

# Consensus and Dissension among Economic Science Academics in Mexico<sup>1</sup>

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## Abstract

We report general and consensus results of a survey administered to a defined population of economic science academics in Mexico. Our results include insights on economic opinions, scientific aspects of economics, scientific activities, countries' economic performances and methodological orientation. Our outcomes show areas of consensus which, at least partially, are consistent with findings in previous studies. Comparisons between our results and those of other studies suggest that consensus could be constant over time and that economics academics in Mexico seems to show similar levels of skepticism about the importance of rationality assumption as those in other latitudes.

**JEL classification:** A11, A12, A20.

**Keywords:** surveys; economic thought; academics; economists; Mexico.

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## Introduction

This paper presents the opinions of Mexican 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. Urzúa (2007) made the first efforts to administer a survey to members of the economics profession in Mexico. Our work can be considered as a follow-up to this, but targeting an academic population and addressing a greater number of issues.<sup>2</sup> As with Urzúa (2007), the data collected allows us to identify consensus levels in each area considered.

This paper also presents some basic results of consensus. Kuchař (2014) defines consensus as 'a conventional source of justified beliefs' (p. 1). Studying consensus among economic experts is important because it could have a strong effect on public deliberation, although expert opinion must be perceived as relevant and credible for non experts (Kuchař, 2014).

Learning about the opinions of academics also provides an appropriate perspective of the current state of economics teaching and research in Mexico. Although it is probable that economic thought will change from one generation to another, the ideas of academics now

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<sup>2</sup> The authors accept to make raw data available on request or together with the published article. Currently, the data is only available in Spanish.

can help predict the development of economic thought in the future, 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. The first part reviews research related to this work. The second section presents methodological aspects of defining the target population, survey design and data analysis. The third part summarises the main results for questions and statements from all sections of the survey. In illustrative cases, results are compared with those of other studies. Finally, we present concluding remarks.

## **1. Background**

Analysing the opinions of the economics profession is not new. Using formal methodology, Kearl, Pope, Whiting and Wimmer (1979) conducted a questionnaire comprising 30 questions on microeconomic and macroeconomic issues to measure the opinions and degree of consensus among U.S. economists. Later, Frey, Pommerehne, Schneider and Gilbert (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 Shoemith (1992) for the United Kingdom. These authors essentially followed the questionnaire of Kearl et al. (1979). Similar studies were subsequently conducted in several other countries. Urzúa (2007) examined a large population of economists, with 30 statements in principle based on those originally designed by Kearl 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. In addition, van Dalen (2019) also found large differences in opinions between economists and the general Dutch population. 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 their country of residence.

While previous studies focused on a general population of economists, Colander and Klamer (1987) presented results of a survey administered to PhD students in economics from six of the most recognised universities in the United States, which Colander (2005) followed up on almost 20 years later. Colander (2008) also 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 is a perception that in Europe and Latin America, to a different extent, universities have adopted US-style postgraduate programs (Colander and Ñopo, 2008; Correa-Mautz, 2016).

The opinions of academics in economics are normally obtained from surveys administered to members of associations of economists,<sup>3</sup> which allows surveyors to delimitate the target population in a certain way – but does not ensure that those surveyed are academics. Whaples (2006), who surveyed members of the American Economic Association, reported that 68.1% of respondents indicated 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 (2011), for the Czech Republic, reported 56% were academics. For the Netherlands, van Dalen (2019) reported practically 50% were academic economists. For Mexico, Urzúa (2007) indicated that 60% of respondents worked in public and private universities.

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 Italy, and Mendes de Souza (2015) for Portugal. Horowitz and Hughes (2018) surveyed academic economists in graduate programs in the United States, on their perceptions of capitalist crises. In these studies of academic economists, one finds, as in studies of broader populations of economists, that there are issues of consensus, emphasising that differences of opinion may be due to individual characteristics and academic profiles (De Benedectis and Di Maio, 2011), personal and political values (De Benedectis and Di Maio, 2011; Horowitz and Hughes, 2018; van Dalen, 2019), as well as adherence to schools of thought (De Benedectis and Di Maio, 2016; Mendes de Souza, 2015). Remarkably, van Dalen (2019) finds that the personal values of economists affects their views on both economic and methodological issues.

