

Globalization and Inequality in Latin America and the Caribbean

Evelyne Huber and John D. Stephens

University of North Carolina, Chapel Hill

Paper prepared for the conference on “Inequality beyond Globalization” ISA-RC02 Midterm Conference, University of Neuchâtel, June 26-28, 2008. Send correspondence to Evelyne Huber and John Stephens, Department of Political Science, University of North Carolina, Chapel Hill, NC 27599-3265; phone: 919-962-3381; fax: 919-962-0432; or to ehuber@unc.edu or jdsteph@unc.edu.

We would like to acknowledge the support of National Science Foundation Grant # SES-0241389 for collection of the data and the Hanse Institute for Advanced Study in Delmenhorst, Germany, for support and a stimulating environment to work on this study.

Introduction

Latin America is the region of the world with the highest degree of inequality. This inequality has deep historical roots and has shown little improvement with economic growth. Indeed, the data available indicate that despite the transitions to democracy and the return of economic growth in the 1990s, inequality is somewhat higher now than in the two previous decades (see Table 1; see also IDB 1998). Averages, of course, hide significant variation between Latin American countries. In a previous study (Huber et al. 2006) we focused on this variation and demonstrated that politics and policies matter for inequality. Specifically, we found that a strong record of democracy and a left-leaning legislative partisan balance are associated with lower levels of inequality, as is social security and welfare spending under democratic regimes. However, this leaves one with somewhat of a riddle as these political and policy variables increase through time, which should lead to lower, not higher levels of inequality.

The literature on development suggests that globalization is an obvious candidate for an explanation of the rise in inequality. There is no question that, temporally, increasing globalization is associated with increasing and sustained high levels of inequality in Latin America. The question is whether the two trends are causally linked as well, more precisely, whether globalization has caused higher levels of inequality. Our answer is that indeed they are causally linked, but in a complex manner that poses challenges to conventional conceptions of globalization and to linear and additive models of its effects.

In brief, our argument is as follows: If we conceptualize and measure globalization as greater integration of national economies into world markets through higher levels of openness to trade and capital flows, greater presence of foreign investment, and greater IMF involvement, we find only partial effects on levels of inequality in Latin America, once we control for other variables that have been shown to determine levels of income inequality. Politics and policies make a significant difference, as do ethnic heterogeneity and sector dualism, demonstrating that more open economies do not necessarily produce higher levels of inequality and that there is still room for choice for governments to pursue redistributive policies. However, if we think more broadly about the momentous changes in the Latin American economies triggered by the debt crisis and by subsequent pressures from international financial institutions (IFIs) for structural adjustment, we need to conceptualize globalization as the transition to a new model of insertion into the world economy, from the import substitution industrialization (ISI) model to the neoliberal model. This transition entailed deindustrialization and informalization, as industrial jobs were lost due to import competition, privatization, and loss of a wide variety of state support for industrial enterprises. Accordingly, we need to use indicators such as level of industrial employment and size of the informal sector, which indeed have significant and strong effects.

Development Models and Inequality

The initial integration of Latin America and the Caribbean into the modern industrial world economy at the end of the 19th century took the form of raw material exports – agricultural products and minerals – and imports of finished goods. The economic policy model followed liberal principles of minimal state regulation and ownership. Investment in the dynamic

economic sectors and in infrastructure supporting these sectors was heavily foreign. The bulk of the population remained in agriculture, where landholding was extremely concentrated.

Inequality in land holding and political power is at the center of the deep historical structural roots of inequality, originating in the colonial order. It not only cemented stark income inequality in the rural sector but also greatly contributed to the massive rural - urban migrations in the 20th century and thus to the swelling of the reserve army of unemployed that depressed wages for urban unskilled workers (Morley 2001: 63-65). Inequality in access to education and infrastructure perpetuated and reinforced income inequality in both the rural and urban sectors. Inequality in assets and income was conditioned by and reinforced inequality in political influence and thus in political institutions and policies, which in turn perpetuated the vicious cycle of inequality.

