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Long Live Democracy: The Determinants of Political Instability in Latin America

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Abstract

In this paper, we investigate the determinants of political instability in Latin America. In a panel of 18 Latin American countries from 1971 to 2000, we find that democratic countries experience less average instability in the region, indicating that the move to increased democracy in the last couple decades may alleviate the persistent problem of instability in the area. We also find that income inequality and ethnic fractionalization are important determinants of instability. Countries with low levels of inequality also suffer less instability on average, while ethnic diversity has a non-linear effect on instability. Many macroeconomic variables commonly thought to bring about political instability, such as inflation and high budget deficits, are not significantly correlated with instability in our sample. Only openness to trade has a significant negative effect on political instability. Only openness to trade has a significant negative effect on political instability

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Key Words: Political Instability, Democracy, Economic Development, Latin America, Income Inequality, Ethnic Diversity

I. Introduction

Ranked as the third most unstable region in the world in the post-war era, political instability has been a pervasive problem in Latin America.¹ In our sample of 18 Latin American countries from 1971-2000, there were 20 coups d'etat, 451 political assassinations, 217 riots, and 113 crises that threatened to bring down the sitting government.² Only three Latin American countries were consistently democratic over the thirty year period: Costa Rica, Colombia, and Venezuela.³ All of the rest of the countries switched from a democracy to an autocracy (or vice versa) at least once. In sum, political instability is a persistent and pernicious problem in the region.⁴

Given the many studies that document the negative relationship between instability and capital accumulation (Alesina & Perotti (1996); Alesina et.al. (1996)), it is likely that this instability has hampered economic development in the region. In this paper, we seek to uncover the factors behind this instability. In a

In this paper we analyze the determinants of political instability in a panel of 18 Latin American countries from 1971 to 2000. Not only is Latin America an interesting region to study because of its unusually persistent problems with instability, but focusing on a small sample helps us to avoid potential problems with pooling data from a large set of very different countries.⁵ We find three main interesting results: First, regime type is a significant determinant of instability in the area. Countries with higher democracy scores also have lower average political instability, which indicates that recent moves to increased democracy in the region may bring about less instability in the future. This result is tempered though by our finding that long lived democracies have a greater chance of experiencing instability than equally long lived autocracies. Second, we find that income inequality and ethnic fractionalization are both important factors behind

instability. Countries with low (or high) levels of inequality have less average instability than countries with average levels of inequality, and ethnic fractionalization has a non-linear effect on political instability. Increases in ethnic fractionalization lower instability until a certain level of diversity, at which point any increases in diversity are associated with higher political instability. Third, we find that many of the macroeconomic variables included in our estimation (including the level and standard deviation of inflation and government budget deficit) are only weakly significant at best. Only lagged values of trade openness and investment are helpful in explaining current political instability.

Section II discusses why political instability is important to overall economic development, while section III investigates the determinants of instability. Section IV discusses the results of our estimation, and section V concludes with a brief discussion of the policy implications of our findings.

II. Why Political Instability Is Important

Political instability hinders economic development through its effect on the accumulation of physical and human capital.⁶ Investments are often difficult to reverse, which means that investors will postpone new capital projects until the policy environment clarifies.⁷ Pindyck & Solimano (1993) originally argued that economic instability, in the form of high inflation, is more damaging to new investment, than political instability. Since then, however, many other papers in the literature have found political instability to be equally harmful. Collier (1999) shows that under extreme cases of political instability, such as civil war, a country's existing capital stock will suffer

from both the physical destruction and the general neglect during wartime. Investors will delay all new capital investments and either resort to purely speculative activities or move their money abroad.⁸

Most empirical studies of the effects of political instability investigate the relationship between instability and economic growth. For instance, Alesina et.al. (1996), in a sample of 113 countries from 1950 to 1982, analyze the joint determination of political instability and per-capita GDP growth and find that instability has a negative and significant effect on growth rates.

Several other papers specifically test the relationship between political instability and investment rates or productivity. Barro (1991) finds that instability negatively affects economic growth and investment and argues that property rights are not enforced in politically unstable environments. Alesina & Perotti (1996) show that political instability has a negative effect on investment in a sample of 70 countries from 1960 to 1985. Venieris & Gupta (1983) confirm their results using a different sample of countries and time period. Edwards (1998) and Berthélemy & Söderling (2001), however, both report either statistically weaker or mixed empirical results. Edwards, in a panel of 93 countries from 1960 to 1990, finds a negative, but relatively weak, relationship between instability and productivity growth. Berthélemy & Söderling show that coups d'état and revolutions negatively and significantly affect investment rates in Sub-Saharan Africa, although the finding is not robust to the inclusion of productivity measures.⁹

Political instability can also depress the accumulation of human capital. Maloney (2002) argues that endemic political instability in Latin America may have been one of the major reasons why countries in the region have low levels of human capital.

However, the empirical evidence that instability lowers human capital accumulation is not definitive. In one of the few papers that test the relationship between the two, Fedderke & Klitgaard (1998) distinguish between “regime-threatening” and “non-regime threatening” political instability and find that only the former is negatively related to education levels.

