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## Trade attitudes in Latin America: Evidence from a multi-country survey experiment

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## Evidence from a Multi-Country Survey Experiment

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## Abstract\*

This paper examines individual-level support for trade liberalization, relates it to beliefs about trade, and measures its sensitivity to positive and negative framing. The data come from the 2018 Latinobarometro survey of eighteen countries, in which the authors embedded a survey experiment to study framing effects. It is found that respondents are generally favorable to increased trade with other countries, based on perceived trade benefits to employment, prices, and product variety. Support for trade is unaffected by positive framing but is highly sensitive downward to employment loss framing. Positive framing does shift upward respondent beliefs that trade increases product variety and reduces prices, but also raises concerns about low wages. Negative framing substantially reduces the prevailing beliefs that trade is associated with high employment, and there is no offsetting effect on the consumption side. Trade support levels and sensitivity display heterogeneity across education levels consistent with skill-based theories of trade, as well as interesting country, age, gender, and income heterogeneity.

**JEL classifications:** F13, D72

**Keywords:** Trade liberalization, Trade preferences, Trade beliefs, Survey experiment, Framing

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# 1 Introduction

The notion that countries benefit from trading with each other is a central tenet of trade theory. However, trade policy does not always reflect this view. One reason is that, while trade liberalization may increase aggregate welfare, at the individual level there will be winners and losers. The conflicting preferences are then resolved through the political process. In normal times, trade policy is not a salient electoral issue, in which case policy is decided between policymakers and private sector firms and other interest groups (Grossman and Helpman, 1994). Voters often benefit from trade liberalization through lower prices and access to a wider range of goods and services, while at the same time being affected by employment losses in some industries or occupations (United States: Autor, Dorn, and Hanson, 2013; Brazil: Dix-Carneiro and Kovak, 2017). But voters are typically not active participants in policymaking, as they are a diffuse group with lower stakes than other actors. However, when trade policy becomes politically salient, the voting public's preferences for trade matter.

Standard economic models of trade have clear implications for an individual's preferences on trade, starting from the premise that material self-interest is the key determinant of preferences (Rodrik, 1995). One of the most discussed models in this literature is the Heckscher-Ohlin model and its key implication, the Stolper-Samuelson Theorem. The theorem holds that, under perfect factor mobility, trade makes owners of relatively abundant factors better off, due to increased prices of the goods that use these factors more intensely, and hurts the owners of relatively scarce factors. For example, in a country with a relative abundance of unskilled labor, unskilled workers would benefit and skilled workers would lose from trade. The related Ricardo-Viner model, which drops the assumption of perfect factor mobility, predicts that gains will be concentrated in sectors that benefit from trade, such as export-oriented industries. Thus, workers in these sectors will support trade, whereas workers in import-competing sectors would oppose it. More recent models of trade emphasize that trade benefits the most productive companies, those that produce high-quality goods and are export-oriented, resulting in higher demand for skilled workers, and leading to an increase in the skill premium (Melitz, 2003; Verhoogen, 2008). In this case, skilled workers should be the ones in favor of trade.

The distributive tensions resulting from trade provide a platform for interest groups and political actors to exploit existing cleavages in their favor. The recent rise in anti-trade public discourse in developed countries is an example of these tensions becoming salient.

The stylized models mentioned above imply that voters form their preferences based on the impact they expect trade will have on their labor market outcomes. Empirical evidence has linked electoral outcomes to trade shocks affecting the labor market (Autor, Dorn, Hanson, and Majlesi, 2016; Che, Lu, Pierce, Schott, and Tao, 2016). But are trade shocks that operate through the labor market the only determinants of individual trade preferences? Are trade preferences stable, or do they shift at times when trade becomes more salient in public debates? How does the impact of debates on preferences depend on individual determinants of labor market outcomes, such as education?

In this paper we study data from a large-scale nationally-representative multi-country survey on trade preferences and beliefs conducted as part of the 2018 Latinobarometro survey of 18 Latin American countries. We asked respondents whether they favor their country’s increasing trade with other countries and added questions eliciting beliefs about the consequences of trade on employment, wages, prices, product choice, and respondent’s personal economic situation. To study the impact of framing, we embed a survey experiment by prefacing the trade liberalization question with randomly assigned trade arguments. One treatment frames the question by mentioning the positive consumption benefits of trade, namely product diversity and lower prices. Another treatment frames the question by mentioning the potential negative employment effects of trade in import-competing industries. A third treatment combines these positive and negative frames. The control group receives an unframed question. To our knowledge, this is the first time a survey experiment is embedded in a nationally-representative survey covering a large number of countries.

Our research design yields several interesting results. Untreated respondents are generally very favorable to increased trade with other countries, based on perceived trade benefits to employment and consumption. Positive framing does not significantly raise support for trade liberalization. Respondents in this experimental group do have more positive beliefs about the consumption benefits of trade, but they are also more concerned about low wages. Negative framing substantially reduced trade support, driven by a large downward change in the prevailing view that trade has positive employment effects, with no offsetting upward change in beliefs about consumption benefits. Mixed framing also reduced support for trade, but to a lesser extent, suggesting that pro-trade arguments can significantly mitigate the impact of anti-trade arguments.<sup>1</sup> We argue that these effects are consistent with common

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<sup>1</sup>Our findings suggest labor market effects are the primary determinant of trade attitudes in 2018, in contrast with the findings of Baker (2003) from an earlier period, which suggested the primacy of consumption considerations.

behavioral biases, such as loss aversion and negativity bias. Support for trade as well as sensitivity to framing vary across countries and across individual characteristics. Education, a key determinant in tests of standard economic models of trade, is strongly associated with support for trade. This seems consistent with the predictions of new trade models based on Melitz (2003) where trade increases the skill premium. Alternatively, the association between education and support for trade could be driven by factors other than material self-interest, such as ideology (O’Rourke and Sinott, 2001; Mayda and Rodrik, 2005) or anxieties about how trade affects the economy as a whole (Mansfield and Mutz, 2009). We explore heterogeneous effects of framing and find that more educated individuals are more sensitive to employment loss framing. If framing works through activating awareness of personal costs and benefits (Nelson, Oxley, and Clawson, 1997) then the differential framing effect by education is consistent with skill-based explanations of trade. These patterns are also related to differences in beliefs by education level: more educated individuals are more likely to see the positive consumption benefits of trade, but when exposed to negative framing they react more strongly to the prospect of employment and wage loss. We also find interesting heterogeneity with respect to gender, age, and income.

Understanding the determinants of individual-level trade preferences, and the impact issue framing can have in shaping these preferences in a region like Latin America is important for several reasons. First, trade in developing countries is not as salient an issue in public debates as it is in developed ones. Therefore, developing countries provide a more fertile ground to test the impact of framing, since individuals are not as exposed to anti-trade discourse. Our findings also inform about the public opinion implications of those discourses for less developed regions of the world. Second, opinions about trade in developed countries are associated with opinions about offshoring, since both issues are frequently brought together in public debates as sources of domestic job losses to globalization. An advantage of focusing in Latin America is that offshoring production of domestic companies is marginal so the economic factors driving opinions are less intertwined with opinions on offshoring activities, a related but different phenomenon. Lastly, Latin American countries differ widely in their level of trade openness and economic development, but the region is more homogeneous culturally (e.g., in religion and race) than other regions of the world, providing an ideal setup to run a multi-country survey experiment.

The literature on individual trade preferences has initially focused on testing the predictions of economic models of trade, either in country data (Canada: Balistreri, 1997 and, Beaulieu, 2002; United States: Scheve and Slaughter, 2001, Blonigen, 2011, Di Tella and



Rodrik, 2019) or in international surveys (O’Rourke and Sinnott, 2001; Mayda and Rodrik, 2005; Jakel and Smolka, 2017). This literature has found evidence for labor market-related determinants of trade preferences. At the same time, it has revealed that economic incentives are only part of the story. Personal characteristics, such as gender and age, or values, such as nationalism or neighborhood attachment, explain a significant part of the variation in trade attitudes (O’Rourke and Sinnott, 2001; Mayda and Rodrik, 2005). Likewise, economic considerations may play a limited role because individuals have beliefs about the effects of trade on their welfare that do not correspond to standard models of material interests, e.g., because individuals may care about a broader notion of welfare (Mansfield and Mutz, 2009; Rho and Tomz, 2017).

