

Crime and beliefs: Evidence from Latin America [☆]

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Received 16 April 2007; received in revised form 13 September 2007; accepted 1 October 2007

Available online 9 October 2007

Abstract

We find that perceptions of crime and individual experience with crime (crime victimization) are positively correlated with left-wing beliefs within countries, controlling for income and other correlates of ideology, in a sample for Latin American countries in the mid-1990's. © 2007 Elsevier B.V. All rights reserved.

Keywords: Beliefs; Crime; Fairness; Legitimacy of market

JEL: P16; K42; E62

1. Introduction

Economists have increasingly argued that capitalist forms of organization outperform socialism. In practice, however, capitalist ideas appear to be doing very badly with the general public in certain regions of the world. Socialist ideas are more prevalent in the names and platforms of parties in low income countries (see [Di Tella and MacCulloch, 2002](#)). Resistance to free markets has been observed in former communist countries in Eastern Europe, underdeveloped countries in Africa and even modern democracies in Europe. In Latin America this phenomenon is especially acute. After a decade of privatizations and de-regulation, a political backlash against markets has been observed in almost all of the countries in the region. [Stokes \(2001\)](#) and [Lora and Olivera \(2004\)](#) document the electoral

costs of adopting pro-market reforms in Latin America. The question is why this has happened.

A natural explanation to most economists is that market forces make the income distribution less equal, leading the median voter to demand higher income taxes (as in a standard [Meltzer and Richard model, 1981](#)). A problem with this explanation is that it fails to explain even the most basic patterns across countries. The pre-tax distribution of income in the US, for example, is more unequal than that in Europe. Yet, Americans want to, and actually do, redistribute less than the Europeans. [Alesina et al. \(2001\)](#) present the data for OECD countries and stress the role of beliefs. They report that 60% of Americans, yet only 26% of Europeans, believe the poor are lazy, and also show that such beliefs are strong predictors of government intervention across countries.³ However we still have little idea of what causes differences in beliefs. A natural hypothesis is that they simply reflect the different experiences that individuals have. [Piketty \(1995\)](#) has a seminal paper with

[☆] We are grateful to Paulina Beato (for comments to an earlier draft presented at the IDB in May 2005), Francisco Rodríguez and Ben Olken (who commented on a draft presented at the Venezuela seminar at Harvard University on April 29, 2006), as well as Roland Benabou, Sebastian Galiani and Ernesto Schargrodsky for helpful suggestions. We thank Paulina Beato for providing us with the data.

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³ [Denzau and North \(1993\)](#), [Greif \(1994\)](#) and [North \(2005\)](#) link beliefs to institutions: “There is an intimate relationship between belief systems and the institutional framework. Belief systems embody the internal representation of the human landscape. Institutions are the structure that humans impose on that landscape in order to produce the desired outcomes. Belief systems therefore are the internal representation and institutions the external manifestation of that representation” ([North, 2005](#), pp. 77 and 119).

these features where two identical economies evolve along different paths due to differences in initial shocks. Other papers explore the role of fairness (Alesina and Angeletos, 2005), corruption (Di Tella and MacCulloch, 2002) and also the incentives for people to engage in belief manipulation (Benabou and Tirole, 2006). Evidence on the structure of beliefs includes Hochschild (1981), Inglehart (1990), Ladd and Bowman (1998), Corneo and Gruner (2002), Fong (2001, 2004) and Di Tella, Schargrodsky and Galiani, (2007), *inter alia*.

In this paper we study the connection between crime and beliefs. A natural place to start is political ideology: social conservatives are pre-occupied with maintaining law and order, typically supporting being “tough on crime”. In the economic domain, however, the connection may go in a different direction. Consider a property crime after which the victim (criminal) has less (more) money. The distribution of income is less fair, unless one believes that the criminal is more deserving than the victim. Theoretically at least, an increase in crime could move beliefs in a left-wing direction. Of course, higher crime is going to raise the demand for punishment and may give salience to social conservatives. But from the point of view of economic beliefs, it is hard to avoid the perception that the distribution of income in society is less fair. Likewise, when crime is high it is harder to believe that poverty is caused by laziness rather than bad luck, as the latter may include crime victimization. If true, this raises the intriguing possibility that reform fatigue in Latin America is caused by the observed increase in crime during the 1990’s. We study economic beliefs and observe their correlation with individual perceptions and experience of crime in this region and during this period. Section II describes the data and empirical strategy. Results are reported in Section III and Section IV concludes.