Besides a direct effect on the accumulation of physical and human capital, political instability can have detrimental effects on the policymaking environment and governance in general. Butkiewicz & Yanikkaya (2005) argue that “governments in politically unstable and polarized countries are more likely to adopt inefficient or sub-optimal policies, including the maintenance of inefficient tax systems, higher current government consumption, or the accumulation of larger external debts, which, in turn, adversely affect long-run economic growth.” Chief executives who are politically vulnerable are less likely to undertake necessary, but unpopular, economic reforms.

Likewise, Kaufmann & Kraay (2002) argue that good governance has a positive effect on per-capita income growth, and that one of the components of good governance is low political instability.¹⁰ The reason for instability’s inclusion in the definition of governance is that “the quality of governance in a country is compromised by the likelihood of wrenching changes in government, which not only has a direct effect on the continuity of policies, but also at a deeper level undermines the ability of all citizens to peacefully select and replace those in power” (p. 177). They go on to argue that Latin American countries have low levels of governance in comparison to other regions of the world, and that the economic growth in the region has come without an improvement in

governance. In the section below, we discuss our measure of political instability and some of the factors which may help to explain the prevalence of instability in the region.

III. An Empirical Model of Political Instability

We construct a measure of political instability using data from the Cross National Time Series Data (Banks (2005)). Because there are so many different types of instability, we begin by creating three categories of instability: the first includes all events which pose a major threat to the political and economic system at the national level such as coups, revolutions, and government crises; the second consists of events that reveal citizen discontent with the political system, such as general strikes, riots, and anti-government demonstrations; and the third includes extreme violent actions either by opposition elements or by the government in response to such opposition, such as guerilla warfare, assassinations, and purges.¹¹ We then sum, by category, the number of unstable events that occurred in each country over a 5 year period. As our three dimensions of political instability are likely to be highly correlated, we then take the principal component of these three categories as our measure of political instability.¹²

Table 1 shows the average (and ranking) of our index of political instability for the individual countries in our sample, where larger numbers are associated with greater instability. Based on our measure of instability, the four most unstable countries are Argentina, Guatemala, Bolivia, and Colombia while the four most stable are Panama, Honduras, Paraguay, and Costa Rica. While the unstable group had at least twice as many unstable events as the stable group in each individual measure of instability (assassinations, coups, crises, demonstrations, guerilla action, purges, revolutions, riots,

and strikes), the differential was especially great in the case of assassinations and guerrilla warfare. The unstable group had a total of 231 assassinations during the sample period and 62 instances of guerrilla warfare, while the stable group experienced a sum of 35 assassinations and 7 instances of guerrilla warfare.¹³ Argentina and Guatemala each experienced around 200 events of political instability from 1971-2000. Of those two hundred events, 124 of them in Argentina revealed citizen discontent, while 125 of them in Guatemala consisted of extreme violence.

While most empirical studies of political instability focus on the effects of instability on investment or growth, several studies investigate the factors important explaining political instability. In the paragraphs below, we discuss the variables most emphasized in this literature. Table 3 provides a more detailed description of all the variables used in the estimation and their sources, while Table 4 provides summary statistics.

A. Democracy, Factionalism, and Regime Duration

Many studies highlight the importance of regime type to political stability. Ellingsen (2000) and Parsa (2003) argue that democratic regimes tend to experience less political instability than undemocratic regimes because they allow citizens to participate in the political process. By allowing political participation, violence will be less likely to arise in democratic regimes because conflict can be solved through voting and consensus (Rummel (1995)). Auvinen (1997) and Przeworski & Limongi (1997) also point out that democracies divert resources from investment to consumption, which allows democratic

regimes to provide more economic and political goods, thus alleviating deprivation and discontent.

Feng (1997), in a sample of 96 countries from 1960 to 1980, presents evidence of a positive relationship between democracy and stability. More recently, although Goldstone et.al. (2004) find that democracy is one of the most important factors behind political stability around the world, they show that weak and factionalized democracies are some of the most unstable types of regimes. In a study restricted to Latin American countries, Schatzman (2005) finds mixed results for the relationship between democracy and stability, depending on the measure of stability. Specifically, she finds that countries with more democratic regimes are less likely to experience collective protests, but more likely to experience rebellions.

To measure democracy, we construct five-year averages of POLITY2, a variable obtained from the Polity IV Project. POLITY2 is equal to a country's democracy score less its autocracy score. Since the underlying variables range from 0 to 10, POLITY2 has a range of -10 and 10, where higher values represent stronger democracy. We also include two other regime measures. The first is a dummy variable that accounts for the presence of factionalism, where factionalism is defined by the Polity IV dataset as "polities with parochial or ethnic-based political factions that regularly compete for political influence in order to promote particularist agendas and favor group members to the detriment of common, secular, or cross-cutting agendas."¹⁴ We take the average factional score for each five year period as a measure of particularist politics.

The second is a measure of regime durability and it is measured the year before each 5 year period. It is defined as the number of years that a country has not undergone

a significant regime change, defined by the Polity IV as a 3 point move in a country's democracy score. Countries which have remained consistently democratic or autocratic during the sample may be less likely to experience a drastic change in regime. We also interact this with a democracy dummy which is equal to one when POLITY2 is greater than 0. In this way, we can also determine if durability matters across regime types.

B. Neighborhood Instability

Political instability can be contagious since revolutionary groups and ideologies can cross borders. Countries in “bad neighborhoods” might suffer from neighboring instability, especially if that instability causes a flood of refugees into the country or if guerilla armies use a country as a base from which to attack their home country.