## **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 precisely defines a target population of economic science academics meeting the following characteristics: 1) They carry out teaching activities in centres, departments, schools, institutes and faculties offering bachelor's, master's or doctorate programs in economics or significantly related degrees;<sup>4</sup> 2) They conduct research activities in centres belonging to educational institutions in which economic research is conducted, but not necessarily teaching activities;<sup>5</sup> 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. Firstly, not everyone included would have a formal college degree (bachelor's, specialty, master's or doctorate) in economics.<sup>6</sup> Secondly, 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

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<sup>3</sup> For example, in the United States – members of the American Economic Association, and in Canada – members of the Canadian Economic Association. Urzúa (2007) surveyed members of what was Mexico's Colegio Nacional de Economistas (National Association of Economists).

<sup>4</sup> 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.

<sup>5</sup> This means that researchers working in think tanks were not invited.

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

they have acquired knowledge in economics.<sup>7</sup> 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, we asked by email to complete an online questionnaire to 1,315 academics affiliated to Mexican economic teaching and research institutions. 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 including the email 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

Our online questionnaire included questions used by Colander and Klamer (1987), Correa-Mautz (2016), De Benedectis and Di Maio (2011), Frey et al. (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, 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 favour comparability.

Table 1 gives the sections of the survey and the number of items that make them up. The survey used in this study is more extensive and addresses more topics than most of previous works. 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 Klamer (1987) used fewer items and did not ask about economic performance and research and teaching.

**Table 1** Contents of the survey

#	Topic	Contents
I	Economic opinions	16 statements
II	Opinions on the country's economic performance	Two questions
III	Opinions on economics as a science	Six statements
IV	Perceptions of success	Eight statements
V	Importance of studying other disciplines	10 disciplines
VI	Importance of economic assumptions	Seven statements
VII	Methodological orientation	One question
VIII	Research and teaching	Four questions and four statements
IX	Data on persons surveyed	13 questions

Source: Prepared by the authors.

<sup>7</sup> 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.

### 2.3. Data Analysis

We use entropy in information theory or Shannon entropy to measure the degree of consensus for each question and statement. 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 where respondents do not express an opinion – for example, ‘Don’t know’ or ‘No opinion’ – were treated like missing data, there are questions and statements with three or four effective response options.<sup>8</sup> Relative entropy is  $\varepsilon = E/(\text{maximum possible entropy}) * 100\%$ . Possible  $\varepsilon$  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  $\varepsilon$  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 dissension. In this work, values of  $\varepsilon \leq 80\%$ .<sup>9</sup>

One problem with  $\varepsilon$  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,  $\varepsilon$  is usually measured only for economic opinion statements, such as those in Section I (see Table 1). We display measurements of  $\varepsilon$  not only for economic opinions, but also for items in Sections III, IV, V, VI and VIII.

## 3. Results

### 3.1. Personal Data (Section IX)

The online survey could be completed between April and July 2017. We received 265 valid responses, giving a response rate of 20.2%. 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:<sup>10</sup> 89.1% full-time and 10.9% part-time.

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<sup>8</sup> Namely, for the calculation of entropy statistics and percentages, the option ‘Don’t know’ or equivalent were missing data, so the questions and statements have different numbers of answers, with 265 the maximum number of possible answers. Unless otherwise noted, the tables, figures and calculations in this document do not consider missing data. The Appendix has the number and effective response rates for the questions and statements in some sections of the questionnaire.

<sup>9</sup> Fuller and Geide-Stevenson (2003) also propose using 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.

<sup>10</sup> The translated phrasing of the question is: ‘Are you engaged in a full-time academia (research and/or teaching)?’

- Academic institution:<sup>11</sup> 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:<sup>12</sup> 93.2% yes and 6.8% no.

One concern about the validity of internet surveys is the degree to which the self-selection of respondents biases or distorts results. In general terms, 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. We also compare some characteristics of respondents to those of the full sample in order to assure that those who responded were representative of the underlying group. Specifically, we find that the percentage of females in the full sample is 30.6%, which nearly coincides with 30.9% of the sample of the respondents. We also know that 9.1% of our entire sample are affiliated to private universities, while this percentage in the sample of respondents is 10.2%.

