use this threshold as a reference, obtained four of these statements, or their

equivalents, with ε less than or equal to 80%. The three statements with the highest consensus (lower ε) in this study are:

- Statement 3: ‘The distribution of income in Mexico should be more equal.’
- Statement 11: ‘Antitrust laws should be enforced vigorously to reduce monopoly power from its current levels.’
- Statement 10: ‘The federal budget should be balanced over the business cycle, rather than yearly.’

These three statements, which are the same with the highest consensus in the Urzúa study (2007), have ε less than or equal to 80%. The populations examined in this study and by Urzúa (2007) are not identical, but the results suggest that people in Mexico who are linked to economics may not have changed the topics with the highest consensus in the last 10 years.

Statement 3 (income distribution in Mexico) is the proposal with the highest consensus. The most frequent response is to strongly agree that income distribution in Mexico is not equal, while only 4% of those surveyed expressed some degree of disagreement with this statement. Statement 3 has higher consensus than a more general question, not restricted to Mexico, prepared by Urzúa (2007).¹³ A possible explanation of this higher consensus is that Mexico is perceived as an especially unequal country.

Statement 16 (government redistribution), which is related to Statement 3, also has a relatively high level of consensus (it is the fifth statement with the lowest ε), although it does not meet $\varepsilon \leq 80\%$. In addition, 19% of respondents disagreed or strongly disagreed that the government was entitled to redistribute income. Together, the results of these two statements suggest that there is a high consensus among economic science academics that there is high inequality in the country and that, although relaxing $\varepsilon \leq 80\%$, the government should intervene to correct it.¹⁴

Statement 11 (antitrust laws), the second with the highest consensus, has an ε of 66%, similar to the 64% Urzúa (2007) reported 10 years earlier. 94% agree or strongly agree with this statement, which indicates that respondents agree that markets in Mexico have insufficient competition. In 2013 and 2014, constitutional and legal reforms strengthened and gave autonomy

¹³ The phrasing of Urzúa’s statement (2007) is: ‘The distribution of income within countries, as well as between countries, should be more equal.’

¹⁴ As can be seen in Table 3, Statement 16 had an ε value of less than or equal to 80%.

to the antitrust authorities, so that these reforms would be in accordance with the majority opinion among respondents.

Statement 10 (balanced budget), the third highest consensus, has an ϵ similar to that reported by Urzúa (2007). The author mentioned that in 2006 the Mexican Congress approved a bill that went in the opposite direction to this proposal, a situation that has not changed to date.

The statements with the lowest consensus are:

- Statement 14. ‘The energy sector should be treated like any other sector in terms of private investment.’
- Statement 7. ‘The economic power of trade unions should be significantly limited.’
- Statement 15. ‘Government should be an employer of last resort.’

Statement 14 (energy sector) was also the lowest consensus 10 years earlier, according to Urzúa (2007). Historically, in Mexico both economists and non-economists have had conflicting positions regarding the energy sector. Asking the question again was important because at the end of 2013 the Mexican Congress approved an energy reform that allows for a substantial increase in private participation in the hydrocarbon sector. Table 2 shows that 53% of respondents disagreed or strongly disagreed with the statement; Urzúa (2007) reported that 56% of its respondents agreed or strongly agreed. Although the populations examined in this paper and by Urzúa (2007) are not the same and the distribution of their responses is not formally compared, the results suggest that after the energy reform there is still significant dissensus, but with a slight shift of the majority towards not treating the energy sector as any other economic activity.

Statement 7 (power of the unions), the second with the least consensus, has ϵ equal to 95%, up from 85% as measured by Urzúa (2007) 10 years earlier. 57% of those surveyed expressed agreement or strong agreement with limiting the economic power of unions, which is much higher than the 27% reported by Urzúa (2007); that is to say, although the consensus is low or there is no consensus, the majority position has gone from not supporting this proposal to favoring it. In 2012, the last reform promoted in the term of former President Felipe Calderón (2006-2012) was precisely a labour reform that sought to limit the power of the trade unions.

