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and Protests: A Recent Story
from Latin America**

P. justino and B. Martorano

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Via delle Pandette 9, 50127 Firenze, Italia
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Inequality, Distributive Beliefs and Protests: A Recent Story from Latin America

Patricia Justino p.justino@ids.ac.uk

Bruno Martorano b.martorano@ids.ac.uk

Institute of Development Studies, UK

Abstract

This paper analyses the role of perceptions of inequality and distributive beliefs in motivating people to engage in protests. The paper focuses on the case of Latin America, where an interesting paradox has been observed: despite considerable reductions in inequality, most countries in Latin America have experienced increases in protests and civil unrest in the last decade. In order to understand this paradox, we analyse the relationship between inequality and protests in recent years in Latin America, using micro-level data on individual participation in protests in 2010, 2012 and 2014. The results show that civil protests are driven by distributive beliefs and not by levels of inequality because individual judgments and reactions are based on own perceptions of inequality that may or may not match absolute levels of inequality. The results also point to the important role of government policy in affecting perceptions of inequality and ensuring social and political stability.

Keywords: Perception of inequality, inequality, distributive beliefs, protests, Latin America

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1. Introduction

Protests have erupted in many countries during the recent economic crisis. These have included the 'Occupy' movement in US and demonstrations against austerity in Europe. A large body of literature has explored the potential causes of social mobilization and the reasons motivating people to engage in protests (Tilly and Tarrow 2015, van Stekelenburg and Klandermans 2013). An influential strand of this literature postulates that civil unrest is driven by rising disparities: inequality fuels social discontent and motivates people to mobilise through non-violent or violent means (Gurr 1970). In a recent study, Ortiz et al. (2013: 16) argue that "the majority of global protests for economic justice and against austerity manifest peoples' indignation at the gross inequalities between ordinary communities and rich individuals/corporations".

Yet, empirical evidence on the relationship between inequality, social mobilisation and civil protests is limited and ambiguous. Nollert (1995) reports that rises in inequality lead to increases in protests. Griffin and de Jonge (2014) argue that inequality results in the polarization of citizens, and their participation in non-violent demonstrations. In contrast to these findings, Dubrow et al. (2008) show that rising inequalities have resulted in reductions in the number of protesters in both 'old' and 'new' European democracies. Similarly, Solt (2015: 14) argues that "more inequality does not enhance poorer individuals' sense of relative deprivation in ways that make them more likely to engage in protest". The argument that inequality drives protests also does not seem to hold in light of recent events in Latin America. Despite considerable reductions in inequality (Cornia 2014), most countries in Latin America have experienced increases in protests and civil instability in the last decade (UNDP 2013, Ortiz et al. 2013). If not inequality, what motivates people to protest?

This paper analyses what motivations lead different individuals to mobilise and protest based on detailed micro-level data collected across eighteen countries in Latin America in 2010, 2012 and 2014. The results show that individual participation in protests was largely motivated by perceptions of inequality which affected their distributional beliefs. These did not match reductions in the Gini coefficient. Despite large reductions of inequality, driven by efforts to raise incomes among the poorest groups, people across

Latin America – the middle classes, in particular – remained dissatisfied with their governments and the quality of institutions and public services. Economic growth and inequality reduction have been insufficient to shift people’s perceptions and beliefs, and have not matched overall expectations. Social discontent, in turn, has turned into collective protests. In light of these results, the paper also asks whether there is role for government policy to mitigate the likelihood of civil protests occurring in settings of under-fulfilled expectations. Findings show that while cash transfer policies that alleviated poverty among low-income groups have a negative effect on the probability of protests, there is large scope for better government performance in terms of addressing corruption, and improving the functioning of government institutions and the quality of public services. All these are key factors explaining the mismatch between perceptions of inequality, distributive beliefs and absolute levels of inequality across Latin America, particularly among the protesting middle-classes.

The paper offers two important contributions to the literature on protests and social mobilization. First, it sheds light on the determinants of social mobilization in a region where protests and demonstrations are important ingredients of the policy-making process. A number of scholars have tried to understand the rise of protests in recent years in Latin America. For example, Machado et al. (2009) report that protests are correlated with the quality of political institutions but are unable to identify the motives behind people’s mobilisation. Our paper differs from this literature in that it focus on motivations at the individual level that may lead people to mobilise and protest. Second, we contribute to an emerging literature on the importance of perceptions of inequality and distributive beliefs (Genicot and Ray 2014, Gimpelson and Treisman 2015, Niehues 2014, Stekelenburg and Klandermans 2013). We advance this literature by showing not only how perceptions of inequality and distributive beliefs are *formed*, but also their *consequences* in terms of citizen mobilisation and civil protests.

The paper has also important policy implications. Our own previous work has shown that that increases in welfare spending contributed to reduce internal armed conflicts in Latin America (Justino and Martorano, 2016). A growing number of studies has also shown that welfare spending may affect voting behaviour in Latin American countries (Zucco 2013; Nupia 2011; De La O 2013; Manacorda et al. 2011). Yet, there is surprisingly limited empirical research on the relationship between government policy and civil protests. This paper contributes to this area of policy by showing how

improvements in the quality of public services may be as important as direct social transfers in reducing the probability of individuals participating in collective protests.

The paper proceeds as follows. The next section examines the rise of protests in recent years in Latin America in light of existing theoretical literature on social mobilisation, and discusses the main theoretical hypothesis proposed in the paper. Section 3 presents the data and the empirical strategy of the paper. Section 4 discusses the main results. Detailed robustness tests are conducted in section 5. Section 6 concludes the paper.