However, as Hiscox (2006) has noted, the survey data used in this research may be unreliable due to the implied negative framing contained in several standard survey questions, e.g., that restricting imports "protects" the national economy. Individuals appear susceptible to whether the question is framed in terms of the benefits of trade as opposed to its costs. These framing effects can be considerable. Moreover, if framing effects vary with key determinants of preferences, such as education, then conclusions drawn from standard analyses can be biased. Ardanaz, Murillo, and Pinto (2013), using a survey experiment in Argentina similar to Hiscox’s (2006) in the United States, found a similar dampening impact of framing on support for trade in a developing Latin American country. However, their data revealed that education did not play the same role, instead vulnerability to import competition dominated sensitivity to framing. We use a similar survey experiment at a larger scale allowing us to explore heterogeneity across countries with close cultural ties. An important departure from the few studies that relied on framing experiments is that we study the mediating role of beliefs about trade. Instead of testing whether individual preferences are formed according to a particular trade theory, we can measure how different arguments about trade affect beliefs in the consumption and employment domains, as well as how beliefs are further linked to preferences.<sup>2</sup>

The structure of the paper is as follows. The next section describes the data and the empirical models used. The following section presents the main results regarding the effects of framing on preferences for trade, and beliefs about trade, and links preferences to beliefs. Next we study economic and other determinants of beliefs and preferences, and whether

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<sup>2</sup>Our paper is also related to an important literature in economics that examines survey data to analyze the formation of individual preferences, e.g., Luttmer (2001) and Alesina and La Ferrara (2005) study preferences for redistribution.

framing effects vary with these determinants. The final section draws conclusions from the findings and discusses implications for future research.

## 2 Data and Empirical Strategy

The data were collected through the Latinobarometro survey conducted in June-August 2018. Latinobarometro is a nationally representative survey conducted annually - with a couple of gaps - since 1995 in the same 18 countries in Latin America. Table 1 shows the country coverage of the data. The sample is designed to be representative of each country and uses a multi-stage probability design, stratifying within each country by region, sub-stratifying each region by municipality size and urban/rural areas within the municipality, and then selecting households within blocks. The survey design then uses frequency matching to obtain a sample with similar age and gender distributions to each national census. With a few exceptions, respondents were interviewed in their homes and data were collected either with paper surveys or with handheld electronic devices. In 2018 the total sample size was 20,204 respondents.

The survey elicits individual-level preferences and beliefs on diverse social, economic, political, environmental, and other topics, and collects a battery of socio-economic characteristics of the respondents, such as age, gender, marital status, race, and employment status. We embedded a survey experiment in the 2018 Latinobarometro to randomly vary exposure to several potential arguments regarding trade liberalization.<sup>3</sup>

Within each block, Latinobarometro respondents were randomly assigned to one of four groups, each group being asked a different version of a support for trade question. The question version differed in whether and how it was framed with additional information. Table 1 presents the frequencies of the four randomized groups. Each group contains about a fourth of the total sample.

The question versions differed in the type of framing used to set the question in context. Specifically, the four experimental conditions were:<sup>4</sup>

*Control Group (C):* Are you in favor or against (your country) increasing trade with other countries?

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<sup>3</sup>This was the first time Latinobarometro included a survey experiment in its annual questionnaire. The experiment was piloted in the Spring of 2018 to help develop wording for the informational frames that would be easily understandable and improve response rates.

<sup>4</sup>See Appendix A.3 for original question wording in Spanish.

*Positive Framing* ( $T_1$ ): Are you in favor or against (your country) increasing trade with other countries so that that prices fall and the variety of products you may buy increases?

*Negative Framing* ( $T_2$ ): Are you in favor or against (your country) increasing trade with other countries even if increased trade causes employment losses in import competing sectors?

*Mixed Framing* ( $T_3$ ): Are you in favor or against (your country) increasing trade with other countries so that prices fall and the variety of products you may buy increases, even if increased trade causes employment losses in import competing sectors?

The answer options were: "In favor" and "Opposed," with the possibility of responding "I don't know." In the few cases in which no answer is recorded, that appears in the data with a "No response" code. We converted the answers into an indicator variable *Trade* equal to one if the response was in favor, and zero otherwise.<sup>5</sup>

Prior large-scale surveys that elicited attitudes toward trade, such as the International Social Survey Programme (ISSP) and the World Values Survey (WVS), phrase the question in terms of the respondent's agreement with placing "limits on imports." We choose to refer to "increasing trade," which covers both imports and exports, and avoided references to specific policy instruments, such as tariffs, duties, quotas, or free trade agreements, to make the question accessible to a wider range of respondent backgrounds.<sup>6,7</sup>

Immediately after the support for trade question that features one of the four experimental conditions, all respondents are asked about their beliefs regarding the consequences of increased trade with other countries. Specifically, the question for all respondents was the

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<sup>5</sup>The question design is similar to Hiscox's (2006) survey experiment in the United States and the related Ardanaz, Murillo, and Pinto (2013) survey experiment in Argentina. Our question design is different from these two studies in that the frame does not precede the question in a prompt, but rather is directly introduced in the text of the question. Also, we separate the consumption ( $T_1$ ) and the employment ( $T_2$ ) effects of trade, whereas the two papers mentioned include positive employment effects in the positive framing together with positive consumption effects, and include negative employment effects in the negative framing together with negative effects on businesses.

<sup>6</sup>The AmericasBarometer surveys conducted by the Latin American Public Opinion Project (LAPOP) asked this question in the 2004–2012 waves: "To what extent do you believe that free trade agreements help to improve the economy?"

<sup>7</sup>Latinobarometro has traditionally contained a question about "support for the economic integration of countries in Latin America." While economic integration is related to trade, we preferred to design a new question about "trade with other countries" (stated above in experimental conditions  $C$ – $T_3$ ) that is more squarely focused on trade and that covers exchanges with countries outside of Latin America.

following.<sup>8</sup>

Which of the following do you think are consequences of increased trade with other countries? (Mention all the consequences you agree with).

The non mutually exclusive answer options were: "Higher employment," "Higher wages," "Better product variety," "Lower prices," "More and better access to technology," "Better personal economic situation," "Lower wages," "Lower employment," "Has no consequences." We convert the answers to this question into eight indicator variables that take the value one when a consequence of increased trade is selected by a respondent, and zero otherwise. Each consequence is indicated in a separate indicator variable, labeled as follows *Higher Employment*, *Higher Wages*, *Product Variety*, *Lower Prices*, *Access Technology*, *Pers. Econ. Situation*, *Lower Wages*, and *Lower Employment*. For the responses "Better product variety" and "Lower prices," which appeared in the positive framing question, we also combine these two into one indicator variable *Price/Variety* that is one if either one of this options is picked by a respondent, and zero if neither is.

Table 2 presents summary statistics for these key variables capturing preferences and beliefs about trade liberalization. It also includes, in the second half, various individual characteristics of the respondents. We make several observations. A majority of respondents, 61.8 percent, were in favor of increased trade with other countries. Variation in trade preferences is about five times larger within countries than across countries. Among the beliefs about the offered potential consequences of trade, only *Higher Employment* garnered a majority, 53.5 percent. The other trade consequences that came close were *Product Variety* and *Higher Wages*. While a majority of respondents were in favor of increased trade, only 24.2 percent believed trade improves their personal economic situation; this may suggest that support for trade is affected by both individual and sociotropic motivations.

The individual characteristics include personal, social, and economic variables and display significant variation both across and particularly within countries. We selected those that have been found in the previous literature as determinants of preferences for trade. Except for age and three other covariates, all are binary indicator variables. Among non-binary covariates, *Education* is measured on a 0-3 scale, with 0 meaning no completed formal education and 3 meaning completed tertiary education. *Income* is measured on a 1-4 scale, where 1 means insufficient income with serious financial problems, and 4 means sufficient income that allows saving. *Ideology* is measured on a 0 (left) to 10 (right) scale.

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<sup>8</sup>See Appendix A.3 for original question wording in Spanish.

Note that the average trade preferences in Table 2 are affected by framing which was applied to three-fourths of the sample. In Table 3 we present a breakdown by treatment status. The first column shows the means of trade preferences and beliefs for the control group, i.e., the group in the no framing condition. A sizable majority of respondents, around 72 percent, are in favor of trade. The control group means of the eight beliefs variables are more similar to their unconditional means; differences do not exceed five percentage points. Interestingly, the two beliefs variables with the mean exceeding one half in the control group were *Higher Employment* and *Price/Variety*. The issue of employment was included in the negative framing; the issues of prices and product variety were included in the positive framing. Since close to a half of respondents shared these two beliefs, this may mean that beliefs on these two points may be easiest to shift with informational framing.<sup>9</sup>

Given that the four trade question versions were randomly assigned, we can identify the effect of framing on trade preferences and beliefs with the following specification:

$$y_{ij} = \beta_0 + \beta_1 T_{1ij} + \beta_2 T_{2ij} + \beta_3 T_{3ij} + \gamma' \mathbf{X}_{ij} + \delta_j + \varepsilon_{ij} \quad (1)$$

where  $y_{ij}$  is an indicator variable for being in favor of trade, or agreeing with a given consequence of increased trade, by individual  $i$  from country  $j$ ;  $T_{nij}$  is an indicator variable for receiving treatment  $T_n$ , where  $n = 1, 2, 3$ ;  $\mathbf{X}_{ij}$  is a vector of individual-level covariates, such as age, gender, education;  $\delta_j$  is a country fixed effect for country  $j$ ; and  $\varepsilon_{ij}$  is the error term. No framing, i.e., being in the control group, is the excluded category. Each coefficient  $\beta_n$  measures the average difference in support for trade between the treatment group  $n$  and the control group; in other words, it measures the causal effect of exposing an average respondent to the particular type of framing. Within each country the survey was administered to respondents through several interviewers. Each interviewer is identified by a unique code in the dataset. To control for potential interviewer-specific influence on responses, we replace country fixed effects  $\delta_j$  with interviewer fixed effects  $\lambda_{kj}$  for interviewer  $k$  in country  $j$ . Any given interviewer is always nested within a single country. We present OLS estimates of this regression, assuming a linear probability model. Probit estimates, not reported here, are similar. We report standard errors robust to heteroskedasticity.