### **3.2. Economic Opinions (Section I)**

The first section of the questionnaire consists of 16 statements on economic opinions, which in order to allow comparability are basically a subset of Urzúa's 30 statements (2007). Table 2 shows the percentages of responses and the medians for each statement.<sup>13</sup>

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

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

<sup>13</sup> Using the same database, Andere and Canché-Escamilla (2019) examine the consensus on the propositions of sections I, III and VI of the survey. We discuss their findings below in this paper.

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

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Tariffs and import quotas reduce general economic welfare	18	<b>39</b>	39	5
2. Inflation is primarily a monetary phenomenon	9	35	<b>41</b>	15
3. The distribution of income in Mexico should be more equal	<b>68</b>	29	3	1
4. A minimum wage increases unemployment among young and/or unskilled workers	11	24	<b>47</b>	18
5. Central banks should include employment and/or economic growth as one of its objectives	39	<b>39</b>	15	7
6. The level of government spending should be reduced	14	25	<b>46</b>	15
7. The economic power of labour unions should be significantly curtailed	22	<b>35</b>	31	12
8. An international monetary system based on the free-floating exchange rates is effective	13	<b>49</b>	32	5
9. Increased central bank autonomy increases stability and economic growth	27	<b>43</b>	25	5
10. The federal budget should be balanced over the business cycle rather than yearly	19	<b>65</b>	11	4
11. Antitrust laws should be enforced vigorously to reduce monopoly power from its current levels	49	<b>45</b>	5	2
12. Cash payments are superior to transfers-in-kind	13	<b>45</b>	33	10
13. Pollution taxes allow for improved control of pollution rather than the implementation of maximum allowable emission levels	24	<b>48</b>	23	5
14. The energy sector should be treated like any other sector in terms of private investment	18	29	<b>35</b>	18
15. Government should be an employer of last resort	14	<b>39</b>	34	13
16. The redistribution of income is a legitimate role for government	38	<b>43</b>	14	5

Source: Prepared by the authors using own data.  
Percentages do not necessarily add up to 100% due to rounding.

Table 3 includes the results of  $\varepsilon$  for the 16 statements in our study and in Urzúa (2007). By comparing them with the results of Urzúa (2007) we explored 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 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 <sup>a/</sup>	56	61	11	66	64
4	90	93	12	87	84
5	87	93	13	86	82
6 <sup>b/</sup>	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).

<sup>a/</sup> The Spanish phrasings differ in this study and in Urzúa (2007). The translated phrasing in Urzúa (2007): see footnote 13.

<sup>b/</sup> 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.'

Table 3 shows that only three statements have  $\varepsilon \leq 80\%$ . Urzúa (2007), who did not use this threshold as a reference, obtained four of these statements, or their equivalents, with  $\varepsilon \leq 80\%$ . The three statements with the highest consensus (lower  $\varepsilon$ ) 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  $\varepsilon \leq 80\%$ . Although the populations examined in this study and by Urzúa (2007) are not identical, the results suggest that people with links to economics may not have changed the topics with which they have the highest consensus over the last ten years.

Statement 3 (income distribution in Mexico) has 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).<sup>14</sup> A possible explanation of this higher consensus is that Mexico is perceived by respondents 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  $\varepsilon$ ), 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.<sup>15</sup>

Statement 11 (antitrust laws), has the second highest consensus, with an  $\varepsilon$  of 66%, like the 64% that Urzúa (2007) reported ten 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

<sup>14</sup> The phrasing of Urzúa's statement (2007) is: 'The distribution of income within countries, as well as between countries, should be more equal.'

<sup>15</sup> As can be seen in Table 3, Statement 16 had an  $\varepsilon$  value of less than or equal to 80%.

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

Statement 10 (balanced budget), had the third highest consensus, with an  $\varepsilon$  value 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 labor unions should be significantly curtailed.'
- Statement 15. 'Government should be an employer of last resort.'