Statement 4 (minimum wage), the eleventh with the highest consensus, is related to Statement 7. Although Statement 4 has shown high degrees of consensus in previous studies for other countries, Urzúa (2007) reported it as the third with the least consensus. We found that 65%

disagree or strongly disagree with this statement, while Urzúa (2007) reported 45%, indicating a significant shift in opinion on this issue. In recent years, the minimum wage has been the subject of academic and political debate. It has recently had nominal increases to an extent not observed in the last 20 years. From the 1980s to 2016, the minimum wage was used as a nominal anchor for the economy. In 2017 the minimum wage increased 9.6%, in 2018 10.4% and in 2019 a minimum wage was created in the border area of the country, which implied an increase of 100% in that area, while in the rest of the country it increased 16.2%. In this case, the legal and public policy changes that have recently affected the labour market are in line with the majority, albeit polarised, view of those surveyed: increasing the minimum wage and limiting the power of trade unions.

Statement 15 (government employment), the third with the least consensus, is also related to the labour market. 53% of those surveyed in this study agree with this statement, which implies the least difference between those who support this policy and those who do not. This dissensus occurs in the context in which the political debate has proposed a universal basic income and economic support for young people who do not study or work.¹⁵

Statement 1 (free trade) is relevant because the Mexican government recently renegotiated the terms of the North American Free Trade Agreement with its U.S. and Canadian counterparts. 57% of respondents agree that hampering international trade reduces general welfare, although the ϵ of the proposal is less than 80% (sixth highest consensus). The percent of respondents who in this study expressed strong agreement with this statement is double that reported by Urzúa (2007), which suggests an increase in support for free trade among the population linked to economics.

3.3 Opinions on economics as a science (Section III)

Table 4 shows the opinions of respondents regarding six statements of economics as a scientific discipline. Statements 1 to 5 are based on Colander and Klamer (1987) and Correa-Mautz (2016), while we prepared Statement 6 (experiments in economics). All statements have ϵ values above 80%, which does not meet the criterion of $\epsilon \leq 80\%$. Even the answers for Statement 5 (scientific

¹⁵ Statements made during the 2018 presidential campaigns. The first was a proposal by Ricardo Anaya Cortés, of the ‘Por México al Frente’ coalition, and the second by Andrés Manuel López Obrador, of the ‘Juntos Haremos Historia’ coalition. The latter was the winning presidential candidate.

status of economics) and Statement 6 are practically distributed in thirds, giving the highest ϵ values for the entire survey. The greatest dissensus among respondents concerns scientific issues.

Table 4

*Opinions on economics as a science: response frequencies, medians and relative entropy
(Percentages, medians in bold)*

Statements	Strongly Agree	Somewhat Agree	Disagree	ϵ
1. Neoclassical theory is relevant to current problems	33	49	17	93
2. Economists agree on fundamental issues	12	37	51	87
3. It is possible to draw a sharp line between positive and normative economics	23	50	27	95
4. Learning neoclassical economics means learning a set of tools	31	50	19	93
5. Economics is the most scientific social sciences	35	29	36	100
6. Because of its social nature, controlled experiments cannot be carried out in economics.	30	34	36	100

Source: Prepared by the authors using own data.

Percentages do not necessarily add up to 100% due to rounding.

It is possible to identify majority opinions on some issues. The answers to statements 1 and 4 suggest a majority acceptance of the importance of the so-called neoclassical economics, but it does not mean consensus. As for Statement 2, which had the smallest ϵ , 51% of respondents disagree that economists agree on fundamental issues. Regarding Statement 3, 50% of respondents agree somewhat with the idea that it is possible to distinguish between positive and normative economics, while the rest is divided, almost equally, between strongly agreeing or disagreeing.

3.4. Perceptions of success (Section IV)

Respondents indicated their opinion on eight skills that could place an economist or future economist on the road to success.¹⁶ The purpose of the question is to know the perceptions that

¹⁶ The question was phrased as follows: ‘How important are the following characteristics to place an economist or future economist on the road to ‘success’?’

academics, educators of different generations of economists, have about the most important skills that would make them successful professionals. The statements were taken from Colander and Klamer (1987) and, for Spanish phrasing, from Correa-Mautz (2016), and we prepared Statement 8 (prominent professionals).¹⁷ Table 5 gives the response percentages, the median and the ε for the eight skills. Only Statement 7 (prominent teachers) and Statement 8 did not obtain $\varepsilon \leq 80\%$.