2. Data and empirical strategy

Our main data source is the Latinobarometer, an annual public opinion survey of approximately 19,000 interviews in 18 countries in Latin America for the years 1994–2005. It includes several questions on attitudes and beliefs explicitly designed to capture anti-market sentiment. These include one on the fairness of the distribution of income (Fair-L), one on the benefits of privatization (Privatize-L) and one on the benefits of state intervention (State-L). The -L extension on these variables indicates that higher values are the answer most naturally associated with a left-wing ideological position. For example, Fair-L is a dummy equal to 1 if the answer to the question: “Now I’d like you to answer some questions about the problem of poverty, in this country and in other countries: How fair do you think the distribution of income is in this country?” is “Very unfair” and equal to 0 if the answer is “Very fair”, “Fair”, “Neither fair nor unfair” or “Unfair”. We repeated the analysis using each of the five categories and the results remain similar. The Appendix has a complete data description.

We also have data on the respondent’s perception of the changes in the crime level (Perception of Crime) and victimization experience (Real Crime). With respect to Perception of Crime, the raw data show that 96,358 individuals selected the answer “crime has increased a lot over the past year”, a total of

14,610 say “it has increased somewhat”, 8591 say “it has stayed the same”, 2904 say “it has dropped somewhat” while 439 say “it has dropped a lot”. Thus, we collapsed the answers into two, with the first category being “increased a lot” and the second being all the remaining categories. We again repeated the analysis using each of the five categories and the results remain similar.

The following probit regressions are estimated across 17 Latin American nations from 1995 to 2004:

$$\text{Economic Belief} - L_{ict} = \delta \text{Crime}_{ict} + \text{Personal Controls}_{ict} + \eta_c + \mu_t + \varepsilon_{ict}$$

where Economic Belief-L refers to either Fair-L, Privatize-L or State-L and Crime refers to either Perception of Crime or Real Crime. The beliefs refer to the survey responses of individual, *i*, living in country, *c*, in year, *t*. Personal Controls_{ict} is a set of personal characteristics including the age, gender, marital status and income of each respondent. Dummies for cross-sectional (country) units, η_c , and for years, μ_t , are included. Finally, ε_{ict} is the (i.i.d) error term.

3. Results

Column (1) in Table 1 explains each individual’s perception of the fairness of the income distribution (Fair-L) by their perception of the rise in crime (Perception of Crime). We include a basic set of controls (Personal Controls I), namely age, gender, marital status and Income I in this base regression. The more an individual perceives crime to have risen, the more likely they are to think that the income distribution is unfair. Since the proportion of people that perceived crime to have risen went up from 64.8% in 1995 to 80.3% in 2002, under a causal interpretation these estimates suggest that the proportion of people reporting a ‘Very unfair’ distribution of income should have increased by 1.7 percentage points (= (0.803 – 0.648) * 0.107). As the proportion of the population that perceived the distribution of income to be

Table 1
Perceptions of crime on left-wing beliefs on 17 Latin America Nations: 1995–2002

	(1)	(2)	(3)	(4)	(5)	(6)
	Fair-L	Privatize-L	State-L	Fair-L	Privatize-L	State-L
Perception of Crime	0.107 (18.79)	0.052 (9.47)	–0.005 (0.51)	0.085 (10.80)	0.050 (8.04)	–0.008 (0.80)
Personal Controls I	Yes	Yes	Yes	No	No	No
Personal Controls II	No	No	No	Yes	Yes	Yes
Pseudo R ²	0.0511	0.0348	0.0247	0.0595	0.0435	0.0299
Number of countries	17	17	17	17	17	17
Number of years	4	5	3	3	5	3
Number of observations	47,283	53,107	22,364	27,209	41,304	17,642

Notes for Tables 1 and 2: [1] Name of dependent variable has -L extension if higher numbers mean more left-wing beliefs. All variable definitions are in the appendix. [2] The regressions are probits that include year and country dummies. Marginal effects are reported. Absolute value of z-statistic is in parentheses. Source: Latinobarómetro.

Table 2
Real crime on left-wing beliefs on 17 Latin America Nations: 1995–2004

	(1)	(2)	(3)	(4)	(5)	(6)
	Fair-L	Privatize-L	State-L	Fair-L	Privatize-L	State-L
Real Crime	0.037 (8.13)	0.011 (2.85)	0.005 (0.78)	0.029 (4.77)	0.007 (1.64)	0.008 (1.02)
Personal Controls I	Yes	Yes	Yes	No	No	No
Personal Controls II	No	No	No	Yes	Yes	Yes
Pseudo R ²	0.0461	0.0357	0.0249	0.0568	0.0408	0.0301
Number of countries	17	17	17	17	17	17
Number of years	4	6	3	3	6	3
Number of observations	47,231	68,738	22,315	27,120	52,387	17,604

Notes for Tables 1 and 2: [1] Name of dependent variable has -L extension if higher numbers mean more left-wing beliefs. All variable definitions are in the appendix. [2] The regressions are probits that include year and country dummies. Marginal effects are reported. Absolute value of z-statistic is in parentheses. Source: Latinobarómetro.