Statement 14 (energy sector) was also the lowest consensus ten 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 dissension, but with a slight shift of the majority towards not treating the energy sector as any other economic activity.

Statement 7 (labor unions' power), the second with the least consensus, has  $\varepsilon$  equal to 95%, up from 85% as measured by Urzúa (2007). 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); although the consensus is low or there is no consensus, the majority position has gone from not supporting this proposal to favouring it.

Statement 4 (minimum wage), the eleventh 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 having the third 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 it increased 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), with the third least consensus, is also related to the labour market. This statement has the least difference between those who support this policy and those who do not, – 53% of respondents agree with this statement.

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. Our study found that 57% of respondents agree that hampering international trade reduces general welfare, although the  $\varepsilon$  value of the proposal is less than

80% (the sixth highest consensus). Urzúa (2007) reported 48% of respondents expressing agreement with this statement, which suggests an increase in support for free trade among the population linked to economics.

Consensus literature commonly presents results on the relationship between positive and normative beliefs. Friedman (1953) argues that discrepancies among economists about economic policies are not the result of subjective differences, but of different predictions about policy consequences. Kearl et al. (1979) have also proposed that microeconomic statements should provoke a greater consensus than macroeconomic ones.

We created a matrix that organises 12 of the statements based on the positive-normative and micro-macro dichotomies:<sup>16</sup>

- Micro positive: statements 1 (free trade), 4 (minimum wage), and 13 (pollution taxes).
- Macro positive: statements 2 (inflation as a monetary phenomenon), 8 (flexible exchange rates), and 9 (central bank autonomy).
- Micro normative: statements 7 (union power), 11 (antitrust laws), and 14 (energy sector).
- Macro normative: statements 5 (dual mandate of central banks), 6 (reduce government spending), and 15 (government employment).

Based on this matrix, we tested the hypotheses described above through a 2 x 2 analysis of variance with  $\varepsilon$  as the dependent variable. The  $F$  values were 0.04 for the positive-normative factor and 0.1 for the micro-macro factor each with 1 and 8 degrees of freedom. The corresponding  $p$  values of the  $F$  statistic were 0.84 and 0.76, so the null hypothesis of positive-normative and micro-macro similarity is not rejected at a significance level of 5%. The interaction is also not significant ( $F = 0.19$  and  $p = 0.67$ ). For this reason, levels of consensus among economic science academics in Mexico do not seem to depend on the positive-normative or the micro-macro nature of the statements. Urzúa (2007) found similar results.<sup>17</sup>

### **3.3 Opinions on economics as a science (Section III)**

Although the consensus analysis is normally focused on economic opinions, we extend the estimation of  $\varepsilon$  to propositions related to scientific aspects of economics, academic activities or studying disciplines other than economics. It is justified in that some initiatives have been carried out in Mexico to standardise the teaching of economics. Particularly, ANIDIE is an association of economics schools, faculties and departments whose members in 1997 signed the so-called 'Tepic Agreement' (*'Acuerdo de Tepic'*) which notoriously included the approval of a basic table of subjects (*cuadro básico de asignaturas*) that proposed common subjects and basic bibliography and that, shortly after, served as a basis for some schools to modify their study plans (Canché-Escamilla, 1999). This basic table of subjects was last reviewed and updated in 2016.

Table 4 shows the respondents' opinions on six statements of economics as a scientific discipline. Statements 1 to 5 are based on Colander and Klamer (1987) and Correa-

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<sup>16</sup> Any classification of statements on grounds of positive-normative and micro-macro dichotomies is debatable. For example, Urzúa (2017) proposes to classify the statements on income distribution as microeconomic, while Kearl et al. (1979) do not classify them as microeconomic nor as macroeconomic. We follow to Kearl et al. (1979) by excluding statements 3 and 16. We also exclude Statement 12 (cash vs. transfers-in-kind) because it has the highest non-response rate (see Appendix), as well as Statement 10 (balanced budget) since it contains both the word 'should' and has a technical connotation. In general, following Kearl et al. (1979) we classify as normative the propositions worded with 'should' (Spanish: *'debería'*).

<sup>17</sup> This analysis is limited but a deeper study of this subject goes beyond the objectives of this paper.