Goldstone et.al. (2004) find that countries with four or more political unstable neighbors are more likely to experience political instability, while Schatzman (2005) finds that political instability in neighboring countries increases the probability of a country experiencing collective protests.¹⁵ We create a variable that is equal to the number of neighbor countries that experienced political instability during each five-year period. We follow Goldstone et.al.'s approach and consider a country as politically unstable if there was either an ethnic conflict or a revolutionary war during the year, since these are the types of instability that are most likely to affect neighboring countries. Figure 1 illustrates the “bad neighborhoods” in Latin America and shows that countries in trouble tend to be clustered in the same region. There are two main blocs: the first is in Central America and includes Guatemala, El Salvador, and Nicaragua; the second is in northwestern South America and includes Colombia and Peru.

C. Inequality

Eckstein & Wickham-Crowley (2003) and Oxhorn (2003) provide evidence that the increase in democracy in Latin America has come without an improvement in the distribution of income, and that income disparity may be threatening stability in the region. Inequality is considered a significant explanatory variable of political instability because, at least in part, inequality in education, skill, income, and wealth creates an uncertain environment where it is difficult to promote democracy, and low democracy has been associated with high political instability (Tulchin & Brown (2002)). Acemoglu & Robinson (2006) develop a theoretical model of democracy and income inequality and argue that high income inequality in Latin America is one of the main causes of weak democracy in the region. According to Acemoglu & Robinson (2006), the elite will be against democracy in highly unequal societies because a democratic system will impose more redistributive policies. In addition, Perotti (1996) and Auvinen & Nafziger (2002) argue that an unequal distribution of income will produce social discontent, since individuals will perceive that income is unfairly distributed, leading to manifestations and uprisings.¹⁶ Empirically, Alesina & Perotti (1996), Perotti (1996), and Odedokun & Round (2001) show that countries with high income inequality are more likely to be politically unstable.¹⁷

To determine the effect of income inequality on the political environment, we create two dummy variables representing countries with high and low levels of income inequality. To create these dummy variables, we first calculated the mean of the Gini coefficient (from 1971 to 2000) for all the countries in the sample.¹⁸ The high (low) inequality dummy variable is equal to one for those countries that have an average Gini

coefficient of one standard deviation above (below) the sample mean. As shown in Table 1, the most unequal countries in our sample are Guatemala, Peru, the Dominican Republic, and Bolivia. The least unequal are Paraguay, Costa Rica, Uruguay, and Nicaragua.¹⁹ It is interesting to note that, except the Dominican Republic, all of the highly unequal countries are also in the high instability sample. Likewise, two of the most politically stable countries also have the least amount of income inequality (Costa Rica and Paraguay).

D. Other socio-demographic conditions

Other variables, such as ethnic fractionalization, economic discrimination of ethnic minorities, and urbanization growth are relevant determinants of political instability.²⁰ Specifically, Annett (2000), Auvinen & Nafziger (2002), Collier & Hoeffler (2004), and Ellingsen (2000) show that ethnic fractionalization has a positive and significant effect on instability levels. Auvinen & Nafziger (2002), on the other hand, argue that ethnic fractionalization is not a sufficient condition for political instability since ethnic antagonism does not necessarily exist in highly fractionalized societies.²¹ Auvinen & Nafziger (2002), Ellingsen (2000), and Goldstone et.al. (2005) claim that economic discrimination of ethnic minorities is what leads to political instability because those groups that are discriminated against will rebel against the system.

While urbanization growth has also been considered in explanation of political instability, there is no consensus on how urbanization rates affect political instability. For example, Collier & Hoeffler (2004) argue that the rate of urbanization is low during periods of instability, and that this negative relationship is due to the fact that a

government has better military capability in a highly urbanized country than in a less urbanized country. With low urbanization rates, the population is dispersed and it is difficult for the government to contain instability. On the other hand, Auvinen (1997) and Annett (2000) argue that urbanization tends to promote more political instability. High urbanization rates promote more instability because it is difficult for the government to provide basic services in highly populated cities, which creates popular discontent.

To investigate the effect of these socio-economic factors on instability, we include the number of years of the five year period in which there is at least one group that experiences economic discrimination, ethnic fractionalization (and its square), and the average urbanization growth rate for each five-year period.²²

D. Macroeconomic factors

While the majority of papers on political instability investigate the effects of instability on growth or investment, several models study the possibility that economic variables help explain instability. Poor economic performance has been considered as a major cause of political instability for two reasons. First, when income is low (or falling), the opportunity cost for an individual to rise up, protest, or revolt is low (Collier & Hoeffler (2004)). Individuals have an incentive to quit their participation in productive activities and take part in protests and insurrections (Grossman (1991)). Second, poor economic conditions increase deprivation, which will fuel political instability as citizens perceive their government to be incompetent (Auvinen & Nafziger (1999), Ellingsen (2000), and Posner (1997)). Goldstone et.al. (2005) use infant mortality as a measure of

the standard of living and find that this variable is one of the best overall predictors of political instability around the world.²³ In addition, Cuzan et.al. (1988), Annett (2000), and Blomberg & Hess (2002) and Booth (1991) show that low income growth has a positive effect on instability.²⁴

Many papers study the effect of political instability on inflation rates, but less have investigated the possibility that high (or volatile) inflation may destabilize polities. Cukierman et.al. (1992) find in a sample of 79 countries that politically weak governments are more likely to resort to seignorage. Paldam (1987) focuses on eight Latin American countries from 1946-83 and shows that the causality between inflation and instability work both ways. He goes on to demonstrate that almost no regime in the region has survived a bout of hyperinflation, a trend that still holds in the region. Of the countries with the highest and most volatile inflations, almost all were forced out of power (either by a coup d'etat or by the military leaving in disgrace, as was the case of Argentina in the early 1980s and Brazil in the mid-1980s).