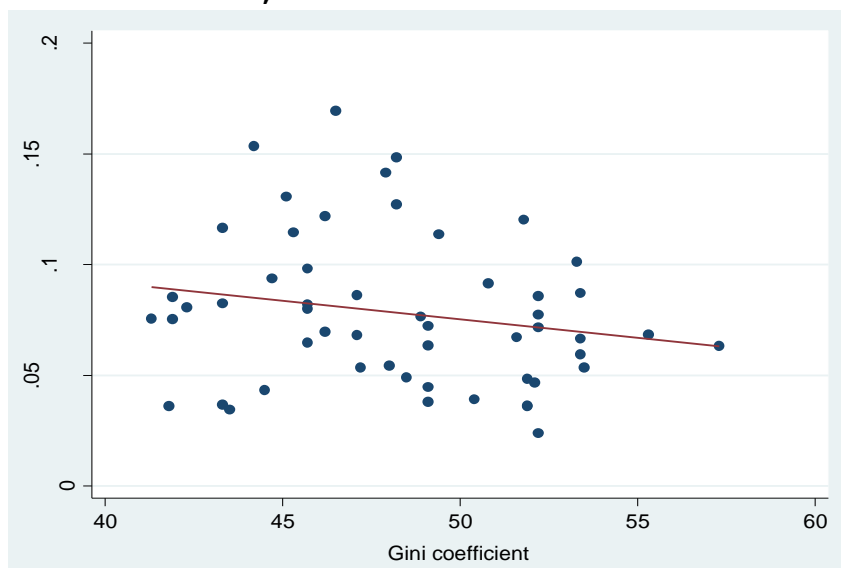
2. Distributive beliefs and protests

In the most recent study of worldwide protests, Ortiz et al. (2013) report that the Latin America and the Caribbean region experienced the largest incidence of protests between 2006 and mid-2013 (141 protests), with the exception of some high-income countries. Examples are plentiful. In 2013, the streets of Santiago were occupied by large numbers of people demanding a fairer society, even though the Gini coefficient in the country decreased from 51.9 in 2009 to 50.4 in 2013.¹ Chile experienced a wave of persistent student protests in 2011 despite reductions in income inequality (Guzman-Concha 2012). In Brazil, despite substantial and persistent reductions in the Gini coefficient since 1989, protests erupted during the Confederations Cup and the World Cup tournament in 2013 involving more than 1.4 million people (Layton 2014). Over the same period, large demonstrations and protests have been held in cities across other Latin American countries.² These findings cast doubts about the accepted positive links between inequality and protests. In fact, available data show a negative correlation between inequality and protests in Latin America in 2010, 2012 and 2014 (Figure 1).

¹ Data from Socio-Economic Database for Latin America and the Caribbean (CEDLAS and The World Bank).

² <http://www.theguardian.com/world/2015/mar/22/latin-america-left-tough-times-brazil-argentina-venezuela>.

Figure 1. Gini coefficient and average frequency of protest participation in 18 LAC countries in 2010, 2012 and 2014



Source: Authors' calculations based on SEDLAC and LAPOP datasets.

The hypothesis that inequality drives protests implicitly assumes that all citizens have access to the same set of information and have the ability to evaluate absolute levels of inequality at any given time. However, people have different perceptions about inequality that affect their distributional beliefs. Their judgments and reactions are therefore likely to be based on own perceptions that may or may not match absolute levels of inequality.

A number of studies has shown that the majority of people are not able to assess their relative position in the income distribution (Brunori 2015, Fernandez-Albertos and Kuo 2013, Gimpelson and Treisman 2015, Cruces, Perez-Truglia, and Tetaz 2013) or to evaluate absolute inequality trends (Chambers, et al. 2013). Some tend to underestimate the true level of inequality (Osberg and Smeeding 2006, Norton and Ariely 2011), while others tend to overestimate it (Chambers et al. 2013). This is because human behaviour is not motivated by objective facts but results from cognitive elaborations based on external perceptions (van Stekelenburg and Klandermans 2013).

There are reasons to believe that people's perceptions of inequality in Latin America are at odds with absolute reductions in levels of inequality. Saad-Filho and Morais (2014) argue that, following the rapid economic growth experienced over the last decade, Latin American countries have become victims of their own success. Perceived forms of social change have not matched the expectations and aspirations of the vast majority of the

population, leading to social discontent that eventually erupted into protests. This is in line with Huntington (2006), who argued that processes of modernization may lead to new life standards alongside rising frustration and dissatisfaction when 'transitional societies' are not able to satisfy people's aspirations and expectations. Fukuyama (2015) has also linked recent protests in emerging economies to the inability of their governments to meet the increasing economic and social expectations of the new global middle class. A similar argument has been used to explain the persistence of conflict and violence in India during the last decade of rapid economic growth where "those made to wait unconscionably long for 'trickle-down' – people with dramatically raised but mostly unfulfillable aspirations – have become vulnerable to demagogues promising national regeneration" (Mishra 2014, quoted in Genicot and Ray 2015: 1).

Niehues (2014) shows that there is a strong correlation between perceptions of inequality and preferences for redistribution, even though people are not able to assess actual levels of inequality. This is because the formation of distributive beliefs depends largely on how individuals or social groups perceive their position in society in relation to others (Karandikar et al. 1998, Koszegi and Rabin 2006, Verme et al 2014), which may or may not be related to changes in absolute levels of inequality. Distributive beliefs may also be related to people's levels of aversion to inequality. The famous tunnel parable of Hirschman and Rothschild (1973) describes how perceptions of inequality are akin to drivers being stuck in a traffic jam. These drivers have two choices when they observe the other lane moving: get upset and move lanes, or stay in their lane in hope that movements in the other cars indicate that their lane will start moving soon too. Individuals may accept certain levels of inequality (and remain in their lane) when they believe that structures within society will allow them to eventually move up the social ladder (Benabou and Ok 2001). However, if individuals do not believe their situation will improve, discontent may rise. For example, Grosfeld and Senik (2010) report that absolute levels of inequality and people's expectations about their future economic status were positively correlated during the first period of Poland's economic transition. The situation changed after a few years when unfulfilled expectations led to dissatisfaction toward economic and political institutions.

Under these circumstances, individuals may attempt to change policy-making processes using conventional democratic channels such as voting in elections, resorting to increased participation in political parties, write petitions to their political

representatives and so forth. However, unfulfilled expectations may also lead to lower trust in formal institutions, particularly when people blame the government for fuelling (perceived) disparities (Fischer and Torgler 2013) or for failing to redistribute resources adequately or provide public goods and services (Shapiro 2002). In this case, social discontent and anger could increase the propensity of individuals and/or groups engaging in protests (Flehtner 2014). For instance, Corcoran et al. (2015) show that perceptions of injustice are correlated with the participation of individuals in different types of social action, ranging from signing petitions to the occupation of buildings and factories. In Chile, Castillo et al. (2015) report that distributive beliefs about the fairness of income distributions have affected individual participation both in elections and in protests.

But protests require mobilisation into collective action, which is dependent on the ability of individuals to coordinate and commit given a set of information constraints (Tarrow 1998). This collective action problem might be in principle solved by forms of social embeddedness and local networks (Gurin et al. 1980, Putnam 1993). In a recent work, Scacco (2008) shows that economic grievance and membership in certain types of neighbourhood level networks explain individual participation in riots in two Nigerian cities. Fukuyama (2015) argues that promoters of the Arab Spring, as well as of protests in Brazil and Turkey, were technology-savvy young people, who make a large use of social media. These factors suggest that the links between inequality and civil unrest are more complex than so far depicted in the literature – an issue we will investigate in detail over the next sections for the case of Latin America.