Mautz (2016), while we prepared Statement 6 (experiments in economics). All statements have  $\varepsilon$  values above 80%, which does not meet the criterion of  $\varepsilon \leq 80\%$ . Even the answers for Statement 5 (scientific status of economics) and Statement 6 are practically distributed in thirds, giving the highest  $\varepsilon$  values for the entire survey. So we find that the greatest dissension 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	$\varepsilon$
1. Neoclassical theory is relevant to current problems	33	<b>49</b>	17	93
2. Economists agree on fundamental issues	12	37	<b>51</b>	87
3. It is possible to draw a sharp line between positive and normative economics	23	<b>50</b>	27	95
4. Learning neoclassical economics means learning a set of tools	31	<b>50</b>	19	93
5. Economics is the most scientific social sciences	35	<b>29</b>	36	100
6. Because of its social nature, controlled experiments cannot be carried out in economics.	30	<b>34</b>	36	100

Source: Prepared by the authors using own data.  
 Percentages do not necessarily add up to 100% due to rounding.

We 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  $\varepsilon$ , 51% of respondents disagree that economists agree on fundamental issues. On 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.

These results can be compared with a variety of papers. Fuller and Geide-Stevenson (2014) report only 18.7% of their U.S. respondents agreeing that it is possible for economists to separate their policy prescriptions from their normative values. For Chile, Correa-Mautz (2016) finds similar results except with those of Statements 2 and 3, although comparisons are not straightforward because he surveyed a population of economics students. van Dalen (2019) put Statement 3 (positive and normative economics) to academic and applied Dutch economists and used a five-effective response Linkert scale despite our four-effective response scale. van Dalen (2019) finds 35.4% of respondents disagreeing to sharply distinguishing between positive and normative economics, while we found 27%.

We invite the readers to conclude whether our results show a higher confidence in the separation between positive and normative economics in Mexico.

### 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.<sup>18</sup> The purpose of the question is to gain an understanding of the perceptions that academics 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).<sup>19</sup> Table 5 gives the response percentages, the median and the  $\varepsilon$  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	$\varepsilon$
1. Being very knowledgeable about one particular field	<b>51</b>	46	3	72
2. Being interested in, and good at, empirical research	<b>55</b>	42	3	73
3. Having a broad knowledge of the economics literature	<b>68</b>	30	2	64
4. Having a thorough knowledge of the economy (economic system)	<b>60</b>	35	5	74
5. Being smart in the sense that they are good at problem-solving	<b>67</b>	31	3	66
6. Excellence in mathematics	36	<b>58</b>	7	79
7. Ability to make connections with prominent professors	27	<b>55</b>	18	90
8. Ability to make connections with prominent professionals	37	<b>56</b>	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. 'Having a broad knowledge of the economics literature.'
- Skill 5. 'Being smart in the sense that they are good at problems solving.'

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  $\varepsilon$  values above 80%, are:

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

<sup>18</sup> The question was phrased as follows: 'How important are the following characteristics to place an economist or future economist on the road to "success"?'

<sup>19</sup> 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.

Skills 7 and 8 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,  $\varepsilon$  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 ten disciplines for educating economists.<sup>20</sup> We take eight of these disciplines from Colander and Klamer (1987), while biology and law were newly included. Table 6 provides information on response percentages, medians and  $\varepsilon$ . In general, the disciplines with the highest consensus are also the most valued. For economic science academics, the four disciplines in which there is the greatest consensus, which obtained  $\varepsilon \leq 80\%$ , 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. Philosophy and psychology have the least consensus, while physics and biology, by far, have the least acceptance.<sup>21</sup>

**Table 6** Importance of studying other disciplines: response frequencies, medians and relative entropy (Percentages, medians in bold)

Disciplines	Very important	Important	Moderately important	Unimportant	$\varepsilon$
1. Biology	5	13	<b>38</b>	44	82
2. Computer science	34	<b>46</b>	20	1	78
3. Political science	37	<b>46</b>	17	1	77
4. Law	19	<b>38</b>	37	5	87
5. Philosophy	27	<b>34</b>	31	8	92
6. Physics	3	20	<b>38</b>	39	84
7. History	50	<b>37</b>	12	1	73
8. Matematics	<b>61</b>	33	6	0	60
9. Psychology	12	34	<b>42</b>	11	89
10. Sociology	32	<b>46</b>	20	2	81

Source: Prepared by the authors using own data.  
Percentages do not necessarily add up to 100% due to rounding.