Besides inflation itself, government spending may be a stabilizing or destabilizing factor, depending on how the spending is financed. Annett (2000) finds that an increase in government spending is associated with lower levels of political instability, while Cuzan et.al. (1988) find that an increase in government spending increases political instability in Latin American countries.

Lastly, Goldstone et.al. (2005) and Donovan et.al. (2005) discuss the possibility that trade openness might have on political instability. Goldstone et.al. note that “countries with lower trade openness (at the 25th percentile in the global distribution) had roughly two to three times higher odds of near-term instability than countries with higher

openness to trade (those at the 75th percentile).” Donovan et.al. argue that trade openness may be negatively associated with instability if openness brings about more economic growth. They also note that openness increases a country’s contact with outsiders, which may stimulate productivity growth and improve domestic institutions.

To investigate the effects of macroeconomic variables on instability in the region, we include the share of investment as a percentage of GDP, the standard deviation of inflation (as a measure of inflation volatility), the share of the government budget deficit as a percentage of GDP, and openness to trade.²⁵ All of these variables are constructed in five-year averages. However, since there may be a reverse causality issue between them and political instability, we use the first lag in each case.

IV. Results

In this section, we test in a panel of 18 Latin American countries whether the variables discussed above significantly influence political instability. We use Ordinary Least Squares and White robust standard errors for all estimations. Unless otherwise noted, all of the data is averaged into 5 year periods, allowing us to capture information from both average cross country differences and fluctuations over time.²⁶

Column 1 of Table 5 presents our results and shows that the model explains 46 percent of the variation in the instability index. One of the most interesting results from column 1 is that the regime type and durability significantly affect instability levels in the region. The coefficient on POLITY2 is negative and significant at the .01 level, meaning that countries with higher levels of democracy in the five-year period have lower levels of instability on average. The quantitative effect of democracy is not quantitatively large;

a one standard deviation increase in POLITY2 (equal to 6.09) is associated with a .36 point decrease in the political instability index (which is equal to almost one-third of a standard deviation).

The coefficient on the factional dummy is positive and significant at the 1 percent level, supporting Goldstone et.al.'s (2005) findings that factionalized political regimes are also more unstable on average. The quantitative effect of factionalism on instability is slightly larger than the effect of the POLITY2 variable, but it is still small. A one standard deviation increase in factionalism (equal to .36) is associated with a .44 point increase in the political instability index.

To determine the effect of regime durability on political instability, we also want to control for the possibility that different regime types may have different effects on political instability. For this reason, we include in our model an interaction term of the duration of a regime and a dummy equal to one for democratic countries.²⁷ We find that the coefficient on durability is negative and weakly significant, but that the interaction term is positive and significant at the .01 level. These results imply that new autocratic regimes are more likely to face political instability in the subsequent five-year period than more established ones.

Somewhat surprisingly, the results also indicate that older democracies also face higher instability levels than equally established autocracies. One possible reason for this finding is the fact that individuals in a democratic regime have more opportunity to express their discontent through non-violent demonstrations. Since our index of political instability includes demonstrations and strikes, our finding supports the view that under democracies the dynamic between the government and society may be different.²⁸

Unlike the results in Goldstone et.al. (2005) and Schatzman (2005), we find no evidence of regional contagion in the region. We also find no significant correlation between economic discrimination of minorities and instability. We do show, however, that overall ethnic diversity does matter for instability. Column 1 shows that the ethnic fractionalization index has a significant negative effect on instability at the 10 percent level, while the square of this index has a significant positive effect on political instability at the 1 percent level. Figure 2 graphs the non-linear relationship between ethnic diversity and instability that we find. Increases in diversity lower instability until the fractionalization index reaches .33, at which point any further ethnic diversity increases average instability levels. The range of diversity in Latin America is from about .17 (Paraguay) to .74 (Bolivia). Argentina, Chile, Costa Rica, El Salvador, Honduras, Paraguay, and Uruguay all have diversity rankings to the left of the turning point, while the rest of the sample have diversity levels associated with higher levels of instability.

Income inequality also has an important affect on instability levels in the region. The coefficients on the high and low inequality dummies are statistically negative and significant at the .01 level. Countries with low income inequality have an average of 1.07 points less on our index of political instability than countries with medium levels of inequality. Thus, the effect of low inequality is both statistically and quantitatively important (1.07 is close to one standard deviation in the instability index), supporting Alesina & Perotti's (1996) finding. Nonetheless, our estimation shows that countries with high income inequality have an index of political instability below 0.54 points than countries with medium levels of income inequality. This finding supports Acemoglu &

Robinson's (2006) model of the relationship by showing that the effect of income inequality on political instability is not a linear function of the Gini coefficient.