3. Data and empirical strategy

In this section, we test empirically the relationship between beliefs about distributive justice and civil protests. The empirical analysis is based on three cross-sectional datasets from the Latin American Public Opinion Project (LAPOP) conducted in 2010, 2012 and 2014 for eighteen countries.³ The surveys are representative of all people of voting age and reports information related to different areas, including economic and political participation. The surveys included 31,671 individuals in 2010, 29,256 in 2012

³ Countries are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela

and 28,889 in 2014. We use these datasets to estimate the following logit model, which pools data from the three waves:

$$p_protest_{ijt} = \alpha_0 + \alpha_1 \text{distributive beliefs}_{ijt} + \alpha_2 Z_{ijt} + \rho_j + \zeta_t + u_{ijt} \quad (1)$$

where i , j and t identify, respectively, individual, country and year. u_{ijt} is the idiosyncratic error term. The main dependent variable has the value one if the respondent reported having participated in a demonstration or protest in the 12 months prior to the survey. About 7 per cent of respondents on average reported having participated in a protest in the 12 months prior to each survey wave. They are in general younger, more educated and more likely to be male, single and in employment (or studying) than individuals that did not participate in protests (Table 1).

Table 1. Protest: Mean characteristics of respondents

	Respondents who have not participated in a demonstration or protest march during the last 12 months	Respondents who have participated in a demonstration or protest march during the last 12 months
Female	0.51	0.44
Age	40.04	37.48
Married	0.59	0.54
Education (years of)	9.19	10.73
Worker	0.52	0.60
Student	0.07	0.11
Ends_meet: from 1 - income is good enough for you and you can save from it) to 4 (income is not enough for you and you are having a hard time)	2.55	2.48
Observations	60,003 (93%)	4,730 (7%)

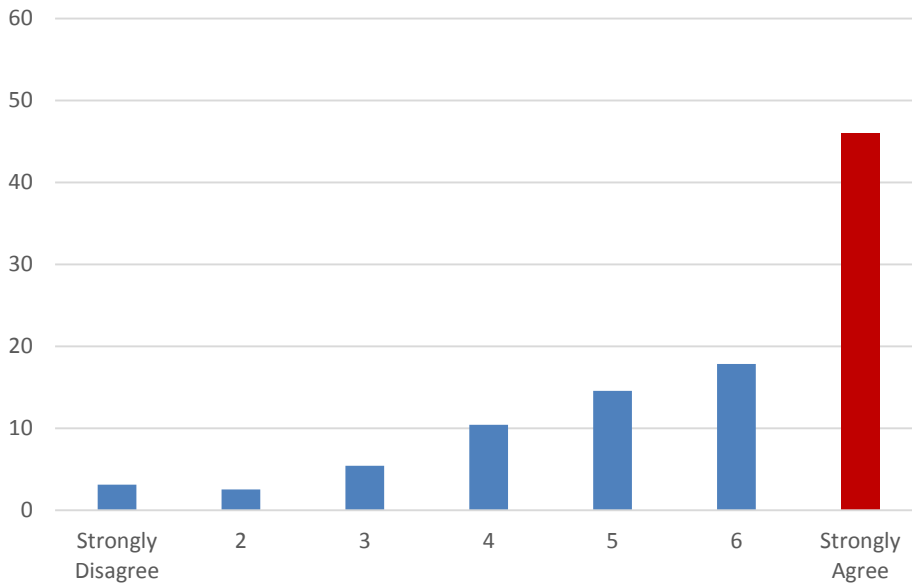
Source: Authors' calculations from the LAPOP datasets.

The model specifications include also a set of country (ρ_i) dummies to reduce potential omitted variable biases, while controlling for unobservable factors likely to influence individual participation in protests. We also include a set of year dummies (ζ_t) allowing for common shocks among Latin American economies since they are fairly well integrated, especially via trade.

In order to measure distributive beliefs we use the following question: "the [country] government should implement strong policies to reduce income inequality between the rich and the poor. To what extent do you agree or disagree with this statement?". The resulting scale ranges from 1 ('strongly disagree') to 7 ('strongly agree'). We recoded

this variable into a binary indicator with value 1 if the respondent strongly believed that the government should act to reduce inequality (the answer was 7), and zero otherwise. Almost one in respondents on average believe that governments should introduce necessary policies to reduce inequality between the rich and the poor (Figure 2).

Figure 2. Answers to the question on the need of government to reduce inequality



Source: Authors' calculations based on the LAPOP datasets.

We interpret the 'strongly agree' answer as indicating that the individual believes inequality is a problem in her country. As well documented in the literature (Niehues 2014), individuals that strongly support the need for redistribution are those likely to perceive the level of inequality in their country as too high and unfair. We expect this group of people to be more inclined to engage in protests. Table 2 reports descriptive statistics about the group of people who strongly believe that government should act to reduce inequality, in comparison to other individuals. Differences between the two groups are very small.

Table 2. Distributive beliefs: Mean characteristics of respondents

	Respondents who do not strongly agree with the statement according to government has to do more in order to reduce inequality	Respondents who strongly agree with the statement according to government has to do more in order to reduce inequality
Female	0.51	0.51
Age	39.51	40.24
Married	0.58	0.59
Education (years of)	9.37	9.25
Worker	0.53	0.52
Student	0.08	0.07
Ends_meet: from 1 - income is good enough for you and you can save from it) to 4 (income is not enough for you and you are having a hard time)	2.52	2.57

Source: Authors' calculations based on the LAPOP datasets.

Z identifies a set of variables introduced to control for a number of individual characteristics that may affect the probability of an individual joining demonstrations or protests. The first set of controls includes demographic characteristics of the respondents such as age, sex and civil status, since some studies have suggested that men and young people tend to support more demonstrations and civil protests (Olsen 1968, Safa 1990, Huang et al. 2015).

The second group of controls includes information about occupational status and education. We expect workers (through labour unions) and students (through student movements) to engage in demonstrations and protests more than other population groups (Valenzuela 2013). Participation may also be a positive function of the education level of the individual. As argued in Machado et al (2009: 20): "such forms of political participation presuppose some degree of awareness and understanding of the political process that the well-educated are more likely to possess. In this view, the better educated are seen as better informed, more critical and more engaged individuals".