<sup>20</sup> The phrasing is: 'How important is it for economists to be trained in the following disciplines?'

<sup>21</sup> It is an expected result, since they are natural sciences, although physics is the paradigm from which 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.

### 3.6. Importance of Economic Assumptions (Section VI)

Table 7 provides information on response percentages, medians and  $\varepsilon$  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  $\varepsilon$  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 states 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	Important	Somewhat important	Not important	$\varepsilon$
1. Neoclassical assumption of rational behaviour	28	<b>58</b>	14	86
2. Behaviour according to conventions	19	<b>66</b>	15	79
3. Rational expectation hypothesis	28	<b>59</b>	13	85
4. Imperfect competition	<b>57</b>	39	4	74
5. Price rigidities	30	<b>64</b>	7	76
6. Cost mark-up pricing	40	<b>55</b>	5	78
7. The objective of a capitalist firm is to extract surplus value from its workers	28	<b>48</b>	24	96

Source: Prepared by the authors using own data.  
Percentages do not necessarily add up to 100% due to rounding.

We found some similarities between our results and that of van Dalen (2019). Particularly, it seems that in both cases imperfect competition assumption enjoys firm support by respondents, while rationality assumption shows relatively weak support. For the sake of comparison, Fuller and Geide-Stevenson (2014) found a modest consensus of agreement with their statement that macroeconomic models based on ‘representative, rational agents’ yield generally useful and reasonably accurate prediction.

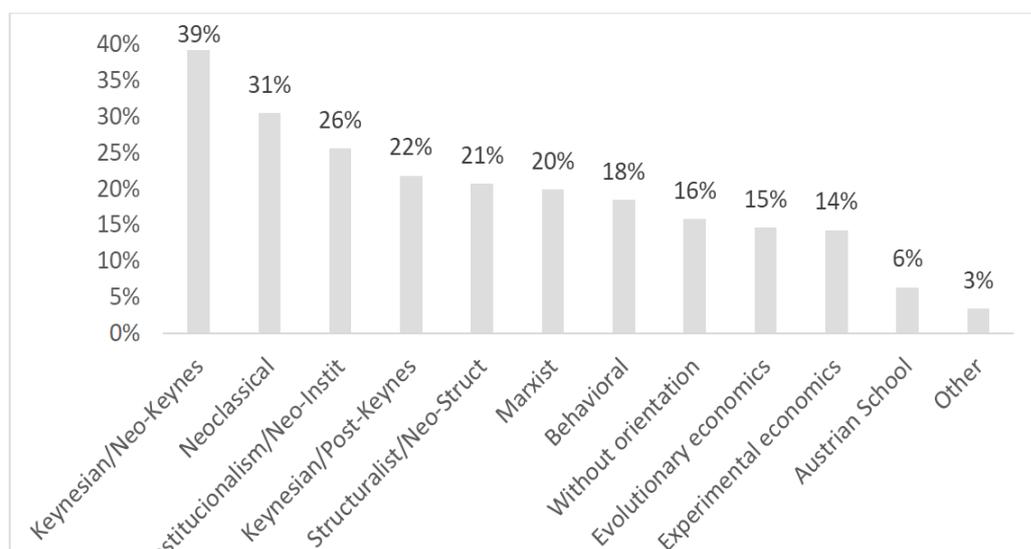
Following the lead of Fuller and Geide-Stevenson (2014), Andere and Canché-Escamilla (2019) labelled the propositions on economic opinions, economics as a science, and economic assumptions as showing strong, substantial, modest or no consensus;<sup>22</sup> they also divided the respondents between those who consider that economists agree on fundamental issues and those who do not (Statement 2 of Table 4). They concluded that respondents who consider that economists agree on fundamental issues tend to exhibit both higher degrees of consensus towards more favourable views on an open economy and Neoclassical economics. Andere and Canché-Escamilla (2019) found that lower levels of consensus would derive from the opinions of respondents with less favorable views towards the basic tenets of the Neoclassical economics (as they are displayed in the statements of the survey’s sections III and VI).