Of the different macroeconomic variables discussed in the previous section, only trade openness is consistently significant. Neither the level nor the standard deviation of inflation are statistically significant (we report only the results of using the standard deviation for reasons of space), nor is government deficit share. Investment as a percentage of GDP is negative and significant at the .10 level, meaning that countries which invested more in the previous five-year period have less instability in the current period. Trade openness is positive and significant at the .01 level, indicating that an increase in openness by one standard deviation in the previous five-year period is associated with a .35 point decrease in the instability index. This result supports Goldstone et.al.'s (2005) finding that trade openness was negatively related to instability in Sub-Saharan Africa.

Lastly, the results in column 1 show that urbanization growth rate is negative and significant at the .01 level. This finding is especially interesting since there are two contrasting views in the literature on urbanization and instability. Our finding provides support for the argument that urbanization can help to promote political stability (Collier's & Hoeffler (2004)). Specifically, we find that one standard deviation increase in the urbanization growth rate (equal to 3.243) is associated with a drop in the political instability index of .42 points.

For robustness purposes, we re-estimate the model and exclude the variables that are not significant at least at the 10 percent level (neighborhood conflict, economic discrimination, the standard deviation of inflation, and the government deficit share). We

perform an F test and find that we cannot reject (at the 5 percent level) the hypothesis that these variables as a group do not explain significantly political instability. Column 3 of Table 5 shows the results from this estimation. The results are almost identical to that of column 1, with the exceptions that the coefficient on ethnic fractionalization is now significant at the .05 level instead of the .10 level and the coefficient of the interaction term between the regime durability variable and the democracy dummy is now significant at the .05 level instead of the .01 level.

In addition, we re-estimate our model using a different measure of democracy. Here we measure democracy as the five year average of the democracy score (DEMOC) provided by the Polity IV dataset. The variable ranges from 0 to 10 and it measures the degree of openness of political institutions.²⁹ Like the POLITY2 variable, higher values of DEMOC are associated with higher levels of democracy. Using this new measure of democracy, column 2 of Table 5 shows the estimates of the full model. Column 4 of Table 5 shows the estimates of the restricted model that excludes those variables that are not significant as group based on the F test.

The results are very similar to the previous results. For example, the coefficient on democracy is negative and statistically significant at the .01 level. The coefficient on the democracy score indicates that an increase on democracy of one standard deviation (equal to 3.56) is associated with a .39 point decrease in the political instability index, which is very close to the estimate when we use the polity score (POLITY2) as a measure of democracy. Although results obtained from this estimation are very similar to previous results, there are some slight differences. The coefficient on factionalism becomes is now significant at .05 level instead of .01 level, ethnic fractionalization

becomes significant at the .05 level instead of .10 level, and the investment share is now insignificantly different from zero.³⁰

V. Discussion

In this paper, we investigate the main factors behind political instability in 18 Latin American countries from 1971 to 2000. We estimate a model of instability for the region, including variables such as regime type and durability, income inequality, ethnic diversity, ethnic discrimination, regional spillover effects, urbanization growth, and a host of macroeconomic variables. We find many interesting results.

First, we show that democracy and factionalism have a significant effect on political instability. Countries with strong democratic regimes suffer less political instability on average, while countries with factional regimes experience higher average political instability. In addition, we show that regime durability has a negative effect on instability, although long lived democracies are more vulnerable than long lived autocracies. These findings are important because they highlight the need to establish the institutions and policies to promote strong democracies in Latin American countries, and also the possibility of future research on regime durability and democracy in the region.

We also find that the low income inequality dummy has a significant negative effect on political instability, meaning that policies which promote a more equal distribution of income may have a side benefit of lowering overall political instability. For instance, while the promotion of a more egalitarian society through taxation may not be feasible (or popular) in the region, policy-makers could promote income equality through education. Our estimates show that ethnic fractionalization is partly behind high

political instability in Latin America, and that highly fractionalized countries will tend to experience more political instability. This highlights the importance of establishing institutions that incorporate individuals from diverse ethnic groups in the political process with the purpose to promote more stability.

The demographic composition of a country is also important, since more urbanization seems to be associated with lower levels of political instability. Policies related to urbanizing and incorporating rural regions into to the national economy can also be used to promote stability in the region. Lastly, while many of the macroeconomic variables were insignificantly related to instability, we show that openness to trade is negatively and significantly associated with political instability. Although Latin American countries have already significantly decreased their barriers to international trade, these results suggest that further trade liberalization will promote more political stability in the region.

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Table 1
Political Instability, Democracy, and Income Inequality Averages (1971 – 2000)

	Political Instability	PI Ranking	# of Events	PI Events Ranking	Polity 2 Score	Polity2 Ranking	Gini Coeff.	Gini Ranking
Argentina	2.270	1	218	1	2.433	9	43.954	12
Bolivia	1.535	5	136	7	3.233	7	47.489	4
Brazil	0.477	11	81	11	1.900	11	47.024	5
Chile	1.343	7	155	5	0.267	14	45.491	8
Colombia	1.630	4	168	3	7.833	3	44.152	11
Costa Rica	-0.278	18	16	18	10.000	1	41.285	17
Dom. Rep.	0.333	15	72	12	4.167	5	47.505	3
Ecuador	0.811	10	86	10	5.167	4	45.050	9
El Salvador	1.469	6	154	6	3.167	8	45.013	10
Guatemala	1.941	2	195	2	0.667	13	48.933	1
Honduras	0.471	12	72	13	3.633	6	45.796	7
Mexico	1.059	8	119	8	-1.033	17	42.930	14
Nicaragua	0.856	9	94	9	-0.233	15	41.942	15
Panama	0.365	14	58	15	-0.467	16	46.729	6
Paraguay	0.016	17	36	17	-2.533	18	40.109	18
Peru	1.766	3	157	4	1.433	12	48.158	2
Uruguay	0.294	16	58	16	2.233	10	41.751	16
Venezuela	0.436	13	65	14	8.633	2	43.919	13