Given that the Latinobarometro sample is representative at the country level, and randomization of treatment assignment was done within a country at the block level, we can

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<sup>9</sup>The questions about beliefs were asked immediately after the survey experiment question. Respondents take the entire survey in one sitting, in the same fixed order of questions. Therefore, we did not observe the data on beliefs prior to designing the frames for the survey experiment questions.

study the effects of framing separately for each country. The empirical specification, for each country  $j$ , is:

$$y_{ij} = \beta_{0j} + \beta_{1j}T_{1ij} + \beta_{2j}T_{2ij} + \beta_{3j}T_{3ij} + \gamma_j'\mathbf{X}_{ij} + \lambda_{kj} + u_{ij} \quad (2)$$

where  $\lambda_{kj}$  are interviewer fixed effects and  $u_{ij}$  is the error term. The coefficients  $\beta_{1j}, \beta_{2j}, \beta_{3j}$  are the country-specific treatment effects.

Table 4 presents evidence of covariate balance across the four experimental conditions. It reports the coefficients from a regression of each covariate on the three treatment indicators  $T_{1ij}, T_{2ij}, T_{3ij}$ . Each regression includes country fixed effects. The estimates show that the treatment coefficients  $\hat{\beta}_1, \hat{\beta}_2, \hat{\beta}_3$  are small in magnitude relative to the dependent variable average and none are statistically different from zero at the conventional 5 percent significance level; only employment status is different at the 10 percent significance level. In the regressions below we nevertheless include some of these covariates to increase the efficiency of the estimates. Lack of significant differences in observed factors between each treatment group and the control group suggests that unobserved factors are also unlikely to bias coefficient estimates.

The overall nonresponse rate for trade support was 4.94 percent. We studied whether treatment status affects nonresponse by regressing a non-response indicator on the treatment indicators  $T_{1i}, T_{2i}, T_{3i}$  and country fixed effects, results not reported here. For *Trade*, the positive framing condition decreases nonresponse by one percentage point relative to the control group; the negative and mixed framing do not have different nonresponse rates relative to the control group. Based on this, imputing zero support for nonresponders is unlikely to materially affect the estimated treatment effects. In other words, this imputation underestimates the average level of support from about 76 percent if we dropped them from the data to about 72 percent, but it should not affect the differences in trade support between framing treatments. Treatment effect estimates based on dropping the nonresponders, not reported here, are very similar.<sup>10</sup>

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<sup>10</sup>By keeping the nonresponders we preserve the sample representativeness, and thus the external validity of the results, for a small risk of nonresponse bias. This choice seems justified given the magnitudes of the estimates below.

### 3 Framing Effects

This section presents average treatment effects from the framing experiment we embedded in the 2018 Latinobarometro survey. The next section discusses heterogeneous effects. We begin with average effects on preferences and then move on to effects on beliefs. After that we estimate correlations between preferences and beliefs to learn which consequences of trade are the most salient for individual support of trade liberalization.

#### 3.1 Trade Preferences

Returning to Table 3, we can see how different types of framing affect the frequency of respondents who are favorable to trade. From the first row, we see that trade support in the positive framing group is half of a percentage point higher than in the control group, 73.12 percent compared to 72.65 percent. Trade support in the negative framing group is sharply lower than in the control group, down more than 25 percentage points; the drop brings support down below the 50 percent mark. In the mixed framing group trade support is lower by about 17 percentage points compared to the control group.

We estimate framing effects using the regression model in equation (1) and report them in Table 5. We begin with a simple specification that controls only for country fixed effects. The following columns augment this model gradually with interviewer fixed effects, personal characteristics (*Age*, *Male*), social characteristics (*Married*, *Catholic*), and economic characteristics (*Education*, *Employed*, *Income*). The sample size declines somewhat due to missing observations on these additional variables. We estimate these models by OLS, and report robust standard errors below the estimates. The results are remarkably stable across specifications, and confirm the simple mean comparison in the previous paragraph. Positive framing has a positive but small and statistically indistinguishable from zero effect on trade support. Negative framing reduces average support for trade by about 26 percentage points. Mixed framing reduces average support for trade by about 17 percentage points; the 9 ( $= 26 - 17$ ) percentage point difference between the negative framing effect and the mixed framing effect is statistically and practically significant.<sup>11</sup>

Overall, the experimental results so far indicate that across the 18 countries in the sample a sizable majority favors trade liberalization; nevertheless, stated views shift easily toward

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<sup>11</sup>Given the asymmetry in the measured impacts of the positive and negative framing, it seems unlikely that acquiescence bias affected these responses, i.e., the respondents' tendency to agree rather than disagree with the position posed by an interviewer.

protectionism when common anti-trade arguments frame the question. It is perhaps unexpected that positive framing by itself seems to be ineffective in shifting preferences in a more pro-trade direction. However, this finding resonates with closely related studies by Hiscox (2006) in the United States, and Ardanaz, Murillo, and Pinto (2013) in Argentina, where the effect of positive framing was actually reversed. In the U.S. study, positive framing *reduced* average support for trade by almost 5 percentage points, although not statistically different from zero; in the Argentina study, positive framing reduced average support for trade by 9 percentage points, a statistically significant difference.

Several potential explanations could account for a weak effect of positive framing in our sample in conjunction with a strong effect of negative framing. First, individuals may only respond to framing when the information provided challenges prior beliefs. Negative framing goes against most respondents' prior beliefs that trade is associated with high employment. Second, individuals may react more strongly to a loss (of job security) than to a gain (of consumption benefits), in other words, they may display "loss aversion" as predicted by prospect theory (Kahneman and Tversky, 1979). A related psychological asymmetry potentially relevant here is "negativity bias." Suppose we can interpret the average trade support level in the control group of 72.65 percent (from Table 3) as the prior belief of the average survey respondent that trade is good. Then negativity bias says that, when individuals who expect good things to happen are presented with credible evidence that challenges their prior, they over-weight the bad news when updating their prior beliefs compared to when receiving good news that confirms their prior beliefs (Skowronski and Carlston, 1989). This argument seems consistent with the mixed framing effect that combines good news and bad news, which significantly mitigates the negative effect of bad news (anti-trade arguments) on preferences. Third, adding the pro-trade arguments seems to reduce the salience of the anti-trade arguments that go against the average respondent's prior. This is consistent with a reason-based model of choice where salience of a given reason declines with the number of opposing reasons (Shafir, Simonson, and Tversky, 1993).<sup>12</sup>

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<sup>12</sup>Neither Hiscox (2006) nor Ardanaz, Murillo, and Pinto (2013) find this mitigating effect in their mixed framing treatments. One possible reason is that their good and bad news may be interpreted as mutually exclusive in the employment dimension, i.e., trade creates jobs vs. trade destroys jobs, which may lead some respondents to discount one of the prompts.



## 3.2 Trade Beliefs

Different respondents may have different understandings of how trade affects their personal situation or the overall economy. Studying framing effects on various beliefs about trade can shed additional light on the findings about trade preferences reported above. Prior work on framing has largely ignored this mediating role of beliefs. Without understanding the underlying assumptions behind preferences for trade it is difficult to interpret the meaning of the direction and size of framing effects.<sup>13</sup>

Going back to the mean comparisons of Table 3, we find that nearly 58 percent of control group respondents associate trade with high employment.<sup>14</sup> Around a third of control group respondents associate trade with high wages, more product variety, and low prices. Around a fourth associate trade with improved personal situation and access to technology. Only about 10 percent of untreated respondents believe trade results in low employment and low wages.