<sup>22</sup> They constructed an overall consensus index by employing three measures of consensus: 1)  $\varepsilon \leq 80\%$ ; 2) Rejecting the null hypothesis of a chi-square test of goodness of fit to a uniform distribution of responses; and 3) Adding the percentages of those who expressed some degree of agreement with the statements.

### 3.7 Methodological Orientation (Section VII)

Figure 1 gives results on the schools of economic thought to which the respondents stated to be adhered.<sup>23</sup> The list of schools of thought, adapted to the Mexican context, was based on Frey et al. (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, while 16% of respondents reported no specific methodological orientation.<sup>24</sup>

**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)

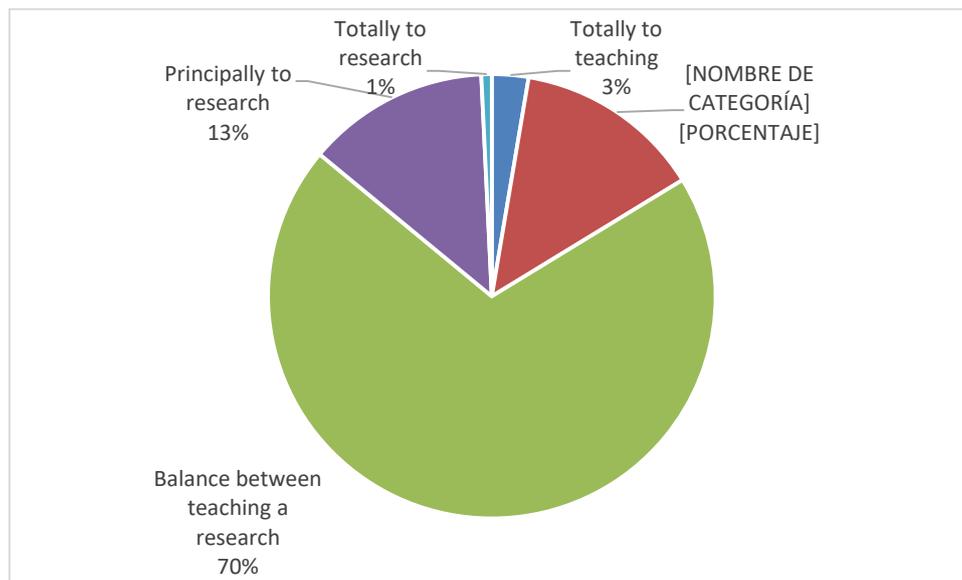
Our survey contains items on academic activities, in order to learn about orientations and work interests. The questions and statements were prepared by the authors or were taken and adapted from Frey et al. (2010) and De Benedectis and Di Maio (2011). Figure 2 shows that 70% of respondents answered 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.<sup>25</sup>

<sup>23</sup> The phrasing of the question is: 'How would you define your methodological orientation?'

<sup>24</sup> 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.

<sup>25</sup> 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 on the characteristics of the scientific work of those surveyed.<sup>26</sup> 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
None of the above	10	—	—

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 et al. (2010) asked German economists. A methodological difference between our study and Frey et al.'s study (2010) is that the population surveyed by the later authors 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 et al. (2010) did not

<sup>26</sup> The phrasing of the question is: 'How would you characterize your scientific work?'

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.<sup>27</sup> 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%. On research, ‘Economic Development, Technological Change, and Growth’ was by far selected the most selected field (43%), while ‘Law and Economics’ was the least selected one (5%). On teaching, ‘Microeconomics’ was selected the most (38%), while again ‘Law and Economics’ was the least (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.’ ‘Mathematical and Quantitative Methods’ and ‘International Economics’ came close to meeting the above criterion, while ‘Law and Economics’ and ‘Economic Systems’ have less than 10% of mentions in both research and teaching.

**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.

<sup>27</sup> 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.’