Table 2
Description of the Components of Instability

<i>Variable</i>	<i>Defined by the Cross-National Time Series Data Archive As:</i>
Coup d'etat	“The number of extraconstitutional or forced changes in the top government elite and/or its effective control of the nation's power structure in a given year. The term ‘coup’ includes, but is not exhausted by, the term ‘successful revolution’. Unsuccessful coups are not counted.”
Assassination	“Any politically motivated murder or attempted murder of a high government official or politician.”
General Strike	“Any strike of 1,000 or more industrial or service workers that involves more than one employer and that is aimed at national government policies or authority.”
Guerrilla Warfare	“Any armed activity, sabotage, or bombings carried on by independent bands of citizens or irregular forces and aimed at the overthrow of the present regime.”
Government Crisis	“Any rapidly developing situation that threatens to bring the downfall of the present regime - excluding situations of revolt aimed at such overthrow.”
Purge	“Any systematic elimination by jailing or execution of political opposition within the ranks of the regime or the opposition.”
Riot	“Any violent demonstration or clash of more than 100 citizens involving the use of physical force.”
Revolution	“Any illegal or forced change in the top governmental elite, any attempt at such a change, or any successful or unsuccessful armed rebellion whose aim is independence from the central government.”
Anti-Government Demonstration	“Any peaceful public gathering of at least 100 people for the primary purpose of displaying or voicing their opposition to government policies or authority, excluding demonstrations of a distinctly anti-foreign nature.”

Table 3
Description of the Independent Variables

<i>Variable</i>	<i>Description</i>
Democracy	Combined polity score (POLITY2) computed by subtracting the autocracy score from the democracy score. Source: Polity IV Project.
Democracy (alternative measure)	Democracy score (DEMOC) measures the general openness of political institutions. Source: Polity IV Project.
Economic discrimination	Number of years in the 5 year period that a country has had state-led economic discrimination against at least one group, measured as a 4 on the economic discrimination index. Source: Minority at Risk Dataset.
Ethnic fractionalization	Ethnic fractionalization index. Source: Alesina et.al. (2003) Dataset.
Factionalism	Political competition score (POLCOMP) that combines the regulation and competitiveness of participation scores. Source: Polity IV Project.
Government budget deficit as a share of GDP	The percentage of government budget in nominal prices (government expenditure minus government revenue). Source: OXLAD.
Inequality dummies	High (low) inequality dummy equal to 1 if a country has an average Gini coefficient one standard deviation above (below) the world mean. Source: University of Texas Inequality Project.
Inflation	The level and standard deviation of inflation in the 5 year period. Inflation calculated using the GDP deflator. Source: World Bank Development Indicators.
Investment share of GDP	The percentage of GDP that comes from investment. Source: Penn World Tables 6.2.
Neighborhood conflict	Number of neighbor countries that experienced either an ethnic conflict or a revolutionary war. Source: Political Instability Task Force Dataset.
Regime durability	Number of years a country has had a particular regime (DURABLE). Source: Polity IV Dataset.
Trade Openness	Openness is equal to exports plus imports divided by real GDP (Laspeyres method). Source: Penn World Tables 6.2.
Urban population growth	Growth of the percentage of the total population that live in urban areas. Source: Oxford Latin American Economic History Database

Table 4
Summary Statistics

	Mean	Median	Std. Dev.
Democracy (POLITY2)	2.806	5.800	6.087
Democracy (DEMOC)	4.955	6.000	3.537
Economic discrimination	1.509	0.000	2.177
Ethnic discrimination	0.427	0.491	0.187
Ethnic discrimination ²	0.217	0.241	0.159
Factionalism	0.204	0.000	0.360
Government deficit share	-0.299	-0.014	2.838
High inequality	0.222	0.000	0.418
Standard Deviation of Inflation	195.825	8.593	808.505
Investment share	14.911	14.556	5.407
Low inequality	0.222	0.000	0.418
Neighborhood conflict	0.667	1.000	0.749
Openness	48.005	39.282	35.707
Political instability	0.933	0.596	1.202
Regime durability	12.685	6.500	16.133
Regime durability* Democracy	8.241	1.000	15.378
Urbanization growth	5.013	4.124	3.243