‘Very unfair’ rose from 27.9% in 1995 to 40.9% in 2002, the increase in the perception of crime explains 13.1% of the increase in the ‘unfair’ distribution sentiment ($= 1.7 / (40.9 - 27.9)$).

Column (2) presents the same specification but using Privatize-L as the dependent variable. The proportion of the population who perceived privatizations to have not ‘been beneficial’ to their country rose from 48.6% in 1995 to 75.3% in 2004. Those individuals who perceive crime to have increased also tend to disagree that privatization of public companies has been beneficial. In other words, those who perceive crime to have risen also state the more left-wing position. As in the previous regression the effect is significant at the 1% level, although its size is smaller. In column (3) the dependent variable is State-L and its coefficient is insignificant.

Columns (4–6) present a similar set of regressions, but we increase the basic set of controls (Personal Controls II). Besides Personal Controls I, these regressions add Income II, city size, education, occupation and ideology. Similar results obtain. This is a partial answer to the objection that the results may be picking up the fact that left-wing people are of a particular type who happen also to perceive bigger increases in crime. For example, it could be that left-wingers happen to be poor and the poor live in areas that experience higher crime increases.

A second way to provide a sense of the robustness of the results is to use victimization data. The survey asks whether the respondent or a member of his or her immediate family was a victim of crime in the last year. The proportion of victimized respondents rose from 29.8% in 1995 to 35.1% in 2004. In Table 2 both Fair-L and Privatize-L again show a significant positive association with being a victim of crime, even when all the covariates are included (Personal Controls II). When State-L is used as the dependent variable, the correlation is weakly positive.

4. Concluding remarks

We investigate the relationship between crime and economic ideology. Given the large increase in crime in Latin America during the 1990’s, our conjecture is that this force may be behind

the observed backlash against pro-market reforms in the region. Using recent data from the Latinobarómetro Surveys, we find that people who believe that crime has increased also report a lower intensity of pro-market beliefs. For example, they tend to believe that the distribution of income is unfair, or they disagree with the idea that privatizations have been good for the country. The correlation survives the inclusion of two different sets of controls for individual income (one self-reported and the other constructed by the interviewer), controls for age, gender, marital status, education, occupation, ideology, (country-specific) city size dummies and country and year fixed effects. We also find that beliefs are correlated with a person’s victimization experience in the expected direction (i.e., victims report more anti-market beliefs).

Appendix

The Latinobarómetro Survey is an annual public opinion survey of approximately 19,000 interviews in 18 countries in Latin America. Questions of interest rotate. It is produced by Latinobarómetro Corporation, a non-profit NGO based in Santiago, Chile. The surveys are carried out through face-to-face interviews, with a sampling universe consisting of adults, aged 18 and older. The countries are Argentina, Bolivia, Brazil, Colombia, Costa Rica, Chile, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela and Spain.

Fair-L	A dummy equal to 0 if the answer to the question: “Now I’d like you to answer some questions about the problem of poverty, in this country and in other countries: How fair do you think the distribution of income is in this country?” is “Very fair”, “Fair”, “Neither fair nor unfair” or “Unfair” and 1 if the answer is “Very unfair”.
Privatize-L	A dummy equal to 0 if the answer to the question: “Do you agree or disagree with the following statement: The Privatization of public companies has been beneficial to the country” is “I agree” and 1 if it is “I disagree”.
State-L	A dummy equal to 0 if the answer to the question: “Do you agree or disagree with the following statement: The State should leave production to the private sector” is “I agree” and 1 if it is “I disagree”.
Perception of Crime	A dummy equal to 0 if the answer to the question: “Crime has increased or decreased?” is either “Has increased a little”, “Has stayed the same”, “Has fallen a little” or “Has fallen a lot” and 1 if it is “Has increased a lot”.
Real Crime	A dummy equal to 0 if the answer to the question: “Have you or a relative of yours been a victim of an assault, an aggression, or a crime, in the last 12 months?” is ‘No’ and 1 if it is ‘Yes’.
Age	Respondent’s age in years.
Gender	A dummy equal to 0 if the respondent is female and 1 if the respondent is male.
Marital Status	A set of dummy variables corresponding to the respondent’s marital status: married, single, separated, divorced or widowed.
Income I	The respondent’s declared income, as identified by the question: “The wage or salary you receive and the total family income, Does it allow you to satisfactorily cover your needs? In which of these situations are you?” The possible answers are “4. It is good enough, you can save”, “3. It is just enough, without great difficulties”, “2. It is not enough, you have difficulties” and “1. It is not enough, you have great difficulties”.
Income II	Interviewer decides the level of each respondent’s socio-economic status, as identified by the instruction: “Evaluation of the respondent’s socio-economic level. Take as reference points: quality of house, quality of furniture and general appearance of respondent.” The