Table 5

*Perceptions of success: response frequencies, medians and relative entropy
(Percentages, medians in bold)*

Statements	Very important	Moderately important	Unimportant	ε
1. Being very knowledgeable about one particular field	51	46	3	72
2. Being interested in, and good at, empirical research	55	42	3	73
3. A broad knowledge of the economics literature	68	30	2	64
4. A thorough knowledge of the economy (economic system)	60	35	5	74
5. Being smart in the sense that they are good at problems solving	67	31	3	66
6. Excellence in mathematics	36	58	7	79
7. Ability to make connections with prominent professors	27	55	18	90
8. Ability to make connections with prominent professionals	37	56	7	81

Source: Prepared by the authors using own data.

Percentages do not necessarily add up to 100% due to rounding.

The two skills with the highest consensus are:

- Skill 3. ‘A broad knowledge of the economics literature.’
- Skill 5. ‘Being smart in the sense that they are good at problems solving.’

¹⁷ Also, in Statement 4 (knowledge of economics), the text ‘(economic system)’ was added to prevent Spanish-speaking survey recipients from confusing *economía* as an economic system with *economía* (economics) as a discipline.

These skills are also the ones that the highest percentages of respondents indicated that they strongly agreed would put an economist on the path to success.

The two skills with the least consensus, the only ones with ϵ values above 80%, are:

- Skill 7. ‘Ability to make connections with prominent professors.’
- Skill 8. ‘Ability to make connections with prominent professionals.’

Skills 7 and 8, unlike the rest, emphasise social, not cognitive, aspects. Both skills are among the three with the lowest percentages of respondents who consider them very important to place an economist or future economist on the road to success. Table 5 shows that as agreement increases regarding the importance of the skill, ϵ generally decreases (i.e. higher consensus). The distribution of responses suggests that respondents prefer the development of academic skills.

3.5. Importance of studying other disciplines (Section V)

Respondents commented on the importance of 10 disciplines for educating economists.¹⁸ Eight of the disciplines were taken from Colander and Klammer (1987), while biology and law were included in this study. Table 6 provides information on response percentages, medians and ϵ . In general, the disciplines with the highest consensus are also the most valued. For economic science academics, the four disciplines in which there is greater consensus, which obtained $\epsilon \leq 80\%$, are: Mathematics, history, political science and computer science. The same disciplines, in that order, have the highest percentages of respondents who considered them to be very important. The disciplines with the least consensus regarding their importance are philosophy and psychology, while the disciplines that, by far, have the least acceptance belong to the natural sciences: Physics (3%) and biology (5%).¹⁹

Table 6

Importance of studying other disciplines: response frequencies, medians and relative entropy
(Percentages, medians in bold)

Disciplines	Very	Important	Moderately	Unimportant	ϵ
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¹⁸ The phrasing is: ‘How important is it for economists to be trained in the following disciplines?’

¹⁹ It is an expected result, since they are natural sciences, although physics is the paradigm from which the neoclassical economics was developed, while biology is the foundation of evolutionary economics, an emerging approach to economics. This may be because there is no longer an evident association between the dominant economic analysis and its origin in physics, while the evolutionary economics is still a field with little presence in Mexican academia. In fact, only 14.7% indicated the evolutionary economics within its methodological orientation.

	important		important		
1. Biology	5	13	38	44	82
2. Computer science	34	46	20	1	78
3. Political science	37	46	17	1	77
4. Law	19	38	37	5	87
5. Philosophy	27	34	31	8	92
6. Physics	3	20	38	39	84
7. History	50	37	12	1	73
8. Mathematics	61	33	6	0	60
9. Psychology	12	34	42	11	89
10. Sociology	32	46	20	2	81

Source: Prepared by the authors using own data.

Percentages do not necessarily add up to 100% due to rounding.

3.6. Importance of economic assumptions (Section VI)

Table 7 provides information on response percentages, medians and ε for seven statements on economic assumptions. The selection of assumptions is based on Colander and Klamer (1987) and Correa-Mautz (2016). Four of the seven assumptions have ε values less than or equal to 80%. The two assumptions that enjoy both greater consensus and greater acceptance are associated with the New Keynesian economics: imperfect competition and price rigidities. The assumption with the least consensus refers that the objective of a capitalist firm is to extract surplus value from its workers, a proposal associated with the Marxist movement.

Table 7

Economic assumptions: response frequencies, medians and relative entropy

(Percentages, medians in bold)

Assumption	Strongly Agree	Important	Not important	ε
1. Neoclassical assumption of rational behaviour	28	58	14	86
2. Behaviour according to conventions	19	66	15	79
3. Rational expectation hypothesis	28	59	13	85
4. Imperfect competition	57	39	4	74

5. Price rigidities	30	64	7	76
6. Cost mark-up pricing	40	55	5	78
7. The objective of a capitalist firm is to extract surplus value from its workers	28	48	24	96

Source: Prepared by the authors using own data.