All variables have 108 observations

Table 5
Dependent Variable: Political instability

	1	2	3	4
Constant	3.23 (5.91)	3.63 (6.81)	3.40 (5.77)	3.76 (6.08)
Democracy*	-0.06 ^a (5.34)	-0.11 ^a (3.95)	-0.06 ^a (8.30)	-0.10 ^a (6.27)
Factionalism	1.23 ^a (2.53)	1.15 ^b (2.40)	1.30 ^a (2.94)	1.22 ^a (2.79)
Regime durability	-0.01 ^c (1.83)	-0.01 ^c (1.88)	-0.01 ^c (1.74)	-0.01 ^a (2.52)
Regime durability * democracy	0.02 ^a (2.65)	0.02 ^a (2.75)	0.02 ^b (2.04)	0.02 ^a (2.63)
Neighborhood conflict	0.05 (0.41)	0.03 (0.25)	**	**
Low inequality dummy	-1.07 ^a (3.19)	-1.01 ^a (3.09)	-1.15 ^a (3.96)	-1.08 ^a (3.87)
High inequality dummy	-0.54 ^a (3.46)	-0.56 ^a (3.66)	-0.55 ^a (3.35)	-0.55 ^a (3.41)
Economic Discrimination	0.02 (0.88)	0.03 (0.99)	**	**
Ethnic Fractionalization	-4.97 ^c (1.87)	-5.49 ^b (1.99)	-5.23 ^b (2.22)	-5.61 ^b (2.24)
Ethnic Fractionalization ²	7.67 ^a (2.93)	8.34 ^a (3.04)	8.06 ^a (3.55)	8.52 ^a (3.51)
Urbanization	-0.13 ^a (5.58)	-0.13 ^a (5.61)	-0.13 ^a (5.94)	-0.13 ^a (5.99)
Standard Deviation of Inflation	0.0001 (1.61)	0.0001 (1.43)	**	**
Investment share _{t-1}	-0.05 ^c (1.71)	-0.05 (1.63)	-0.05 ^c (1.73)	-0.05 (1.63)
Government deficit share _{t-1}	0.02 (0.93)	0.02 (1.07)	**	**
Trade Openness _{t-1}	-0.01 ^a (2.92)	-0.01 ^a (2.89)	-0.01 ^a (2.66)	-0.01 ^a (2.89)
R-squared	0.465	0.466	0.454	0.456
Observations	108	108	108	108

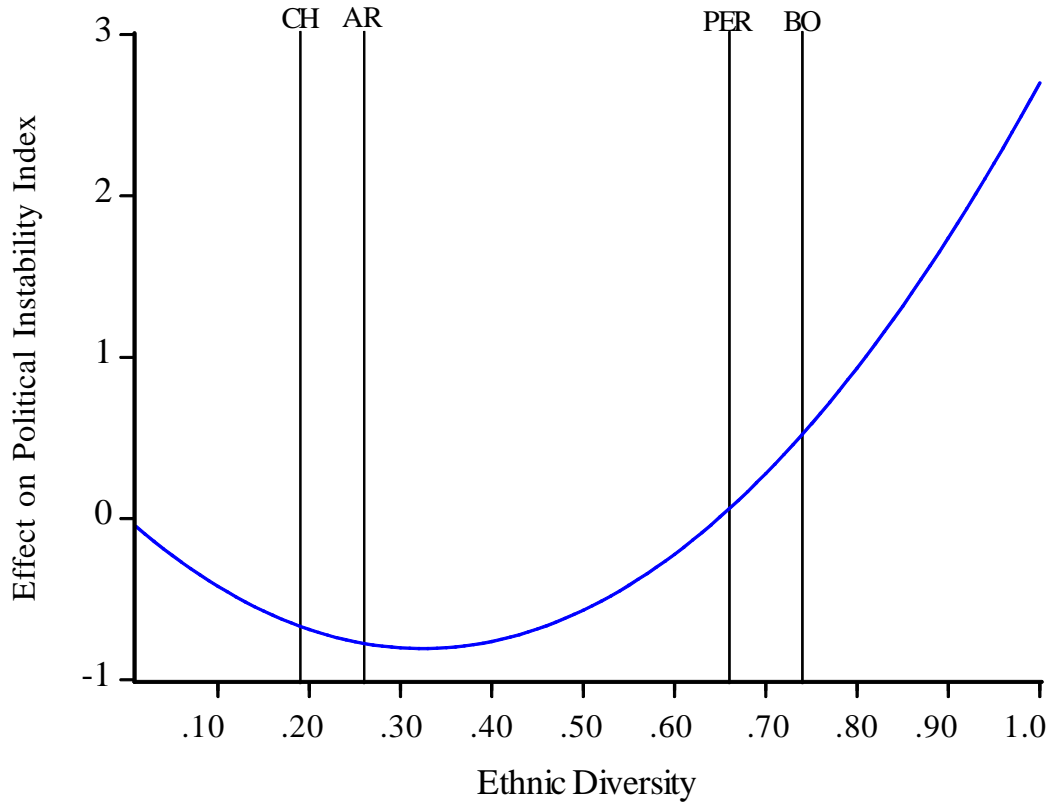
t-statistics in parentheses use White's robust standard errors. a, b, and c represent statistical significance at the 1, 5, and 10 percent level, respectively. *Democracy is measured with the POLITY2 variable in columns 1 & 3 and with the DEMOC variable in columns 2 & 4.

Figure 1
Bad Neighborhoods in Latin America (1971-2000)



Source: www.ftaconsulting.com/images/map.gif
*Bad neighborhoods in red (modification)

Figure 2
The Effect of Ethnic Diversity on Political Instability



Notes

¹ The statistic is from Goldstone et.al. (2005).

² Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

³ Our measure here of democracy is any country with an average POLITY2 score above zero for the 6 five-year periods in our panel. See Table 3 for a definition of the POLITY2 measure.