The third set of controls proxies for current economic conditions using information about the ability of people's salary and total household income to cover expenditures. The effect of individual economic conditions on protest participation is a-priori ambiguous. The resource model of McCarthy and Zald (1977) and Tilly (1975) postulates that the availability of enough economic resources is a key condition for social mobilization. Thus, rich people may potentially be more likely to participate in social and political life, as well as in demonstrations (Booth and Seligson 2008). But economic difficulties may also lead to high levels of social discontent, potentially also resulting in stronger

participation in protests (Sen 2008). In addition, it is possible that people react not only to current economic conditions but also make comparisons between their current conditions and past economic experiences (Shapiro 2002). In particular, an unexpected economic shock, such as the recent economic crisis in 2008, may increase political participation in two different ways (Kern et al. 2015). First, it could affect people directly by increasing individual deprivation (via, for instance, income reductions, assets depreciation and job losses). We measure this individual effect using the following survey question: "Do you think that your economic situation is better than, the same as, or worse than it was 12 months ago?". Second, economic shocks could strengthen feelings of collective deprivation through increases of job insecurity overall and the worsening of general economic conditions. In this case, forces beyond the individual are perceived to be responsible for the downturn (Van Dyke and Soule 2002). We measure this collective effect using the following survey question: "Do you think that the country's current economic situation is better than, the same as or worse than it was 12 months ago?"

The fourth group of controls includes measures of political interest, political orientation and trust in state institutions. Political interest is measured using the following question: "How much interest do you have in politics: a lot, some, little or none?". In order to measure political orientation, we use information including in the survey about self-placement on the left-right political axis. Both political interest and ideological orientation play key roles in motivating people to engage in politics and in civil demonstrations and protests. Following the existing literature, our expectation is that people with a higher interest in political issues (Verba et al. 1995) and those of left-orientation (Dalton et al. 2010) are more inclined to engage in protests. Individual participation in protests may also be shaped by views about state institutions. We measure trust in state institutions in two ways. The first uses the following question: "To what extent do you respect the political institutions of [country]?". We expect that those that have lower trust in political institutions to be more likely to engage and participate in demonstrations and protests (Machado et al. 2009). The second measures perceptions of corruption using the following question: "To what extent would you say the current administration combats (fights) government corruption?". The expectation is that people who feel that the government is not doing enough to address corruption may be more inclined to engage in protests (Gingerich 2009).

The fifth set of control variables proxies for social trust and people's participation in local collective organisations. As discussed in section 2, protests require collective action, which in turn might be greatly facilitated by strong social relations and networks (Scacco 2008). We measure the strength of local social relations in two ways. The first uses information on social trust collected using the following question: "And speaking of the people from around here, would you say that people in this community are very trustworthy, somewhat trustworthy, not very trustworthy or untrustworthy?". The second measures direct individual engagement in existing collective organisations such as religious, political and community improvement committees or associational organisations. In this, it is important also to consider the increased relevance of social media in population mobilisation. As explained by Fukuyama (2015), social media has played a central role in recent protests across the world. To proxy for how people are involved in social media we use the following question: "Talking about other things, how often do you use the internet?". Options range from 1 (daily) to 5 (never). We expect that people more involved in social media are also more informed about social and political issues and, hence, more able to participate in protests.

The last set of control variables proxies for the macroeconomic conditions of each country. We include two variables at macro level: GDP per capita (GDPpc) and a proxy for the quality of democracy. Overall, richer societies are less prone to social and political conflicts (Bellinger and Arce, 2011). At the same time, democracy may provide people with more scope to voice their demands and generate a favourable environment for collective political activity (Bellinger and Arce 2011). The data on GDP we use are from the World Development Indicators. The quality of democracy is measured using the Freedom of House indicator, based on information on Political Rights and Civil Liberties obtained from Teorell et al. (2015).

Table 3 reports the variables included in our regressions. Summary statistics and correlations are reported in Table 4.

Table 3. Variable definition, description and data sources

Variable	Description
P_Protest	1 if the respondent has participated in a demonstration or protest march during the last 12 months
Distributive beliefs	1 if the respondent strongly agree with the statement according to government has to do more in order to reduce inequality
Female	Female=1; male =0
Age	Age
Married	1 if respondent is married
Education	Years of education
Worker	1 if respondent works
Student	1 if respondent is a student
Worsening nat. economic conditions	1 if national economic conditions worsened
Worsening individual economic conditions	1 if individual economic conditions worsened
Ends_meet	From 1 (income is good enough for you and you can save from it) to 4 (income is not enough for you and you are having a hard time)
Political_interest	From 0 (none) to 3 (a lot)
Ideology	One means left and 10 means right
Institution trust	Respect to political institution: from 1 to 7 (high respect)
Corruption	1 if the government did not do nothing to fight corruption
Social trust	(1) Very trustworthy to (4) Untrustworthy
Social networks	People attend meetings of political organizations once a week
Internet	How often people use internet: from 0 (never) to 4 (daily)
GDP pc	GDP per capita (constant 2005 US\$)
Democracy	Quality of democracy ranging from 1 (most free) to 7 (least free)

Source: Authors' compilation.

Table 4. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Protest	89188	0.08	0.27	0.00	1.00
redis_high	89816	0.44	0.50	0.00	1.00
Female	89816	0.51	0.50	0.00	1.00
Age	89510	39.87	17.26	15.00	99.00
Married	89816	0.58	0.49	0.00	1.00
Ed	89412	9.32	4.50	0.00	29.00
Worker	89816	0.52	0.50	0.00	1.00
Student	89816	0.08	0.27	0.00	1.00
Wnec	89816	0.38	0.48	0.00	1.00
Wiec	89816	0.28	0.45	0.00	1.00
q10d	88210	2.54	0.83	1.00	4.00
Ideology	72984	5.55	2.59	1.00	10.00
int_pol	89150	1.10	0.97	0.00	3.00
Institutions	87388	4.65	1.81	1.00	7.00
Corr	89816	0.18	0.38	0.00	1.00
social_trust	88091	2.19	0.90	1.00	4.00
orgrel	89461	1.36	1.29	0.00	3.00
orgcom	89299	0.46	0.82	0.00	3.00
orgpol	89028	0.22	0.60	0.00	3.00
internet	89176	1.39	1.62	0.00	4.00
GDPc	89816	4454.38	2490.12	1176.40	9773.20
fred_house	89816	2.65	1.07	1.00	5.00
Gini	89816	0.48	0.04	0.41	0.57

Source: Authors' calculations based on the LAPOP datasets.