Appendix (continued)

	possible answers are “5. Very good”, “4. Good”, “3. Regular”, “2. Bad” and “1. Very bad”.
City Size	A dummy equal to 0 if the size of the city where the interview takes place is “100,000 or less people” and equal to 1 if it is “a capital or more than 100,000 people”.
Education	A set of dummies corresponding to a respondent’s education level: illiterate, basic–incomplete, basic–complete, secondary–middle–technical–incomplete, secondary–middle–technical–complete, superior–incomplete and superior–complete.
Occupation	A set of dummies corresponding to a respondent’s type of work, as identified by the question: “What type of work do you do?”. The possible answers are “Independent Professional (doctor, lawyer, accountant, architect)/Independent Business owner”, “Salaried employee, public sector”, “Salaried employee, private sector”, “Temporarily not working”, “Retired”, “Does not work or housewife”, “Student”.
Ideology	The cardinal response to the question: “In politics, people often refer to left and to right. In a scale where 0 is left and 10 is right, where would you place yourself?”. The possible answers are “0, 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10”.

References

- Alesina, Alberto, Angeletos, George-Marios, 2005. Corruption, inequality and fairness. *Journal of Monetary Economics* 52 (7), 1227–1244.
- Alesina, Alberto, Glaeser, Ed, Sacerdote, Bruce, 2001. Why doesn’t the US have a European style welfare state? *Brookings Papers on Economic Activity* 2, 187–277.
- Benabou, Roland, Tirole, Jean, 2006. Belief in a just world and redistributive politics. *Quarterly Journal of Economics* 121 (2), 699–746.
- Corneo, Giacomo, Gruner, Hans, 2002. Individual preferences for political redistribution. *Journal of Public Economics* 83 (1), 83–107.
- Denzau, A., North, Douglass, 1993. Shared mental models: ideologies and institutions. *Economic History Working Paper #9039003*.
- Di Tella, Rafael and MacCulloch, Robert (2002) Why doesn’t capitalism flow to poor countries?, Harvard Business School, mimeo.
- Di Tella, Rafael, Schargrodsky, Ernesto, Galiani, Sebastian, 2007. The formation of beliefs: evidence from the allocation of land titles to squatters. *Quarterly Journal of Economics* 122 (1), 209–241 (February).
- Fong, Christina, 2001. Social preferences, self interest and the demand for redistribution. *Journal of Public Economics* 82, 225–246.
- Fong, Christina (2004) Which beliefs matter for redistributive politics? Target-specific versus general beliefs about the causes of income, Carnegie Mellon University, mimeo.
- Greif, Avner, 1994. Cultural beliefs and the organization of society: a historical and theoretical reflection on collectivist and individualist societies. *Journal of Political Economy* 102 (5), 912–950.
- Hochschild, Jennifer, 1981. *What’s Fair? American Beliefs about Distributive Justice*. Harvard University Press, Cambridge, MA.
- Inglehart, R., 1990. *Culture Shift in Advanced Industrial Society*. Princeton University Press, Princeton.
- Ladd, Everett Carl, Bowman, Karlyn, 1998. *Attitudes Towards Economic Inequality*. AEI Press, Washington.
- Lora, Eduardo, Olivera, Mauricio, 2004. What Makes Reforms Likely: Political Economy Determinants of Reforms in Latin America. *Journal of Applied Economics* 7 (1), 99–135.
- Meltzer, A., Richard, S., 1981. A rational theory of the size of government. *Journal of Political Economy* 89 (5), 914–927.
- North, Douglass, 2005. *Understanding the Process of Economic Change*. Princeton University Press, Princeton, New Jersey.
- Piketty, Thomas, 1995. Social mobility and redistributive politics. *Quarterly Journal of Economics* 110 (3), 551–584.
- Stokes, S., 2001. *Mandates and Democracy: Neoliberalism by Surprise in Latin America*. Cambridge University Press, Cambridge, MA.