Table 6 reports estimates of framing effects on these baseline beliefs. Introducing framing generally comes with a decline in beliefs that trade has desirable employment and consumption consequences. The exceptions are in columns (3) and (4) where positive framing shifts upward the average respondent’s beliefs about product variety and lower prices. This is not surprising, given that the positive framing focused precisely on those issues. Interestingly, positive framing also makes respondents more likely to believe increased trade is associated with lower wages, in columns (2) and (7). It is unclear what in the positive framing question leads to this shift. Perhaps some respondents believe that trade leads to a reallocation of factors toward low-skill jobs which pay less. Alternatively, respondents may be (correctly) linking lower prices and greater variety with increased competition, which means less revenue for local firms and thus lower wages. Whatever the reason, the increased beliefs in low wages may explain why the positive framing has a subdued impact on support for trade. As we will see below, belief in low wages has a strong negative correlation with support for trade on par with the correlations that beliefs about product variety and low prices have with support for trade.

Negative framing has large downward impacts on beliefs that trade has positive employment as well as consumption benefits. The impacts are particularly large for the employment-

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<sup>13</sup>The 2014 wave of the Pew Global Attitudes Survey elicits beliefs about trade impacts on jobs, wages and prices for 22 developed and emerging countries, but to our knowledge those data have not been linked to support for trade.

<sup>14</sup>This is consistent with the 56 percent share reported in the 2014 Pew Global Attitudes Survey for the case of emerging economies. The share is smaller for developed economies, at 46 percent.

related benefits, jobs and wages, as shown in columns (1),(8) and (2),(7). Being exposed to this type of framing reduces the beliefs that trade leads to higher employment by nearly 8 percentage points, and reduces the beliefs that trade leads to higher wages by more than 4 percentage points. The impact of mixed framing on beliefs is mostly negative, with the exception of an upward shift in beliefs that trade leads to lower prices in column (4).<sup>15</sup> This may explain the lower impact of mixed framing on support for trade. The magnitudes of the effects are somewhat attenuated compared to negative framing, except for the downward impact on beliefs in high employment and high wages, which have comparable magnitudes. Overall, these results reveal high sensitivity of respondents to the job loss framing contained in both the negative and mixed framing.

### 3.3 Preferences and Beliefs

Preferences for trade should be based on beliefs about trade. If a respondent believes trade has on balance positive effects, then they should be more likely to state they are in favor of increasing trade. In this section we explore the link between beliefs and preferences. Linking beliefs and preferences may offer important insights regarding what respondents really care about when forming trade preferences. Moreover, in combination with the results on the impact of framing on beliefs from the previous section, the link between beliefs and preferences may help illuminate the mechanisms through which framing affects support for trade. Table 7 reports regression estimates for a model where support for trade is a function of the beliefs variables discussed above. In odd-numbered columns we only control for country fixed effects. In even-numbered columns we control for interviewer fixed effects as well as personal, social, and economic characteristics. In half of the columns we include the entire sample, and in the other half we include only the control group.

The pattern of coefficients is similar between the two samples and supportive of the notion that preferences are grounded in beliefs. Positive beliefs are always associated with higher support for trade. Negative beliefs (about lower wages and lower employment) are always strongly associated with lower support. The magnitudes of the coefficients in Table 7 are also informative since they provide insights regarding the extent to which people care about employment vs. consumption outcomes. People seem to care more about employment than they do about any other outcome, including wages. Within the consumption-related

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<sup>15</sup>Interestingly, the mixed framing does not have any discernible impact on the belief that trade increases product variety, even when the framing explicitly refers to this aspect.

outcomes, respondents seem to care much more about expanded product variety than they do about lower prices.

Table 7 includes both positive (columns 1-4) and negative beliefs (columns 5-8) regarding two of the outcome variables, employment and wages. The comparison across positive and negative outcomes provides evidence of loss aversion. Respondents care more about potential employment losses than they do about potential employment gains.<sup>16</sup> The coefficient for lower employment is about 33 percent larger in magnitude vis-a-vis the coefficient for higher employment. Loss aversion is even greater when it comes to wages. The association between support for trade and negative beliefs on wages is about four times larger in magnitude than that between support and positive beliefs on wages.

These large correlations in particular, together with the large effect of negative framing on beliefs about wages and in particular employment from Table 6 suggest that the large impact of negative framing on trade preferences is driven by high respondent sensitivity to the wage and employment consequences of trade. In particular, the concern about employment seems to be the most important mechanism at play. It is perhaps surprising that personal economic situation does not correlate more strongly with preferences for trade. This may suggest that both self-interest and sociotropic motivations play a role in the formation of trade preferences.<sup>17</sup>

## 4 Heterogeneity

In this section we investigate whether the average effects reported above display interesting heterogeneity. First we report effects computed separately by country. Then we study the economic and non-economic determinants of trade preferences as well as sensitivity to different arguments about trade. As before, we also examine the mediating effect of beliefs about trade.

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<sup>16</sup>In cognitive psychology and decision theory, loss aversion refers to people's tendency to prefer avoiding losses rather than to acquiring equivalent gains. This asymmetric response to gains and losses was first identified in Kahneman and Tversky (1979).

<sup>17</sup>Using a survey experiment that varies information about the identity of winners and losers from trade intended to alter beliefs about the consequences of trade, Rho and Tomz (2017) find that both egoistic and altruistic motivations are behind preferences for trade. Theoretical treatments on self-interest vs. other factors in the formation of trade preferences include Grossman and Helpman (2018) and Mukand and Rodrik (2018).

## 4.1 Country Variation

To what extent do framing effects vary by country? Figure 1 displays the within-country sample means of our main dependent variable, by treatment status. Countries are arranged in increasing order of mean support in the control group; for easier visualization, the control group means are connected through a dotted line. We see significant variation across countries in support for trade among control group respondents, ranging from just under 60 percent to over 85 percent, as well as significant variation in framing impacts, in particular for negative and mixed framing. Framing effects are low in Costa Rica (CRI) and the Dominican Republic (DOM), and large in Brazil (BRA). The case of Costa Rica is easy to explain. In 2007 Costa Rica had a referendum on CAFTA that dominated political life. The previous presidential election, which led to the Arias government, as well as the ones that followed, hinged to a large extent on candidates' positions on trade. Our conjecture is that, because of the centrality of this issue in Costa Rica's political landscape, people in this country have firmer preferences and beliefs, and thus are less swayed by framing.<sup>18</sup>

Table 8 reports the experimental framing effects by country, using the most demanding model specification from the average effects analysis in the previous section, namely the one that includes interviewer fixed effects and personal, social, and economic characteristics. The framing effects for *Trade* in Table 8 show substantial variation across countries. Positive framing has effects ranging from an increase of over 10 percentage points in Brazil (BRA) and Mexico (MEX) to a decrease of over 5 percentage points in Ecuador (ECU) and Honduras (HND). In the rest of the countries, the impact of the positive framing is not statistically significant. Negative framing has negative effects on trade preferences across the board, with the lone exception of the Dominican Republic (DOM); the magnitude of the negative framing effect can be as high as the negative 45.3 percentage points estimated from Brazil (BRA).<sup>19</sup> Mixed framing also has negative effects that vary substantially across countries, but the magnitudes are lower, not exceeding 30 percentage points. Overall, we find that, qualitatively, the impact of framing tends to be similar across countries. At the same time, we do find significant heterogeneity in the magnitudes of framing effects across countries,

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<sup>18</sup>The Dominican Republic is in fact the only country in which framing does not seem to have any discernible impact, with the exception of a very small positive impact of the mixed framing. It is difficult to rationalize this result. Our conjecture is that there may have been implementation problems with the randomized experiment in this country, but we have not been able to identify what these were.

<sup>19</sup>The average impact is  $-26.1$ , which is consistent with the average negative impact of  $-26.2$  percent for the sample as a whole, as shown in Table 5 column (5).

which raises a question for future research regarding its possible sources.<sup>20</sup>

## 4.2 Economic Factors

Standard economic models of trade emphasize the role of human capital (skill, education) in the formation of individual preferences for trade. The Heckscher-Ohlin model assumes that factors of production are perfectly mobile across sectors and their returns depend on their relative abundance within a country: factors in which the country has a comparative advantage experience higher returns from trade than relatively less abundant factors (Stolper and Samuelson, 1941). Other models of trade emphasize the point that trade benefits the most productive companies, those that produce high-quality goods and are export-oriented, resulting in higher demand for skilled workers and leading to an increase in the skill premium (Melitz, 2003).<sup>21</sup>

Empirical work has found data patterns consistent with the Stolper-Samuelson Theorem. However, Hiscox (2006) challenged the observational analyses of Scheve and Slaughter (2001) and Mayda and Rodrik (2005) where more educated individuals are more favorable to trade - particularly in more developed countries - arguing that less educated individuals are more susceptible to the implied negative framing contained in the American National Election Studies (ANES) or International Social Survey Programme (ISSP) survey questions, e.g., the suggestion that restricting imports "protects" the national economy. Indeed, using a survey experiment, Hiscox (2006) finds evidence in U.S. data that framing effects decline in education. The interpretation he offers is based on cognition differences, namely that more educated individuals have thought more carefully about the effects of trade and thus have firmer prior beliefs about trade. However, Ardanaz, Murillo, and Pinto (2013), using a survey experiment in Argentina, show that while education does reduce susceptibility to framing, once economic interests are controlled for framing impacts are less related to education. They conclude that economic incentives dominate the potential cognitive effects of education in the response to framing: individuals that lose from trade both in the consumption and employment domains are less susceptible to framing than individuals who lose in consumption

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<sup>20</sup>Preliminary results, not reported here, suggest that heterogeneity in the response to negative framing is uncorrelated with variables such as GDP per capita, average educational attainment, or openness. It is also uncorrelated with the share of the respondents in the control group that believes that trade leads to higher employment.