4. Regression results

4.1. Distributive beliefs and protests

Table 5 reports the results of the main empirical model. Each model specification includes the six sets of controls, each introduced separately. The final specification includes both country and year fixed effects. The odds ratios representing distributive beliefs is higher than one and statistically significant in all the different specifications. This result supports our main hypothesis that protests are strongly related to

distributive beliefs. As can be seen in Table 5 (column 7), our preferred specification, the probability of an individual engaging in protest activities is 1.2 times higher for people who strongly believe that government should implement policies to reduce income inequality between the rich and the poor. The coefficient of distributive beliefs increases after the inclusion of country dummy variables.

Demographic profile of protesters. Women and married people tend to participate less in protests: odds of participating in protest for females and married people are respectively 0.90 and 0.94 (Table 5, column 7). The coefficient for age is small and statistically significant across several specifications, but becomes statistically insignificant after the inclusion of country and time dummies. As expected, employed, students and educated individuals are more likely to participate in civil protests. These results suggest that participants in protests in Latin America are, overall, well integrated within society, rather than at the its margins.

Economic conditions. Participation in protests is related to people's perceptions about their current and past economic conditions. In line with the literature discussed in the previous section, people facing economic difficulties tend to engage more in protests (the odds ratio is 1.10 in Table 5, column 7). Those reporting that their economic situation has worsened are more likely to participate in civil protests. It is also interesting to observe that individual decisions to participate in protests are affected by changes in their country's economic conditions. The variable measuring the country's economic condition becomes statistically significant with the inclusion of year fixed effects (Table 5, column 7). As discussed previously, the worsening economic landscape at the country level may be perceived as a result of circumstances that go beyond individual control, thereby provoking frustration and motivating people to participate in protests. These results are in line with those reported by Kern et al. (2015) for European countries during the recent economic crisis.

Political engagement. In line with our prior expectations, individuals that participate in protests display a left-wing political orientation, as well as more interest in politics. They also report less trust in political institutions. The results also show that perceptions of corruption are important factors in explaining why people mobilize into protests. Taken together, these results show that people are more likely to participate in protests when

they have an interest in politics, are not satisfied with political institutions and believe that the government is not doing enough to reduce corruption.

Social relations and networks. People's mobilization into protests is affected by their levels of social involvement in the wider society. Anger and grievance are necessary but not sufficient conditions to motivate individual participation in protests. Social networks may facilitate social mobilization by helping citizen to coordinate, cooperate and take to the streets. Table 5 shows that individual participation in political and community organizations increases the probability that individuals will engage in social mobilization – transforming individual feelings of anger and frustrating into group-based action. As expected, participants in protests also tend to use of social media more than other individuals. The coefficients for social trust is not statistically significant.

Country's context. Table 5 shows that people tend to protest more in democratic contexts. This results is in line with Bellinger and Arce (2011), who show how the process of democratization in Latin American countries has generated a revitalization of collective political activity. Also in line with prior expectations, individuals living in richer countries are less inclined to protest.

Table 5. Determinants of individual participation in protests in Latin America 2010, 2012, 2014

	model_1	model_2	model_3	model_4	model_5	model_6	model_7
Distributive beliefs	1.194*** [0.031]	1.212*** [0.032]	1.207*** [0.032]	1.140*** [0.033]	1.137*** [0.033]	1.152*** [0.034]	1.166*** [0.035]
Female	0.742*** [0.019]	0.826*** [0.023]	0.823*** [0.023]	0.903*** [0.028]	0.908*** [0.028]	0.921*** [0.029]	0.902*** [0.028]
Age	0.991*** [0.001]	0.998** [0.001]	0.998** [0.001]	0.997*** [0.001]	0.998* [0.001]	1.000 [0.001]	0.999 [0.001]
Married	0.891*** [0.023]	0.938** [0.026]	0.933** [0.026]	0.926** [0.028]	0.939** [0.029]	0.933** [0.029]	0.942* [0.029]
Education		1.070*** [0.004]	1.075*** [0.004]	1.053*** [0.004]	1.043*** [0.004]	1.043*** [0.004]	1.030*** [0.005]
Worker		1.368*** [0.044]	1.379*** [0.045]	1.347*** [0.047]	1.330*** [0.047]	1.319*** [0.047]	1.236*** [0.045]
Student		1.495*** [0.080]	1.560*** [0.084]	1.535*** [0.090]	1.502*** [0.089]	1.454*** [0.086]	1.358*** [0.082]
Worsening national economic conditions			1.036 [0.031]	1.022 [0.034]	1.019 [0.035]	1.027 [0.035]	1.095*** [0.038]
Worsening individual economic conditions			1.109*** [0.037]	1.070* [0.039]	1.071* [0.040]	1.083** [0.040]	1.142*** [0.043]
Ends meet			1.052*** [0.018]	1.057*** [0.020]	1.066*** [0.020]	1.064*** [0.020]	1.095*** [0.021]
Ideology				0.928*** [0.005]	0.931*** [0.005]	0.931*** [0.005]	0.928*** [0.006]
Political intersts				1.608*** [0.024]	1.546*** [0.023]	1.549*** [0.023]	1.572*** [0.024]
Institution trust				0.941*** [0.008]	0.939*** [0.008]	0.940*** [0.008]	0.951*** [0.008]
Corruption				1.261*** [0.047]	1.238*** [0.047]	1.262*** [0.048]	1.248*** [0.049]
Social trust					1.028* [0.017]	1.024 [0.017]	1.006 [0.017]
Social networks					2.382*** [0.117]	2.310*** [0.114]	2.425*** [0.123]
Internet					1.062*** [0.011]	1.094*** [0.012]	1.107*** [0.012]
Gdp pc						0.917*** [0.007]	0.874*** [0.039]
Democracy						0.957*** [0.015]	1.362*** [0.124]
Constant	0.141*** [0.005]	0.040*** [0.003]	0.032*** [0.003]	0.043*** [0.005]	0.037*** [0.004]	0.055*** [0.007]	0.026*** [0.007]
Country dummies	No	no	No	no	no	yes	Yes
Year Dummies	No	no	No	no	no	no	Yes
Observations	88,892	88,549	87,036	69,490	68,088	68,088	68,088

Notes: Robust standard errors in brackets*** p<0.01, ** p<0.05, * p<0.1.

4.2. Do absolute levels of inequality explain protests?

An influential body of theoretical literature has argued that rising disparities fuel social discontent and motivate people to protest. In this section, we compare this prediction with our results above. In order to do so, we extend the previous model to include Gini coefficient data extracted from the Socio-Economic Database for Latin America and the Caribbean (SEDLAC) (CEDLAS and the World Bank).⁴ Gini coefficients were computed following a standardized approach based on information from national household surveys.