Table 10 gives response percentages, medians and  $\varepsilon$  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  $\varepsilon \leq 80\%$ , 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	$\varepsilon$
4.1. Currently the teaching of economics is too theoretical, without focus on real problems	14	<b>44</b>	36	6	84
4.2. The way of teaching economics has remained the same since the time when I was a student	11	31	<b>47</b>	11	87
4.3. Research published in Mexico uses novel approaches and/or methods	5	40	<b>48</b>	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	<b>62</b>	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) 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 develops within the mainstream' (p. 435, 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.

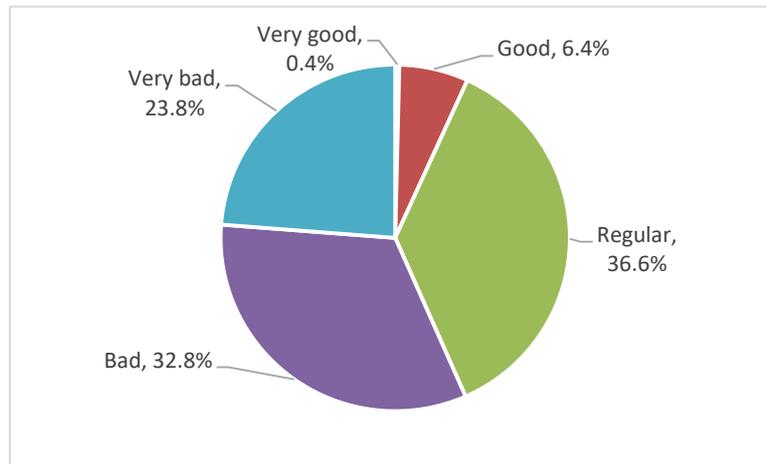
The results show both positive and negative views on the state of the economics academia. The majority view, with consensus, is that there is pluralism in economics (Statement 4.4), but at the same time, the research is not innovative (Statement 4.3). On this apparent paradox, Castañeda (2015) maintains 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 economics*.<sup>28</sup> The discussion is open.

<sup>28</sup> Castañeda (2015) uses the Spanish term *vanguardista* to refer that Colander, Holt, and 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.

### 3.9. Opinions on the Country's Economic Performance (Section II)

Figure 3 shows the respondents' assessment of the country's economic situation.<sup>29</sup> Pessimism predominates, as 56.6% consider it to be bad or very bad.

**Figure 3** Country's economic performance: assessment of the current economic situation (percentages)



Source: Prepared by the authors using own data.  
Single fitted column

Table 11 presents the response percentages according to the assessment on the economic situation in the next five years.<sup>30</sup> Pessimism continues: only 11% of respondents who consider the economic situation to be bad or very bad believe it will improve.

**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. Previous studies have concluded that there is a set of topics for which people linked

<sup>29</sup> The phrasing of the question is: 'How would you assess the country's current economic situation?'

<sup>30</sup> 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?'

to economics have consensus. With the particularity of having general interest and specialised items, our basic results 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, seem to have less consensus than statements on factors that make an economist successful, but enjoy greater consensus than statements on 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) found that these statements also elicited greater consensus ten years earlier, 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 imperfect competition and price rigidities, both related to the New-Keynesian approach.

Our results show that there is dissension. 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 persistent over time, the same goes for dissension. There is also dissension 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.

Our results in this paper also allow us to delineate some comparison with the international situation. For example, there is an apparently higher confidence in drawing a sharp line between positive and normative economics in Mexico than in other parts of the world. At the same time, Mexican academia seems to show similar level of skepticism about importance of rationality assumption in comparison to economics professionals in other latitudes.

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**Appendix** 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						

Source: Prepared by the authors using own data.

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SUGGESTED CITATION:

Andere, Jorge L., Jorge Luis Canché-Escamilla & Álvaro Cano-Escalante (2020) 'Consensus and Dissension among Economic Science Academics in Mexico.' *Economic Thought*, 9.2, pp. 1-23.  
<http://www.worldeconomicsassociation.org/files/journals/economicthought/WEA-ET-9-2-Andere-et-al.pdf>