<sup>21</sup>The Ricardo-Viner model relaxes the perfect factor mobility assumption of the factor-returns model and predicts that gains will be concentrated in sectors that benefit from trade, such as export-oriented industries. The Latinobarometro dataset has limited information about respondents' sector of employment.

but gain in the employment domain - and this applies to all education levels.

To study the impact of economic factors on trade preferences, we plot in Figure 2 mean values of trade preferences by education and income. These variables are measured on discrete scales in the survey data.<sup>22</sup> The plots show that support for trade increases monotonically in education and has an approximately upward gradient in income as well. To explore these relationships further, Table 9 shows coefficient estimates for all the covariates, including the economic ones. The coefficients on *Education* and *Income* are always positive and highly statistically significant. At first sight, this seems to contradict the Stolper-Samuelson prediction as most Latin American countries have a relative scarcity of high-skilled labor, so the return to trade for educated workers should be lower. Exploring this issue further, the tables also include interaction coefficients between covariates and framing treatments. Columns (5)-(7) interact framing conditions with the economic factors. We find that more educated individuals are more sensitive to negative framing and mixed framing, and higher income individuals are more sensitive to mixed framing. This pattern challenges the findings from the United States (Hiscox, 2006) and Argentina (Ardanaz, Murillo, and Pinto, 2013) where more educated individuals are less sensitive to framing. If we interpret the impact of framing as activating awareness of personal costs and benefits (Nelson, Oxley, and Clawson, 1997) our finding seems consistent with skill-based theories of trade predicting that in developing countries with skilled labor shortage the returns to this factor of production are reduced by trade. We also find that currently employed individuals are slightly less sensitive to the negative framing.

Why are more educated individuals more favorable to trade but also more sensitive to job loss framing? Figure 3 provide clues to answer this question by plotting average beliefs about trade in the control group, by education level. The figure indicates that more educated individuals are somewhat more likely to expect positive employment, but not wage benefits, from trade, but are significantly more likely to expect better product variety and lower prices. Tables 10 and 11 further explain the differential sensitivity to negative and mixed framing by education and income, by estimating heterogeneous framing effects on beliefs about trade. The coefficient estimates for *Education* confirm the means plot of Figure 3 by showing that more educated individuals (in the control group) are more inclined to believe in positive effects of trade both in the employment domain (*High Employment*) and the con-

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<sup>22</sup>The coding for *Education* is: 0 "None," 1 "Complete primary," 2 "Complete secondary," and 3 "Complete tertiary." The coding for *Income* is: 1 "It isn't sufficient, you have big problems," 2 "It isn't sufficient, you have some problems," 3 "It's just sufficient, without major problems," and 4 "It's sufficient, you can save."

sumption domain (*Product Variety, Low Prices*). At the same time, the coefficient estimates for *Framing*×*Education* show that more educated individuals are more likely to respond to negative/mixed framing by updating their beliefs downward more about higher employment and product variety and updating their beliefs upward more about low wages and low employment. Thus, it is important to consider how both employment and consumption considerations factor into the link between education and trade preferences. Without framing, consumption considerations are more important to more educated individuals; however, job loss framing raises the salience of employment considerations in the educated individuals' calculus.<sup>23</sup>

### 4.3 Non-Economic Factors

While economic factors have dominated the empirical literature, individual trade preferences have also been linked to non-economic factors. Here the theoretical underpinnings are less solid. However, we explore this dimension of the data. In Table 9 the coefficient estimates on the covariates show that *Age*, *Male*, and *Married* are associated with more support for trade. The gender factor in trade preferences has been a robust finding in prior work on trade attitudes, and our data confirm its presence in the Latin American sample as well.

Personal and social characteristics may also be associated with different sensitivity to framing. The interaction coefficients in Table 9 reveal that older respondents are less sensitive to negative and mixed framing, men are less sensitive to positive framing, and married individuals are less sensitive to negative framing.

## 5 Conclusion

International trade has positive effects on general welfare, through increase in production, employment in export sectors, and in the purchasing power of consumers. However, it may also have negative impacts on segments of the population. Thus, public support for trade is often not a generalized phenomenon. In this paper we explored the "demand side" of trade policy by estimating the level of support for trade liberalization and its sensitivity to common pro- and anti-trade arguments. We collected data through a large multi-country

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<sup>23</sup>The link between income and trade preferences and beliefs is less strong. Higher income individuals are more likely to expect some positive consequence from trade, and less likely to expect others; see Table 11. At the same time, they are generally as likely to be influenced by framing as lower income individuals, perhaps except for becoming more inclined to accept that trade has positive consequences for prices.

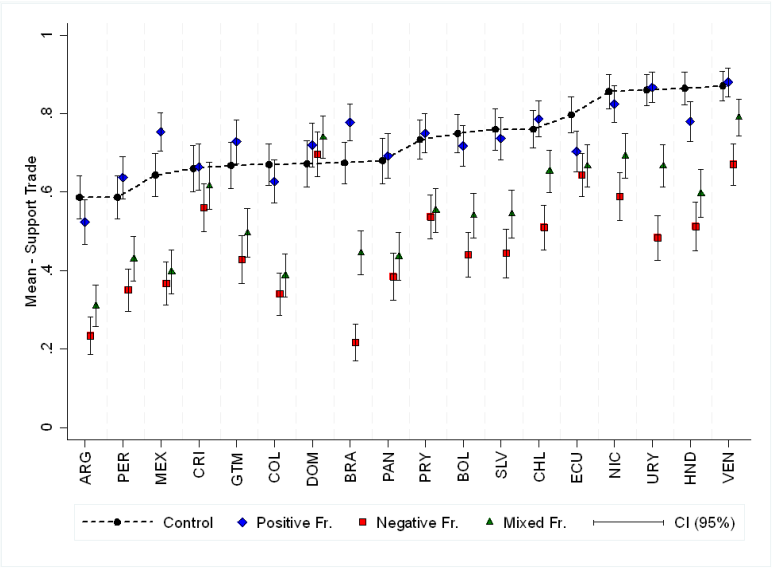
survey experiment conducted as part of the nationally-representative 2018 Latinobarometro survey. We studied the interplay between information, beliefs, and preferences and identified key economic and non-economic factors driving trade preferences. We found that public support for trade in Latin America is considerable, based on a prevailing belief that it raises employment, but such support is also sensitive to informational cues that it may reduce employment in import-competing sectors. The extent of heterogeneity in responses to framing across countries raises a question for future research about the sources of these differences. Our findings on the importance of education in shaping trade beliefs and their impact on preferences challenge previous results and suggest that incorporating the mediating role of beliefs into the analysis of preference formation can improve our understanding of the determinants of public support for trade.



# Figures and Tables

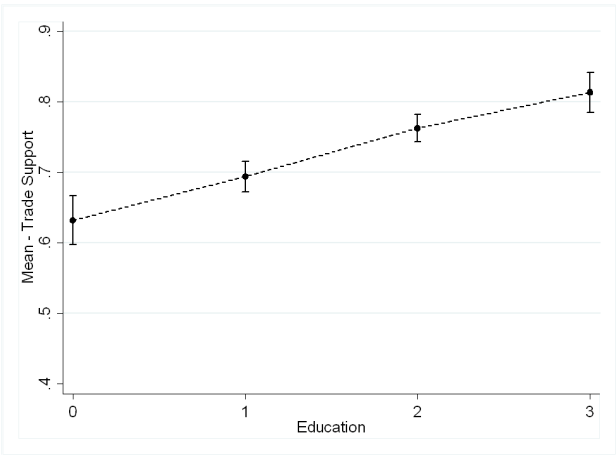
## 1. Figures

Figure 1: Country-Level Means, by Treatment Status  
(Full Sample,  $N = 20,204$ )

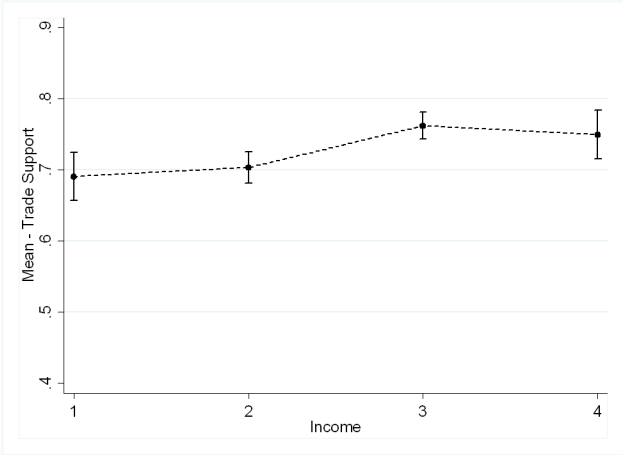


Support for Trade.