Percentages do not necessarily add up to 100% due to rounding.

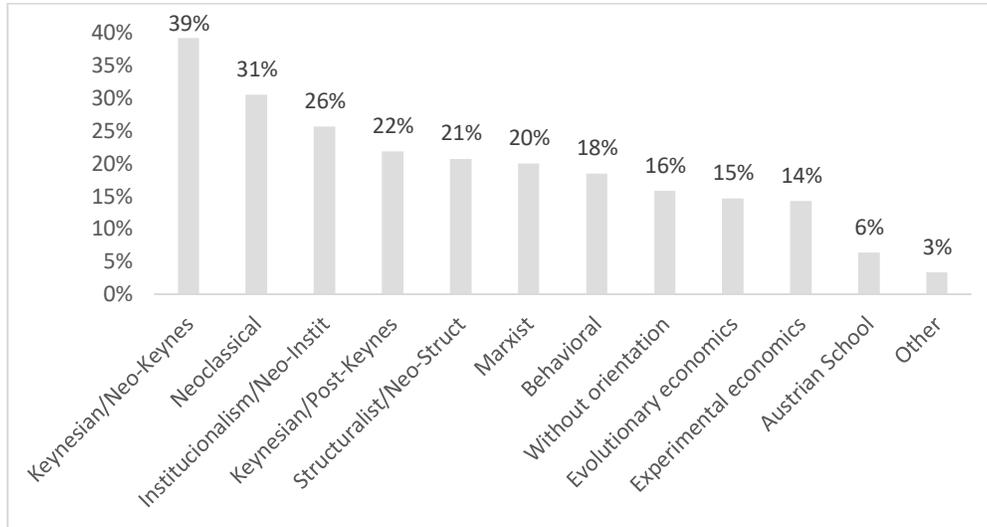
3.7 Methodological orientation (Section VII)

Figure 1 gives the percent of respondents according to the methodological orientation who stated they had, that is, the schools of economic thought to which they adhere²⁰. The list of schools of thought, adapted to the Mexican context, was based on Frey, Humbert, and Schneider (2010) and De Benedectis and Di Maio (2011). Respondents did not have limits to indicate the number of schools of thought with which they identify, so the sum of percentages in Figure 1 exceeds 100%. The schools with the highest support are: Keynesian/Neo-Keynesian (39%), Neoclassical (31%) and Institutional/Neo-Institutionalist (26%). The Austrian School (6%), experimental economics (14%) and evolutionary economics (15%) are the schools with the fewest supporters. 16% of respondents reported no specific methodological orientation.²¹

²⁰ The phrasing of the question is: 'How would you define your methodological orientation?'

²¹ Includes only those who responded: 'No specific methodological orientation.' Some respondents responded to the above, plus some other guidance; what they did was considered in the orientation that best fit.

Figure 1
Methodological orientation: schools of thought
(Percentages)



Source: Prepared by the authors using own data.

Single fitted column.

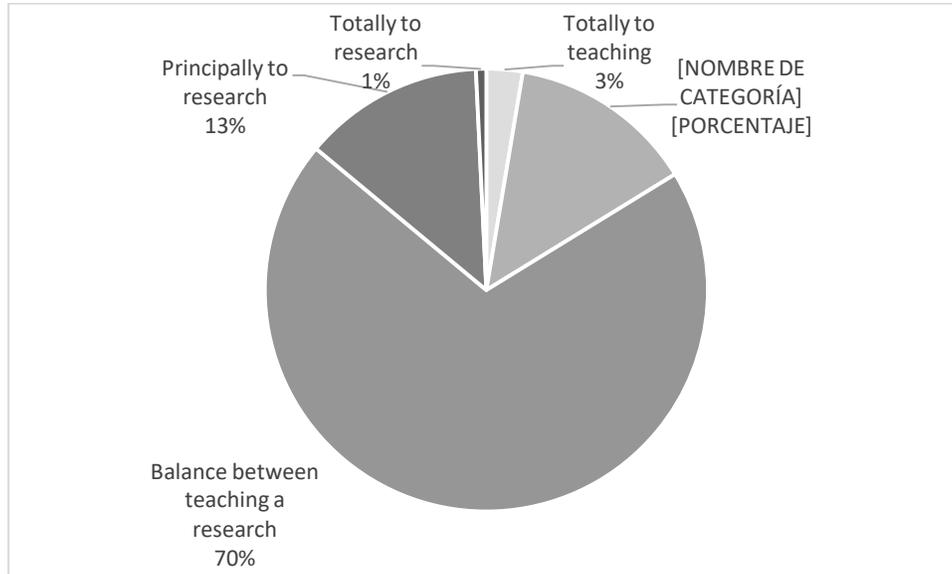
3.8 Research and teaching (Section VIII)