Table 6 (column 2 and 3) reports the regression results showing that the Gini coefficient is not statistically significant in any of the specifications. This result is in contrast with the existing theoretical literature and confirms our initial hypothesis that distributive beliefs have a stronger explanatory power for why people protest than objective measures of inequality. There are almost no differences in the results for the other variables between the three model specifications.

4.3. Does government policy matter?

This section expands the empirical analysis above by taking into consideration the role of government policy as an explanation for why people protest. We examine in particular the quality of public services and the implementation of social protection programs. Existing studies suggest that fiscal policy could be used both to gain support and legitimation among some population groups and to reduce inequality. Redistribution could potentially lower societal grievances and reduce protests in two ways. First, it might affect living conditions, thereby reducing inequality and social discontent. Second, redistribution may influence attitudes and the voting choices of the median voter by increasing support for government institutions – a crucial factor in processes of democratic consolidation – as credibility and compliance tend to increase when the government demonstrates to care about people's living conditions.

However, redistribution has economic as well as political costs. In order to finance social protection programs targeted at the poorest, governments have to increase taxes.

⁴ SEDLAC data are available at: <http://sedlac.econo.unlp.edu.ar/eng/>.

Middle classes may accept to pay more taxes if spending adequately represents their preferences in terms of production and provision of public goods. In this way, "payment of taxes and provision of public services can be interpreted as a contractual relationship between taxpayers and the government" (Fjeldstad et al. 2009: 1). Yet, suspicions that government may wastes public resources is likely to provoke social discontent and lead to protests and further unrest.

In light of these ambiguous effects, we analysed the role of government policies on protests using the following three questions: (i) "Would you say that the services the municipality is providing to the people are...?"; (ii) "thinking about this city/area where you live, are you very satisfied, satisfied, dissatisfied, or very dissatisfied the quality of public schools?"; and (iii) "And the quality of public medical and health services?". We recoded the answers to these questions into a binary indicator that takes the value 1 if people think that the services the municipality is providing to them are very bad or if they are very dissatisfied with the quality of schools or health services. In addition, we include a dummy variable which assume value one if respondent benefited from a conditional cash transfers (CCT).⁵ Due to data constraints, the model estimated in Table 6 (column 4) refers only to 2012 and 2014. In order to develop a proper comparison, we also compare the results of this new specification with those of our baseline specification restricted to the period 2012 and 2014.

It is interesting to observe that introducing these new variables does not affect the previous results. The only exceptions are the coefficient representing changes of economic conditions at the national level and the coefficient for GDP per capita. The impact of distributive beliefs on individual participation in protests remains almost unchanged.

With respect to the new variables, Table 6 (column 4) shows that the CCT coefficient is lower than one and statistically significant. As expected, social transfers appear to be a useful tool to improve people's perceptions and prevent the outbreak of protests. Notably, benefitting from a social protection program decreases the probability of an individual participating in protests.

⁵ In 2014, there are no data for Bolivia, Nicaragua and Venezuela. In 2012, we use info on social transfers rather than on CCT for Bolivia, Guatemala, Honduras, Nicaragua, Panama, Paraguay, El Salvador, Uruguay and Venezuela.

The coefficients that measure the quality of public services are higher than one and statistically significant indicating that lower satisfaction with public services increases the probability of individual participation in protests. The only exception is related with the coefficient of the quality of roads which is not statistically significant. These results confirm that the quality of these services is a key component of the fiscal exchange between state and taxpayers.

One possible interpretation of these results is that governments in Latin America may have lost the consensus of the middle class (those more likely to protest as observed above), while increasing the support from the lowest income families. In fact, the middle class has lost more than other groups in recent process of imperfect democratization and the redistribution in Latin America. In particular, governments have kept on taxing the middle class to finance social protection programs targeted to the poorest, but have not worked to improve the quality of services that may matter for the middle class. Saad-Filho and Morais (2014: 241) explain this situation in Brazil: "economic growth, income distribution and the wider availability of credit and tax breaks to domestic industry have led to an explosion in automobile sales, while woefully insufficient investment in infrastructure and in public transport has created traffic gridlock in many large cities. Rapid urbanization has overwhelmed the electricity, water and sanitation systems, leading to power cuts and repeated disasters in the rainy season. Public health and education have expanded, but they are widely perceived to offer poor quality services".

Table 6. Distributive beliefs, Gini coefficient and government policy as explanations for protests in Latin America

	Baseline Model	Gini	Gini + distributive beliefs	Model + social policies
Distributive beliefs	1.165*** [0.035]		1.164*** [0.035]	1.139*** [0.051]
Gini		0.975 [0.018]	0.975 [0.018]	
Female	0.902*** [0.028]	0.901*** [0.028]	0.902*** [0.028]	0.910** [0.042]
Age	0.999 [0.001]	0.999 [0.001]	0.999 [0.001]	0.999 [0.002]
Married	0.942* [0.029]	0.942* [0.029]	0.942* [0.029]	0.956 [0.044]
Education	1.030*** [0.005]	1.030*** [0.005]	1.030*** [0.005]	1.039*** [0.007]
Worker	1.236*** [0.045]	1.233*** [0.045]	1.235*** [0.045]	1.159*** [0.061]
Student	1.358*** [0.082]	1.352*** [0.082]	1.359*** [0.082]	1.261** [0.115]
Worsening national economic conditions	1.097*** [0.039]	1.096*** [0.038]	1.095*** [0.038]	1.035 [0.054]
Worsening individual ec. conditions	1.143*** [0.043]	1.139*** [0.043]	1.142*** [0.043]	1.121** [0.064]
Ends meet	1.096*** [0.022]	1.099*** [0.022]	1.096*** [0.022]	1.060** [0.031]
Ideology	0.928*** [0.006]	0.926*** [0.006]	0.928*** [0.006]	0.928*** [0.008]
Political interests	1.573*** [0.024]	1.579*** [0.024]	1.573*** [0.024]	1.518*** [0.034]
Institution trust	0.951*** [0.008]	0.954*** [0.008]	0.951*** [0.008]	0.956*** [0.012]
Corruption	1.248*** [0.049]	1.277*** [0.050]	1.249*** [0.049]	1.164*** [0.067]
Social trust	1.006 [0.017]	1.005 [0.017]	1.006 [0.017]	0.973 [0.024]
Social networks	2.422*** [0.123]	2.439*** [0.124]	2.428*** [0.123]	2.657*** [0.189]
Internet	1.108*** [0.012]	1.106*** [0.012]	1.107*** [0.012]	1.096*** [0.018]
Gdp pc	0.889* [0.063]	0.867** [0.062]	0.877* [0.063]	0.674 [0.167]
Democracy	1.356*** [0.124]	1.370*** [0.127]	1.368*** [0.126]	2.734*** [0.635]
satisfaction with quality of roads				1.036 [0.032]
satisfaction with quality of local services				1.104*** [0.027]
satisfaction with quality of health				1.084** [0.036]
satisfaction with quality of education				1.079** [0.039]
Beneficiary of a cct program				0.742*** [0.043]
Constant	0.024*** [0.009]	0.092** [0.090]	0.080*** [0.078]	0.018*** [0.018]
Country dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Observations	68,088	68,088	68,088	32,595