Figure 2: Individual Preferences and Economic Characteristics.  
(Control Group Only,  $N = 5,050$ )

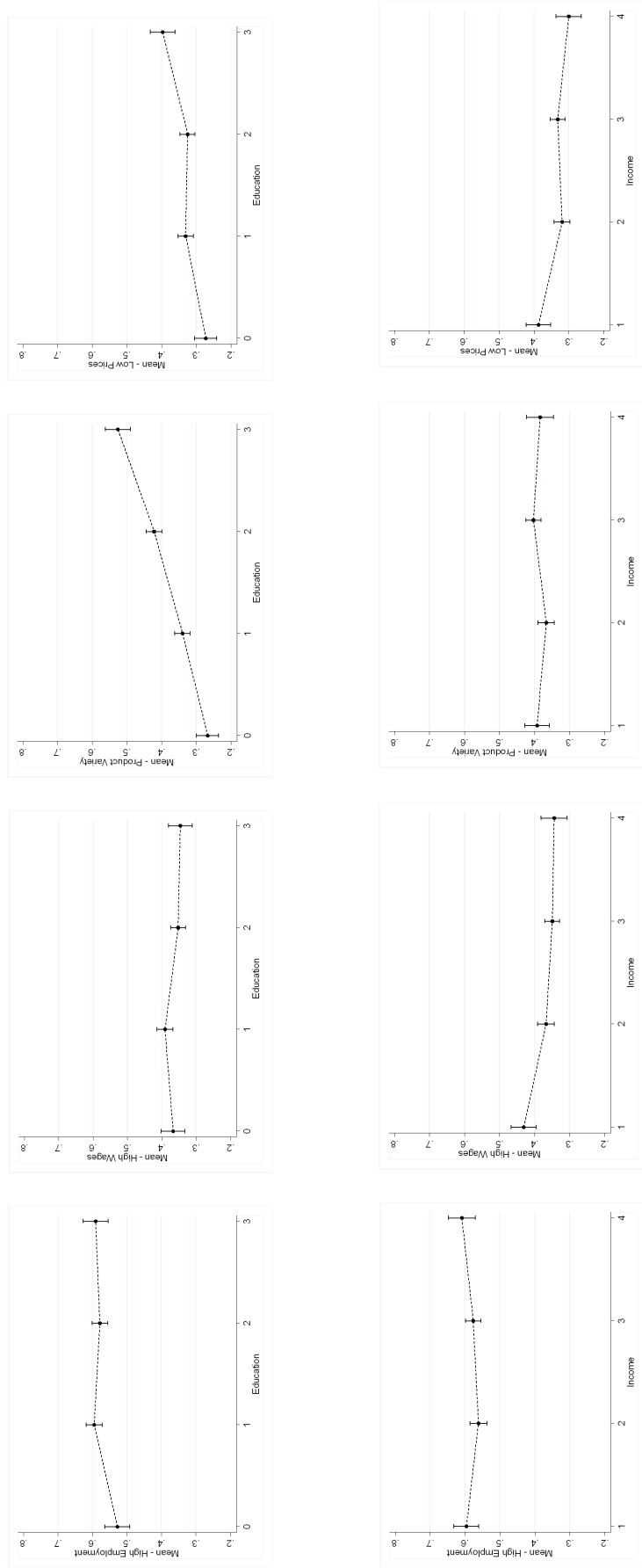


Trade Support, by Education.



Trade Support, by Income.

Figure 3: Beliefs and Economic Characteristics.  
(Control Group Only,  $N = 5,050$ )



## 2. Tables

Table 1: Country Coverage

	Code	$N$	$N(C)$	$N(T_1)$	$N(T_2)$	$N(T_3)$
Argentina	ARG	1,200	300	300	300	300
Bolivia	BOL	1,200	299	301	300	300
Brazil	BRA	1,204	301	301	301	301
Colombia	COL	1,200	300	300	300	300
Costa Rica	CRI	1,200	300	300	300	300
Chile	CHL	1,000	250	250	250	250
Dominican Rep.	DOM	1,000	250	250	250	250
Ecuador	ECU	1,200	300	300	300	300
El Salvador	SLV	1,000	250	250	250	250
Guatemala	GTM	1,000	250	250	250	250
Honduras	HND	1,200	300	300	300	300
Mexico	MEX	1,000	250	250	250	250
Nicaragua	NIC	1,000	250	250	250	250
Panama	PAN	1,200	300	300	300	300
Paraguay	PRY	1,200	300	300	300	300
Peru	PER	1,000	250	250	250	250
Uruguay	URY	1,200	300	300	300	300
Venezuela	VEN	1,200	300	300	300	300
Total	18	20,204	5,050	5,052	5,051	5,051

Note: Reflects the full sample collected for the 2018 Latinobarometro survey. Sample size overall  $N$  and by treatment status  $N()$ .

Table 2: Summary Statistics

	Obs.	Mean	SD Across	SD Within	Min	Max
<i>Trade</i>	20,204	.618	.101	.476	0	1
<i>Higher Employment</i>	20,204	.535	.114	.487	0	1
<i>Higher Wages</i>	20,204	.341	.106	.463	0	1
<i>Product Variety</i>	20,204	.382	.115	.473	0	1
<i>Lower Prices</i>	20,204	.341	.087	.466	0	1
<i>Access Technology</i>	20,204	.241	.081	.421	0	1
<i>Pers. Econ. Situation</i>	20,204	.242	.082	.421	0	1
<i>Lower Wages</i>	20,204	.116	.050	.317	0	1
<i>Lower Employment</i>	20,204	.138	.070	.339	0	1
<i>Age</i>	20,204	40.56	2.64	16.32	16	100
<i>Male</i>	20,204	.480	.017	.499	0	1
<i>Married</i>	20,142	.526	.054	.497	0	1
<i>Catholic</i>	19,984	.593	.164	.465	0	1
<i>Education</i>	20,204	1.45	.328	.859	0	3
<i>Employed</i>	20,204	.596	.093	.482	0	1
<i>Income</i>	19,704	2.51	.262	.848	1	4
<i>Ideology</i>	16,713	5.04	.429	2.95	0	10
<i>Trust</i>	19,628	.147	.047	.351	0	1
<i>Media Exposure</i>	20,204	.905	.045	.290	0	1

Note: Reflects the full sample collected for the 2018 Latinobarometro survey. Sample size differs across variables due to incomplete or invalid responses to survey questions.

Table 3: Means, by Treatment Status

	<i>Control</i>	<i>Positive</i>	<i>Negative</i>	<i>Mixed</i>
	<i>Group</i>	<i>Framing</i>	<i>Framing</i>	<i>Framing</i>
<i>Trade</i>	72.65	73.12	46.33	55.08
<i>Higher Employment</i>	57.84	56.65	49.81	49.65
<i>Higher Wages</i>	36.69	34.72	32.13	33.00
<i>Product Variety</i>	38.53	40.30	35.91	38.15
<i>Lower Prices</i>	32.95	36.90	31.56	34.96
<i>Access Technology</i>	25.66	24.56	22.35	23.98
<i>Pers. Econ. Situation</i>	25.80	25.12	22.43	23.60
<i>Lower Wages</i>	9.45	10.87	13.05	13.11
<i>Lower Employment</i>	10.67	11.62	16.61	16.37
<i>Price/Variety</i>	52.33	55.50	49.63	52.86
Obs.	5,050	5,052	5,051	5,051

Note: Sample consists of individual-level observations from all eighteen countries in the survey. Table displays percentage of respondents in each treatment status who respond favorably to each question, coding a nonresponse as not in favor.