⁴ Even though the majority of Latin American countries undertook democratic reforms in the 1980s and 90s that promoted stability, Foran (2005) and Wickham-Crowley (2001) argue that the region will continue to experience political instability in the future.

⁵ Grier & Tullock (1989) demonstrate the importance of testing the validity of pooling data from large samples of countries together in a single growth equation. They show that the coefficients in the growth equation are significantly different across different sub-samples and cannot be appropriately pooled. Block's (2001) work also provides evidence on the idea that critical slope terms are different for different sub-samples.

⁶ For the effects of instability on economic development, see Hibbs (1973), Benhabib & Spiegel (1997), Benhabib & Rustichini (1996), Edwards (1996), Gyimah-Brempong & Traynor (1996) and Alesina & Perotti (1996).

⁷ See McDonald & Siegel (1986), Majd & Pindyck (1987), Bernanke (1983) and Cukierman (1980), and Stewart & Venieris (1985).

⁸ De Melo et.al. (1996) and Knight et.al. (1996) both confirm the damaging effect civil war has on a country's capital stock.

⁹ It has been argued that the direction of causality could run the other direction, where low growth rates make political instability more likely. Campos & Nugent (2003) use a Granger causality test to determine the direction of causality between political instability and investment. They find in a sample of developing countries that the causality goes from political instability to capital accumulation and not vice versa. Londregan & Poole (1990), on the other hand, find no evidence of a relationship between political instability and investment.

¹⁰ Political instability is considered by Kaufmann and Kraay (2002) as one of the dimensions of governance, and they define governance as "the traditions and institutions by which the authority is exercised, the process by which governments are elected and monitored, and the capacity of the government to effectively formulate and implement sound policies" (p.176).

¹¹ See Table 2 for a detailed definition of all of these variables.

¹² The first principal component explains 55.9% of the variance of instability, while the first and second components cumulatively explain 81.2% of the variance. Since the first component explains more than half of the variation in the series, we use it as our measure of political instability. Since we want to have a measure of political instability and not a

measure of political stability, our measure of political instability is equal to one minus the principal component of these three variables.

¹³ There were 8 coups d'état, 41 government crises, 142 anti-government demonstrations, 16 purges, 53 revolutions, 70 riots, and 94 general strikes in the unstable group. The numbers in the 4 most stable countries were 4 coups d'état, 12 government crises, 71 anti-government demonstrations, 3 purges, 11 revolutions, 13 riots, and 26 general strikes.

¹⁴ According to the Polity IV, factional regimes also must have the following electoral participation characteristics: "There are relatively stable and enduring political groups which compete for political influence at the national level—parties, regional groups, or ethnic groups, not necessarily elected—but there are few, recognized overlapping (common) interests."

¹⁵ On the other hand, she finds that regional instability decreases the probability of rebellions in the domestic country.

¹⁶ Likewise, Parsa (2003), Eckstein & Wickham-Crawley (2003), and Oxhorn (2003) argue that high income inequality in Latin America promotes political instability in the region.

¹⁷ However, in a sample restricted to Sub-Saharan countries, Nel (2003) finds that income inequality has a significant effect on investors' perceptions about the political environment but not a significant effect on political instability.

¹⁸ We use the Estimated Household Income Inequality (EHII) measure created by Galbraith & Kum (2004) and provided by the University of Texas Inequality Project (UTIP).

¹⁹ The remaining 10 countries are those with levels of income inequality in the medium range, and we consider those as the control group in our analysis.

²⁰ Alesina & Perotti (1996) also use primary school enrollment rates as an explanatory variable of political instability and find that education has a significant negative effect on political instability. Collier & Hoeffler (2004) use the male secondary enrollment rate as an explanatory variable, arguing that the variable reflects the opportunity cost of rebellion. We do not include education in our specification because we found no significant relationship between it and political instability in any of our estimations.

²¹ Easterly & Levine (1997) also use ethnic fractionalization as an explanatory variable of political instability but find that it is not significant.

²² It is possible that the effect of fractionalization is non-linear, where highly homogenous societies and highly diverse ones are both associated with more stability.

²³ We do not include infant mortality as an explanatory variable in our model because we found that it has no significant effect for the Latin American countries.

²⁴ Investment rates are also thought to be important to political stability. For instance, investment and instability are simultaneously determined in Alesina & Perotti's (1996) model. In our estimation we do not include the real GDP growth because we find that it is not statistically significant.

²⁵ The investment share and openness to trade variables were obtained from the Penn World Tables 6.2. The government deficit was estimated using data provided by the Oxford Latin American Economic History Database (OXLAD). See Table 2 for an explanation of how government deficit as share of GDP was constructed.

²⁶ See Grier & Tullock (1989) for a justification of using 5 year intervals instead of averaging over long periods.

²⁷ Countries are considered as democracies if they have an average POLITY2 score greater than zero.

²⁸ This result suggests further study on how the dynamics between government and society have evolved in democratic regimes in Latin America.

²⁹ For this variable, observations with codes -88 and -77 were eliminated since they indicate a transition period or a period in which there is a collapse of central political authority. Few observations had these codes and the 5 year averages were constructed with the remaining observations.

³⁰ Although investment share becomes insignificant, an F test shows that this variable should not be eliminated from the estimation of the restricted model.