Notes: Robust standard errors in brackets*** p<0.01, ** p<0.05, * p<0.1

5. Additional robustness tests

In this section, we report a number of additional tests to check the validity of the results above. First, we test the sensitivity of the empirical analysis to a series of alternative estimators. Second, we test the validity of the results to the splitting of the sample in the two sub-regions: South America and Central America, including Mexico and the Dominican Republic. Third, we verify the robustness of the analysis using an alternative specification of the dependent variable. Fourth, we introduce a different specification of distributive beliefs. Finally, we test remaining potential concerns about endogeneity.

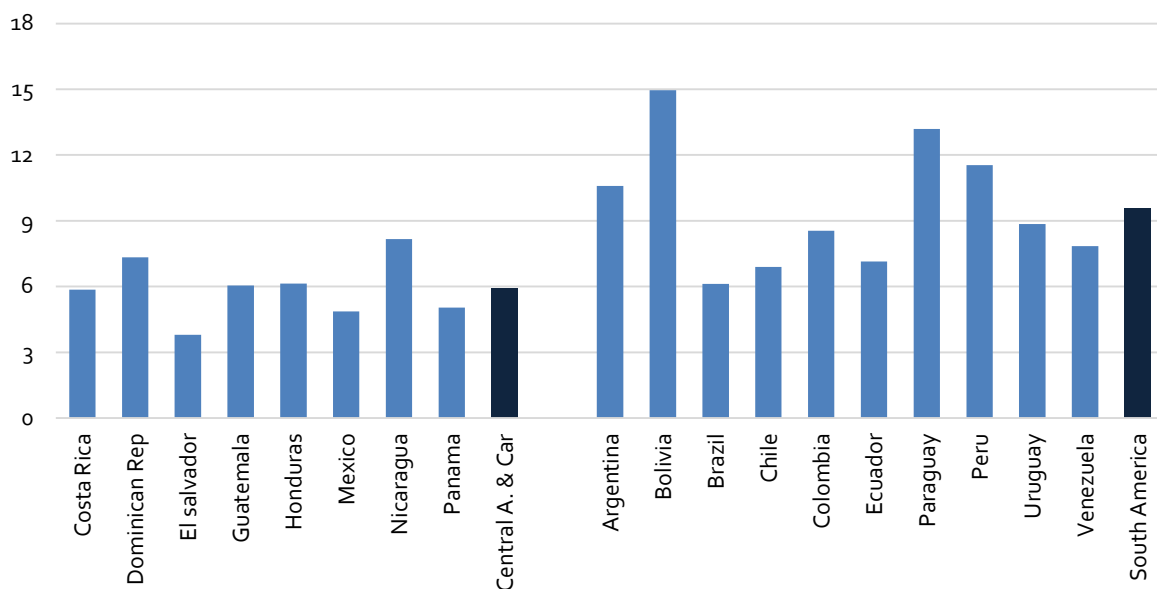
(a) Alternative estimators. Our baseline estimates are derived from a logit model with country and time fixed effects in order to capture the structural differences across countries and years during the period of analysis. To check further validity of the results discussed above, we model the relationships of interest using alternative estimators including a probit model, ordinary least squares (OLS) and a multilevel approach (ML).

Logistic and probit models are suitable to deal with regressions in which the dependent variable is binary. The most important difference between these two estimators refers to assumptions about distribution errors. Usually, the results extracted from the logistic and probit models are very similar. The OLS estimator could also be used in conjunction with a binary dependent variable. In contrast to the previous estimators, OLS provide predicted values beyond the expected range from zero to one but the normal distribution and homogeneous error variance assumptions may not hold if there is large variation in the probability of the dependent event (Pohlman and Leitner 2003). Yet, OLS estimators are widely used because they provides a straightforward interpretation of the regression results. Finally, our dataset contains both micro- as well as macro-level information. If the micro-level variables that explain individual participation in protests are embedded within macro-level variables or processes, we may need to model our relation of interest using a multilevel model that takes into account hierarchical levels within the data (Rabe-Hesketh and Skrondal 2008). In this setting, the maximum likelihood estimator could provide more efficient estimates of the coefficients and their standard errors (Snijders and Bosker 1999, Maas and Hox 2004).

Table 7 (column 2 – 4) reports the results using the three alternative model specifications. As expected, logistic, probit and OLS models provide the same results (in terms of coefficient signs and significance) even though the coefficients are not directly comparable. The only difference is related to the coefficient of GDP per capita which is not statistically significant using the probit estimator. The multilevel model results are also similar with a few exceptions: age, married, worsening of national economic conditions, social trust and democracy. The positive effect of distributive beliefs remains strong and highly statistically significant across all model specifications.

(b) *Sensitivity to sample selection.* In order to test further the robustness of the results above, we have split the sample into South America and other countries. This is because protests erupted more strongly in South America than in other areas (Figure 3).

Figure 3. Percentage of people participating in protests by countries



Source: Authors' calculations based on the LAPOP datasets.

Table 7 (column 5 – 6) shows these results. The tables confirms that distributive beliefs are important not only in South American countries (which have a slightly higher coefficient), but also in other parts of the region. Results for the various control variables are similar across these regressions, with a few exceptions. The age variable becomes significant while the gender coefficient is no longer statistically significant in the South America sample. Married is not significant in both regions while the student variable is not significant in the non-South America sample. Worsening of individual and national

economic conditions are not factors explaining participation in protest in Central America, Mexico and the Caribbean. Finally, GDP per capita is lower than one and statistically significant in the non-South America sample, while democracy is lower than one in South America.