Table 4: Covariate Balance Tests

	Obs.	$\hat{\beta}_1$	$\hat{\beta}_2$	$\hat{\beta}_3$
<i>Age</i>	20,204	.122 (.326)	−.143 (.323)	−.071 (.324)
<i>Male</i>	20,204	−.005 (.010)	−.002 (.010)	−.004 (.010)
<i>Married</i>	20,142	.002 (.010)	−.004 (.010)	−.005 (.010)
<i>Catholic</i>	19,984	−.001 (.009)	.001 (.009)	.001 (.009)
<i>Education</i>	20,204	.007 (.017)	.004 (.017)	−.017 (.017)
<i>Employed</i>	20,204	.000 (.010)	.016* (.010)	−.001 (.010)
<i>Income</i>	19,704	.004 (.017)	.020 (.017)	.007 (.017)
<i>Ideology</i>	16,713	.069 (.065)	.056 (.065)	.060 (.065)
<i>Trust</i>	19,628	.005 (.007)	−.005 (.007)	.004 (.007)
<i>Media Exposure</i>	20,204	.006 (.006)	.007 (.006)	.009 (.006)

Note: Table reports coefficients on treatment status ( $T_1, T_2, T_3$ ) for each covariate listed in the first column. Robust standard errors in parantheses. Regressions include country fixed effects. The sample includes individual-level observations from all eighteen countries in the survey.

Table 5: Framing Effects, Support for Trade

	<i>Trade</i>	<i>Trade</i>	<i>Trade</i>	<i>Trade</i>	<i>Trade</i>
	(1)	(2)	(3)	(4)	(5)
<i>Positive Framing</i>	.005 (.009)	.008 (.009)	.008 (.009)	.009 (.009)	.008 (.009)
<i>Negative Framing</i>	-.263*** (.009)	-.260*** (.009)	-.260*** (.009)	-.260*** (.009)	-.262*** (.009)
<i>Mixed Framing</i>	-.176*** (.009)	-.173*** (.009)	-.173*** (.009)	-.172*** (.009)	-.172*** (.009)
Country FE	YES	NO	NO	NO	NO
Interviewer FE	NO	YES	YES	YES	YES
Personal Char.	NO	NO	YES	YES	YES
Social Char.	NO	NO	NO	YES	YES
Economic Char.	NO	NO	NO	NO	YES
Obs.	20,204	20,158	20,158	19,895	19,447

Note: Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10. Personal Characteristics: Age, Gender. Social Characteristics: Married, Catholic. Economic Characteristics: Education, Employed, Income.

Table 6: Framing Effects on Beliefs

	<i>High Empl.</i>	<i>High Wages</i>	<i>Prd. Variet.</i>	<i>Low Pric.</i>	<i>Pers. Sit.</i>	<i>Tech.</i>	<i>Low Wages</i>	<i>Low Empl.</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Positive Framing</i>	-.010 (.010)	-.020** (.010)	.018** (.010)	.040*** (.009)	-.008 (.008)	-.012 (.008)	.013** (.006)	.009 (.006)
<i>Negative Framing</i>	-.078*** (.010)	-.043*** (.010)	-.023** (.010)	-.009 (.009)	-.033*** (.008)	-.032*** (.008)	.038*** (.006)	.061*** (.007)
<i>Mixed Framing</i>	-.077*** (.010)	-.034*** (.010)	-.001 (.009)	.023** (.009)	-.021** (.008)	-.018** (.008)	.038*** (.006)	.058*** (.007)
Interviewer FE	YES	YES	YES	YES	YES	YES	YES	YES
Personal Char.	YES	YES	YES	YES	YES	YES	YES	YES
Social Char.	YES	YES	YES	YES	YES	YES	YES	YES
Economic Char.	YES	YES	YES	YES	YES	YES	YES	YES
Obs.	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447

Note: Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.



Table 7: Trade Support and Beliefs

	Trade	Trade	Trade	Trade	Trade	Trade	Trade	Trade
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Higher Employment</i>	.219*** (.007)	.205*** (.008)	.224*** (.013)	.204*** (.015)	—	—	—	—
<i>Higher Wages</i>	.031*** (.007)	.041*** (.008)	.012 (.013)	.028** (.014)	—	—	—	—
<i>Product Variety</i>	.123*** (.007)	.111*** (.008)	.133*** (.013)	.115*** (.014)	.124*** (.007)	.106*** (.008)	.135*** (.013)	.108*** (.015)
<i>Lower Prices</i>	.038*** (.007)	.048*** (.008)	.010 (.013)	.022 (.015)	.050*** (.007)	.053*** (.008)	.029** (.013)	.038*** (.015)
<i>Access Technology</i>	.039*** (.008)	.051*** (.009)	.055*** (.014)	.049*** (.016)	.052*** (.008)	.058*** (.009)	.063*** (.014)	.053*** (.016)
<i>Better Pers. Sit.</i>	.023*** (.008)	.039*** (.009)	.039*** (.013)	.057*** (.016)	.043*** (.008)	.049*** (.008)	.054*** (.013)	.064*** (.015)
<i>Lower Wages</i>	—	—	—	—	—	—	—	—
<i>Lower Employment</i>	—	—	—	—	—	—	—	—
Control Group Only	NO	NO	YES	YES	NO	NO	YES	YES
Fixed Effects	Country	Interv.	Country	Interv.	Country	Interv.	Country	Interv.
Obs.	20, 204	19, 447	5, 050	4, 761	20, 204	19, 447	5, 050	4, 761

Note: Robust standard errors in parentheses. Odd-numbered columns control for country fixed effects. Even-numbered columns control for interviewer fixed effects and personal, social, and economic characteristics. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

Table 8: Framing Effects, by Country

	Dependent Variable: <i>Trade</i>									
	ARG	BOL	BRA	COL	CRI	CHL	DOM	ECU	SLV	
<i>Positive Framing</i>	-.055 (.039)	-.047 (.037)	.125*** (.035)	-.048 (.039)	.017 (.045)	.032 (.033)	.054 (.040)	-.089** (.035)	-.054 (.039)	
<i>Negative Framing</i>	-.347*** (.037)	-.313*** (.038)	-.453*** (.037)	-.311*** (.038)	-.092** (.045)	-.253*** (.037)	.033 (.041)	-.143*** (.035)	-.341*** (.042)	
<i>Mixed Framing</i>	-.281*** (.039)	-.201*** (.038)	-.204*** (.040)	-.273*** (.040)	-.024 (.044)	-.082** (.034)	.077* (.041)	-.123*** (.035)	-.245*** (.041)	
Mean Control Group	.587	.749	.674	.670	.660	.760	.672	.797	.760	
Obs.	1, 185	1, 157	1, 167	1, 171	953	1, 131	952	1, 161	985	
	GTM	HND	MEX	NIC	PAN	PRY	PER	URY	VEN	
<i>Positive Framing</i>	-.037 (.042)	-.074** (.034)	.113*** (.037)	-.020 (.033)	.021 (.043)	.042 (.035)	.032 (.039)	.006 (.028)	.021 (.024)	
<i>Negative Framing</i>	-.274*** (.046)	-.347*** (.038)	-.266*** (.040)	-.256*** (.038)	-.295*** (.045)	-.187*** (.036)	-.274*** (.039)	-.376*** (.034)	-.194*** (.031)	
<i>Mixed Framing</i>	-.166*** (.046)	-.270*** (.037)	-.244*** (.039)	-.165*** (.036)	-.245*** (.045)	-.173*** (.037)	-.191*** (.040)	-.192*** (.033)	-.072*** (.028)	
Mean Control Group	.668	.864	.643	.856	.680	.733	.587	.860	.870	
Obs.	906	972	1, 159	953	921	1, 171	1, 156	1, 171	1, 176	

Note: Robust standard errors in parentheses. All regressions include interviewer fixed effects. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10. Personal Characteristics: Age, Gender. Social Characteristics: Married, Catholic. Economic Characteristics: Education, Employed, Income.