The survey contains items on academic activities, in order to learn about orientations and work interests. The questions and statements were prepared by the authors or were taken and adapted from Frey Humbert, and Schneider (2010) and De Benedectis and Di Maio (2011). Figure 2 shows the results regarding the orientation of the respondents' academic work.²² 70% of respondents answered that their teaching and research activities are balanced, while 16% indicated that they put more emphasis on teaching and 14% that they put more emphasis on research.

²² The phrasing of the question is: 'How would you describe the orientation of your academic activities?'

Figure 2

*Research and teaching: orientation of the academic work
(Percentages)*



Source: Prepared by the authors using own data.

Single fitted column

Table 8 gives the results regarding the characteristics of the scientific work of those surveyed.²³ The largest proportion of academics surveyed have empirical or applied interests, while the theoretical approach has the lowest preference.

Table 8

*Research and teaching: nature of scientific work, Mexico and Germany
(Percentages)*

Response option	Economists in Mexico (2017)		Economists in Germany (2006)
	Four response options	Adjustment to three response options	
Mainly theoretical (pure research)	15	16	34
Mainly empirically oriented	45	50	36
Aiming at policy advice	31	34	30

²³ The phrasing of the question is: 'How would you characterise your scientific work?'

None of the above	10	—	—
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Source: Prepared by the authors using own data.

Percentages do not necessarily add up to 100% due to rounding.

For indications of differences in preferences in Mexico and Germany, Table 8 also shows the results for the same question that Frey, Humbert, and Schneider (2010) asked German economists. The most important methodological similarity between this study and that of Frey, Humbert, and Schneider (2010) is the use of online surveys. A relevant difference is that the population surveyed by Frey, Humbert, and Schneider (2010), as indicated above, is not composed predominantly of academics, although 80% indicated that they are scientifically oriented. For ease of comparison, data are filtered to include only respondents with formal studies in economics (bachelor's, specialty, master's, and doctoral degrees). Another relevant difference is that Frey, Humbert, and Schneider (2010) did not include the answer option 'None of the above', so to achieve a better comparison this option was excluded and the rest —pure, empirical and public policy research— was adjusted to 100%. The main difference between academic economists in Mexico and economists in Germany is that the distribution of the German economists' interests tends to be homogeneous, while the Mexican economists have a more marked interest in empirical research.

Table 9 gives the percentages of respondents by field of research and teaching.²⁴ Following De Benedectis and Di Maio (2011), the fields of research and teaching were categorised according to the classification of the Journal of Economic Literature. Respondents did not have limits to indicate the number of research and teaching fields in which they were interested, so the percentages exceed 100%. In terms of research, the field of 'Economic Development, Technological Change, and Growth' was by far selected the most (43%), while 'Law and Economics' was the least selected field (5%). Regarding teaching, 'Microeconomics' was selected the most (38%), while again 'Law and Economics' was last (4%). There are three fields in which more than 20% of respondents identify both as one of their research and teaching fields: 'Microeconomics', 'Macroeconomics and monetary economics' and 'Economic Development, Technological Change, and Growth'. The areas of 'Mathematical and Quantitative Methods' and

²⁴ The phrasing is: 'From the following list, indicate your fields of RESEARCH/TEACHING (as classified in the Journal of Economic Literature). Multiple answers are possible.'

‘International Economics’ came close to meeting the above criterion. Two other fields have less than 10% of mentions in both research and teaching: ‘Law and Economics’ and ‘Economic Systems’.