(c) Alternative dependent variable. In this section, we re-estimate the regressions above using alternative dependent variables that measure individual participation in protests in different ways: (i) number of times each respondent as participated in protests in the 12 months prior to the survey, (ii) approval of government critics' right to peaceful demonstrations, and (iii) approval of those that participate in legal demonstrations. The two latter variables are ordinal dependent variables with answers ranging from 1 (strongly disapprove) to 10 (strongly approve). We use OLS to estimate these three additional regressions.

Table 7 reports the new regression results. They are remarkably similar to those reported in the baseline regression when we estimated it using OLS. The results show that people who strongly believe that government should implement policies to reduce income inequality between the rich and the poor tend to protest with more frequency than others (Table 7, column 7). In addition, they tend to approve protests (Table 7, column 8) and sympathize with those participating in legal demonstrations (Table 7, column 9).

(d) Alternative specification for distributive beliefs. In this section, we re-estimate our model using an alternative specification for distributive beliefs. The main independent variable we use is based on the question: "the [country] government should implement strong policies to reduce income inequality between the rich and the poor. To what extent do you agree or disagree with this statement?". In the regressions above, we coded the answers to this question into a binary indicator. In this section, we use the full range of answers ranging from 1 (disagree) to 7 (agree). Table 7 (column 10) reports the regression results using the ordinal variable. The results are very similar to the baseline results, though the coefficient is lower as would be expected.

Table 7. Additional robustness tests

	Additional estimators				Sample selection		Alternative dependent variables (OLS estimator)			Alternative specification for distributive beliefs
	Baseline model	Probit model	OLS	Multilevel model	South America	Central America + Mexico + the Rep. Dominican	number of times each respondent as participated in protests	approval of government critics' right to peaceful demonstrations	approval of those that participate in legal demonstrations	ordinal variable (1, disagree to 7, agree)
Distributive beliefs	1.165*** [0.035]	0.078*** [0.015]	0.013*** [0.002]	0.012*** [0.002]	1.180*** [0.045]	1.141*** [0.057]	0.039*** [0.008]	0.670*** [0.023]	0.888*** [0.023]	
Distributive beliefs (alternative specification)										1.033*** [0.010]
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	68,088	68,088	68,088	68,088	39,041	29,047	66,083	67,093	67,917	67,163
R ²			0.052							

Notes: these models include the same set of independent variables included in the baseline specification. Robust standard errors in brackets*** p<0.01, ** p<0.05, * p<0.1

5.5. Addressing endogeneity

One concern with the results discussed so far is that of reverse causality. Distributive beliefs affect social mobilization, which in turn may affect people's perceptions of the actual level of inequality, their perceptions of current economic conditions and their political beliefs. In a recent paper, Madestam et al. (2013) show that political protests generate political changes in the USA: an increase in the number of protests rises political support for the Republican party. It is possible that these changes will lead people to update their distributive beliefs.

One simple test to order to assess potential reverse causality would be to test whether individual participation in protests in previous years affects current distributive beliefs. Unfortunately, the data we use is not a panel (i.e. different individuals were interviewed in each year). Using an instrumental variable model is also challenging because it is unlikely that we will be able to find a purely exogenous variable that will affect protests only via distributive beliefs. We followed three alternative strategies to assess potential reverse causality based on collapsing information on protests at provincial level and merging this information along the different waves. The first strategy then regresses distributive beliefs in 2014 on a dummy variable that indicates whether at least someone in the province participated in a protest in 2012. The second strategy regresses distributive beliefs in 2014 on the average frequency of protests in the province in 2012. The last one refers to the number of people participating in protest in 2012. Unfortunately, we could make use of the information on number of protests since the data are not representative at subnational level.

Table 8 shows the results for the three strategies. The results show that level of distributive beliefs in 2014 are not affected by past protests. This result is robust across different specifications, suggesting that reverse causality, at the very least, is not large enough to threaten the validity of the estimates in the paper.

Table 8. Robustness tests on reverse causality (dependent variable: distributive beliefs in 2014)

	Model 1	Model 3	Model 3
At least one protest in 2012	-0.050 [0.065]		
Average probability to participate in protest 2012		0.137 [0.329]	
Number of people participating in protest 2012			0.000 [0.001]
Constant	1.566*** [0.255]	1.496*** [0.249]	1.509*** [0.246]
Country dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
Observations	22,892	22,892	22,892

Notes: these models include the same set of independent variables included in the baseline specification

6. Conclusions

This paper addresses important knowledge gaps about social mobilization and about the role of inequality and distributive beliefs in motivating people to engage in protests. The paper focuses on the case of Latin America, where several countries have experienced increases in protests and civil instability in recent years despite considerable reductions in inequality. Our main results show that subjective assessments of inequality may matter more for ordinary people than objective measures: individuals make decisions to participate on protests based on perceptions of inequality, proxied by distributive beliefs, rather than on absolute levels of inequality.

This finding allows us to better understand a current paradox in Latin America, a region where protests and demonstrations are important ingredients of the policy making process. In recent years, protests have risen substantially across most countries in Latin America despite decreases in levels of the Gini coefficient. The results discussed in this paper suggest that individuals started to protest more because their perceptions of inequality and distributive beliefs did not accompany changes in absolute inequality. Despite reductions in the Gini coefficient, people still perceived that governments were not doing enough. The rapid economic growth and the resulting processes of modernization led to social changes which have not matched the expectations and

aspirations of the vast majority of the population, leading to social discontent and protests. In particular the results show that people were dissatisfied with political institutions, levels of corruption and the quality of public services.

These were issues that affected predominantly the middle classes: the employed, students and educated people, with greater interest in politics and a left-wing political orientation were more likely to participate in civil protests. Economic conditions also matter: individual participation in protests was also related to people's perceptions about their current and past economic conditions, as well as by changes in national economic conditions. Social relations and networks were crucial to mobilizing people's anger and grievances into protests.

The paper shows also the role of policy in affecting perceptions of inequality and mitigating the risk of civil unrest. The results indicate that redistribution via cash transfers to the poorest reduce the probability of protests, but the low quality of public services and high tax burdens have eroded the support of political institutions by the middle class. The recent choices of governments across Latin America to focus redistribution mainly on the poor (and excluding the middle class) have generated large gains in terms of poverty and inequality reduction. However, these choices may have also led to unintended consequences in terms of social and political stability. Overall, it appears that Latin American countries may have become victims of their own success because perceived forms of social change have not matched the expectations and aspirations of the vast majority of people, in particular the middle classes, provoking social discontent which in turn has erupted in protests.

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