Table 9: Heterogenous Effects, Support for Trade

	<i>Trade</i>	<i>Trade</i>	<i>Trade</i>	<i>Trade</i>	<i>Trade</i>	<i>Trade</i>	<i>Trade</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Pos. Fr.</i>	−.023 (.024)	.025* (.013)	−.007 (.013)	−.001 (.014)	.025 (.018)	−.009 (.014)	.009 (.027)
<i>Neg. Fr.</i>	−.306*** (.025)	−.269*** (.013)	−.285*** (.014)	−.273*** (.014)	−.218*** (.018)	−.283*** (.015)	−.236*** (.028)
<i>Mix. Fr.</i>	−.234*** (.024)	−.176*** (.013)	−.183*** (.014)	−.176*** (.014)	−.082*** (.018)	−.171*** (.015)	−.098*** (.028)
<i>Pos. Fr. × Var.</i>	.001 (.001)	−.035** (.018)	.028 (.018)	.015 (.018)	−.011 (.001)	.028 (.018)	−.000 (.010)
<i>Neg. Fr. × Var.</i>	.001* (.001)	.014 (.019)	.044** (.019)	.019 (.019)	−.029*** (.010)	.035* (.019)	−.011 (.010)
<i>Mix. Fr. × Var.</i>	.002*** (.001)	.010 (.019)	.022 (.019)	.008 (.019)	−.060*** (.010)	−.001 (.019)	−.029*** (.011)
<i>Age</i>	.000 (.000)	.001*** (.000)	.001*** (.000)	.001*** (.000)	.001*** (.000)	.001*** (.000)	.001*** (.000)
<i>Male</i>	.079*** (.007)	.082*** (.013)	.079*** (.007)	.079*** (.007)	.079*** (.007)	.079*** (.007)	.079*** (.007)
<i>Married</i>	.015** (.007)	.015** (.007)	−.009 (.013)	.015** (.007)	.015** (.007)	.015** (.007)	.015** (.007)
<i>Catholic</i>	.005 (.007)	.005 (.007)	.005 (.007)	−.006 (.013)	.005 (.007)	.005 (.007)	.004 (.007)
<i>Education</i>	.035*** (.004)	.035*** (.004)	.035*** (.004)	.035*** (.004)	.060*** (.007)	.035*** (.004)	.035*** (.004)
<i>Employed</i>	−.007 (.007)	−.007 (.007)	−.007 (.007)	−.007 (.007)	−.007 (.007)	−.022* (.013)	−.007 (.007)
<i>Income</i>	.028*** (.004)	.028*** (.004)	.028*** (.004)	.028*** (.004)	.028*** (.004)	.028*** (.004)	.038*** (.007)
Var.	<i>Age</i>	<i>Male</i>	<i>Marr.</i>	<i>Cath.</i>	<i>Educ.</i>	<i>Empl.</i>	<i>Inc.</i>
Obs.	19,447	19,447	19,447	19,447	19,447	19,447	19,447

Note: Robust standard errors in parantheses. Interviewer fixed effects included. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

Table 10: Heterogenous Framing Effects on Beliefs, by Education

	<i>High Empl.</i>	<i>High Wages</i>	<i>Prd. Variet.</i>	<i>Low Pric.</i>	<i>Pers. Sit.</i>	<i>Tech.</i>	<i>Low Wages</i>	<i>Low Empl.</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Pos. Fr.</i>	-.010 (.018)	-.014 (.018)	.023 (.017)	.034** (.017)	.006 (.015)	-.004 (.015)	-.009 (.011)	.007 (.011)
<i>Neg. Fr.</i>	-.055*** (.018)	-.042** (.018)	.009 (.017)	-.003 (.017)	-.027* (.015)	-.013 (.014)	.028** (.012)	.058*** (.013)
<i>Mix. Fr.</i>	-.033* (.018)	-.016 (.018)	.006 (.017)	.023 (.017)	-.025* (.015)	.004 (.014)	.017 (.012)	.027** (.012)
<i>Pos. Fr. × Educ.</i>	-.000 (.010)	-.004 (.010)	-.003 (.010)	.004 (.010)	-.009 (.009)	-.005 (.009)	.014** (.007)	.001 (.007)
<i>Neg. Fr. × Educ.</i>	-.016 (.010)	-.001 (.010)	-.021** (.010)	-.004 (.010)	-.004 (.009)	-.013 (.009)	.007 (.007)	.002 (.007)
<i>Mix. Fr. × Educ.</i>	-.029*** (.011)	-.012 (.010)	-.005 (.010)	.000 (.010)	.003 (.009)	-.014 (.009)	.014** (.007)	.021*** (.007)
<i>Educ.</i>	.021*** (.008)	-.004 (.008)	.066*** (.007)	.023*** (.007)	.030*** (.008)	.062*** (.007)	.004 (.005)	.008 (.005)
<i>Employed</i>	.011 (.008)	-.004 (.007)	-.001 (.007)	.014* (.007)	.003 (.007)	.002 (.006)	.006 (.005)	.015*** (.005)
<i>Income</i>	.011** (.004)	-.009** (.004)	.013 (.004)	.005 (.004)	-.004 (.004)	.010*** (.004)	-.005* (.003)	-.008*** (.003)
<i>Obs.</i>	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447

Note: Regressions include interviewer fixed effects and personal and social characteristics. Robust standard errors in parentheses. \*\*\*  
p < 0.01, \*\* p < 0.05, \* p < 0.10.

Table 11: Heterogenous Framing Effects on Beliefs, by Income

	<i>High Empl.</i>	<i>High Wages</i>	<i>Prd. Variet.</i>	<i>Low Pric.</i>	<i>Pers. Sit.</i>	<i>Tech.</i>	<i>Low Wages</i>	<i>Low Empl.</i>
	(1)	(4)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Pos. Fr.</i>	-.007 (.028)	-.038 (.028)	.002 (.027)	-.037 (.028)	.011 (.025)	.035 (.024)	.006 (.018)	-.030 (.018)
<i>Neg. Fr.</i>	-.095***	-.061**	-.061**	-.060**	-.058**	-.022	.050***	.065**
	(.029)	(.028)	(.027)	(.027)	(.025)	(.023)	(.019)	(.020)
<i>Mix. Fr.</i>	-.063**	-.037	-.025	-.037	-.029	-.008	.028	.028
	(.029)	(.028)	(.027)	(.028)	(.025)	(.024)	(.018)	(.020)
<i>Pos. Fr. × Income</i>	-.001 (.011)	.007 (.010)	.006 (.010)	.031***	-.008 (.009)	-.019**	.003 (.007)	.015**
<i>Neg. Fr. × Income</i>	.007 (.011)	.007 (.011)	.015 (.010)	.020**	.010 (.009)	-.004 (.009)	-.005 (.007)	-.001 (.008)
<i>Mix. Fr. × Income</i>	-.005 (.011)	.001 (.011)	.010 (.010)	.024**	.003 (.009)	-.004 (.009)	.004 (.007)	.012 (.008)
<i>Educ.</i>	.010** (.004)	-.008* (.004)	.058*** (.004)	.023*** (.004)	.027*** (.004)	.053*** (.004)	.013*** (.003)	.014*** (.005)
<i>Employed</i>	.012 (.008)	-.004 (.007)	-.001 (.007)	.014* (.007)	.003 (.007)	.002 (.006)	.006 (.005)	.015*** (.005)
<i>Income</i>	.011 (.008)	-.013* (.008)	.006 (.008)	-.014* (.007)	-.006 (.007)	.017** (.007)	-.006 (.005)	-.015*** (.005)
<i>Obs.</i>	19, 447	19, 447	19, 447	19, 447	19, 447	19, 447	19, 447	19, 447

Note: Regressions include interviewer fixed effects and personal and social characteristics. Robust standard errors in parentheses.  
\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.

### A3. Survey Questions in Spanish

Below is the original transcript of the trade-related questions used by Latinobarometro survey enumerators. The full survey transcript is available at [www.latinobarometro.org](http://www.latinobarometro.org).

**P27ND.A** ¿Está a favor o en contra de que (país) aumente el comercio con otros países de manera que disminuyan los precios y aumente la variedad de productos que Ud puede comprar? **(LEA ALTERNATIVAS Y MARQUE UNA)**  
 A favor ..... 1  
 En contra ..... 2  
 NS/NR ..... 0 **NO LEER**

**P27ND.B** ¿Está a favor o en contra de que (país) aumente el comercio con otros países de manera que disminuyan los precios y aumente la variedad de productos que Ud puede comprar, aunque se pierdan empleos en algunos sectores importadores? **(LEA ALTERNATIVAS Y MARQUE UNA)**  
 A favor ..... 1  
 En contra ..... 2  
 NS/NR ..... 0 **NO LEER**

**P27ND.C** ¿Está a favor o en contra de que (país) aumente el comercio con otros países? **(LEA ALTERNATIVAS Y MARQUE UNA)**  
 A favor ..... 1  
 En contra ..... 2  
 NS/NR ..... 0 **NO LEER**

**P27ND.D** ¿Está a favor o en contra de que (país) aumente el comercio con otros países aunque se pierdan empleos en algunos sectores importadores? **(LEA ALTERNATIVAS Y MARQUE UNA)**  
 A favor ..... 1  
 En contra ..... 2  
 NS/NR ..... 0 **NO LEER**

**P28ND (MOSTRAR TARJETA 7)** ¿Cuáles cree Ud que son las consecuencias de un aumento del comercio con otros países, nombre todas las que quiera, o cree Ud que no tiene consecuencias? **(ANOTE TODAS LAS QUE MENCIONE)**

Más empleo ..... 1  
 Salarios más altos ..... 2  
 Mayor variedad de productos ..... 3  
 Precios más bajos ..... 4  
 Más y mejor acceso a tecnología ..... 5  
 Mejor situación económica personal ..... 6  
 Salarios más bajos ..... 7  
 Menos empleo ..... 8  
 No tiene consecuencias ..... 9  
 No sabe/ no responde ..... 0 **NO LEER**

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