Table 9
Research and teaching: fields of research and teaching
(Percentages)

Fields of research and teaching	Research	Teaching
History of Economic Thought, Methodology, and Heterodox Approaches	16	15
Mathematical and Quantitative Methods	19	29
Microeconomics	22	38
Macroeconomics and Monetary Economics	24	32
International Economics	19	22
Financial Economics	14	16
Public Economics	19	15
Health, Education, and Welfare	19	9
Labour and Demographic Economics	16	10
Law and Economics	5	4
Industrial Organisation	15	15
Business Administration and Business Economics; Marketing; Accounting	14	11
Economic History	14	15
Economic Development, Technological Change, and Growth	43	29
Economic Systems	9	9
Agricultural and Natural Resource Economics; Environmental and Ecological Economics	20	15
Urban, Rural, and Regional Economics	24	18
With no specific field	2	0

Source: Prepared by the authors using own data.

Table 10 gives response percentages, medians and ϵ for four statements regarding views on the state of economic teaching and research in the country. Statements 4.1 and 4.2 focus on teaching, Statement 4.3 on research, and Statement 4.4 on pluralism in economic science. The

only two statements that have consensus, measured by ε equal to or less than 80%, are statements that are not focused on teaching.

Table 10

*Research and teaching: response frequencies, medians and relative entropy
(Percentages, medians in bold)*

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	ε
4.1. Currently the teaching of economics is too theoretical, without focus on real problems	14	44	36	6	84
4.2. The way of teaching economics has remained the same since the time when I was a student	11	31	47	11	87
4.3. Research published in Mexico uses novel approaches and/or methods	5	40	48	8	76
4.4. Currently, economics is in a stage of pluralism, in which neoclassical economics coexist with a variety of new approaches within the mainstream	20	62	15	3	73

Source: Prepared by the authors using own data.

Percentages do not necessarily add up to 100% due to rounding.

Statement 4.4 (pluralism in economics) obtained the highest consensus, with a large majority of respondents agreeing with it. This question is relevant because there is controversy between professional and student movements that ask for a greater plurality of approaches in the discipline, as opposed to other authors who consider that there is pluralism. The consensus of the economic science academics in Mexico would be on the side of the latter. In this sense, Castañeda (2015: 435) maintains that currently economics is ‘in a stage of pluralism, in which neoclassical orthodoxy coexists with a great variety of approaches at the cutting edge of the economics that develop within the mainstream’ (own translation). However, Castañeda (2015) also points out that in Mexico there is a lack of pluralism in the programs of study of economics at leading Mexican universities, at both undergraduate and graduate levels.

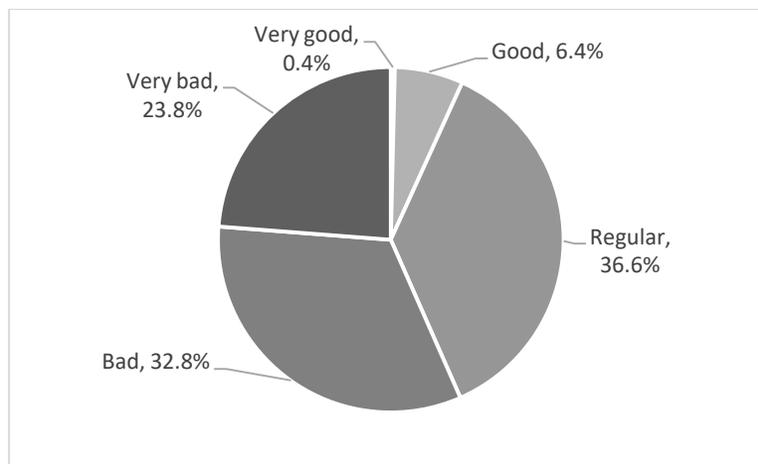
The results show both positive and negative views on the state of the academia for economics. The majority view, with consensus, is that there is pluralism in economics (Statement 4.4), but at the same time, the research is not innovative (Statement 4.3). On this apparent paradox, Castañeda (2015) maintains that, in general, economic research conducted in Mexico can be found on the opposite extremes of economic thought (mainstream neoclassical and heterodox) but does not usually appeal to *the edge of the economics*.²⁵ The discussion is open.

3.9. Opinions on the country’s economic performance (Section II)

Figure 3 shows the respondents' assessment of the country's economic situation.²⁶ Pessimism predominates, as 56.6% consider it to be bad or very bad. Table 11 presents the response percentages according to the assessment of those surveyed regarding the economic situation in the next five years.²⁷ Pessimism continues: only 11% of respondents who consider the economic situation to be bad or very bad believe it will improve.

Figure 3

Country’s economic performance: assessment of the current economic situation
(Percentages)



Source: Prepared by the authors using own data.

²⁵ Castañeda (2015) uses the Spanish term *vanguardista* to refer that Colander, Holt, Rosser Jr. (2004) name *the edge of economics*. Castañeda (2015) does not necessarily identify *vanguardia* with frontier knowledge, nor does he indicate that frontier research must resort to methods and theories at the edge of economics, but that to provide new knowledge it must reject the canons of heterodoxy or neoclassical orthodoxy.

²⁶ The phrasing of the question is: ‘How would you assess the country's current economic situation?’

²⁷ The phrasing of the question is: ‘In the next 5 years, will the country's economic situation improve, be the same or worse than it is today?’

Single fitted column

Table 11

Economic performance: economic situation in the next five years
(Percentages)

	Believe it will improve	Believe it will stay the same	Believe it'll get worse	Don't know
Everybody	20	44	33	3
Very good	100	—	—	—
Good	47	53	—	—
Regular	27	54	19	1
Bad	11	51	31	7
Very bad	11	16	70	3

Source: Prepared by the authors using own data.

Percentages do not necessarily add up to 100% due to rounding.

4. FINAL COMMENTS

This document presents results of an opinion survey of economic science academics in Mexico. It has been found in previous studies that there is a set of topics for which people linked to the economics have consensus. The results of the applied survey —with the particularity of having general interest and specialised items —confirm that there is some consensus, but it is not a generalised situation, with variations according to the topic. For example, statements on economic opinions, in which the level of consensus has traditionally been measured in previous studies, have less consensus than statements regarding factors that make an economist successful, but enjoy greater consensus than statements regarding scientific aspects of economics.

As for economic opinions, the statements that generated the highest consensus are related to unequal income distribution and stricter enforcement of antitrust laws in the country. Urzúa (2007), 10 years earlier, found that these statements also elicited greater consensus, so there is likely to be a time-resistant consensus. This assertion should be taken with caution, as there are methodological differences and the lack of data precludes cross-checking by formal statistical testing.

There is an important consensus about the factors that position economists or future economists on the road to success. In general, there is agreement on the importance of academic skills, while the ability to make connections with prominent people has no consensus nor acceptance.

The disciplines that are considered the most important for Economics, which also have the highest consensus, are mathematics, history, political science and computer science. The economic assumptions that also had greater consensus and acceptance are related to the New-Keynesian movement: imperfect competition and price rigidities.

The results show that there is dissensus. The most dissenting economic opinions are on investment in the energy sector and the control of union power, the same situation Urzúa (2007) found. If the comparison of results between this study and Urzúa (2007) suggests that the consensus may be resilient over time, the same goes for dissensus. There is also dissensus in the status of economics as a science, as well as on theoretical assumptions linked to Marxism or the rationality of economic agents. In general, the most divergent opinions refer to scientific aspects of economics.

Additional research should focus on using existing data to examine subgroups of respondents, as well as to examine the role of, among other aspects, individual characteristics, specific knowledge, and methodological positions in determining consensus. The importance of studying the above is in line with findings of other research.

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Annex. Number and effective response rates

Section I			Section III			Section IV		
#	Obs.	%	#	Obs.	%	#	Obs.	%
1	257	97.0	1	263	99.2	1	264	99.6
2	259	97.7	2	262	98.9	2	264	99.6
3	264	99.6	3	255	96.2	3	264	99.6
4	254	95.8	4	261	98.5	4	264	99.6
5	260	98.1	5	259	97.7	5	263	99.2
6	261	98.5	6	262	98.9	6	264	99.6
7	260	98.1				7	263	99.2
8	255	96.2				8	263	99.2
9	260	98.1						
10	257	97.0						
11	263	99.2						
12	206	77.8						
13	251	94.7						
14	258	97.4						
15	260	98.1						
16	263	99.2						
Section V			Section VI			Section VIII		
#	Obs.	%	#	Obs.	%	#	Obs.	%
1	256	96.6	1	264	99.6	4.1	264	99.6
2	261	98.5	2	254	95.8	4.2	261	98.5
3	265	100	3	264	99.6	4.3	260	98.1
4	263	99.2	4	264	99.6	4.4	259	97.7
5	261	98.5	5	261	98.5			
6	259	97.7	6	261	98.5			
7	265	100	7	260	98.1			
8	265	100						
9	264	99.6						

10	265	100						
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Source: Prepared by the authors using own data.