As in all societies, including those outside of Latin America, such as Italy, Spain, and Prussia, where large landholders dependent on a large, cheap labor force played an important role in the national economy, they were determined and effective enemies of democracy (Moore, 1966; Rueschemeyer, Stephens and Stephens 1992). Restrictive labor legislation combined with the comparatively small size of the urban industrial sector hampered the formation of broad-based unions with sufficient independence to challenge existing institutions and acquire economic and political clout. Weakness of democracy obstructed the formation of strong political parties in general, and combined with weakness of labor it hampered the development of parties to the left of center in particular and thus of forces capable of building the redistributive capacity of the state and shaping a model of political economy that would produce growth with equity. Accordingly, inequality remained extremely high.

Beginning in the 1930s, Latin American countries led by Brazil, Mexico, and Chile embarked upon a new economic model, the ISI model. The state assumed a crucial role as promoter of industrialization through preferential tariffs, credit, exchange and tax rates, state contracts and other subsidies. The state also took on the role of owner and manager of enterprises in strategic sectors. Argentina followed this path under Perón in the 1940s, and other countries later, such that by the 1960s ISI was the dominant economic model. In the vast majority of countries, weakness of democracy, unions, and left-leaning political parties persisted and accordingly state action did little to mitigate inequality. However, there were exceptions, such as Argentina with strong unions, and Uruguay and Costa Rica with strong records of democracy and parties committed to redistributive state action and investment in human capital. Inequality in these countries became lower than in the rest, where the benefits from growth remained concentrated in the urban formal sector that was unable to absorb the bulk of the labor force.

The ISI model began to exhaust itself in the 1950s essentially because of chronic balance of payments problems and recurring balance of payments crises, caused by the inability of raw material exports to pay for the rapidly increasing import needs in intermediate and capital goods and for the payments to foreign capital. The easy availability of recycled petro-dollars in the 1970s kept the model alive but also led to the debt crisis of 1982 and thereafter. The debt crisis gave unprecedented leverage to the International Monetary Fund and the World Bank, whose agenda was to prevent default and promote the free flow of goods and capital in the world economy by pressing Latin American countries for economic austerity and structural adjustment.

Structural adjustment meant dismantling the ISI model by lowering tariffs and removing other import restrictions, along with capital controls and many other regulations, and privatizing state companies, the complex of policies amounting to a general retreat of the state in favor of market allocation of resources and captured by the shorthand description of neoliberalism. The debt crisis and ensuing need for austerity greatly constrained state capacity to counteract rising levels of poverty caused by the recession, even in those countries where the political balance of forces would have been favorable towards such action. Accordingly, poverty and inequality increased during the 1980s.

In the 1990s, capital flows to Latin America and economic growth resumed, and poverty could be reduced slightly in most countries (and dramatically in some countries, such as Chile), but inequality continued to rise or persist at high levels. Among the causes for this state of affairs is the fact that the transition from ISI to the neoliberal model caused deindustrialization, and the shrinking of the public sector further contributed to a decline of formal sector employment. This put downward pressure on wages for low skilled workers. At the other end of the educational scale, returns to higher education increased (IDB 1998:5). The transition to the neoliberal model also increased economic concentration and thus further concentration of capital income.

Many countries also introduced market principles into social policy. Moreover, established social policy schemes, which had only reached a majority of the population in the countries with the strongest ISI thrust to begin with, further lost effectiveness. The comparatively small proportion of formal sector employment meant that social security schemes modeled after those in advanced industrial countries had very different effects, covering a much smaller proportion of the population and thus being regressive instead of progressive (Lindert et al. 2005). It took massive political efforts to expand non-contributory conditional cash transfers to make a major difference in poverty levels and to begin to reduce inequality. In some countries, such as Brazil and Chile, these efforts were successful under left-wing governments in the first decade of the 21st century. However, by the end of this decade, rising food and fuel prices are threatening these gains. None of the Latin American countries have managed to impose an effective system of taxation that could capture income and property taxes from the top group and use them to finance transfers and investment in human capital at the bottom, along with job creation programs. Arguably, globalization has made tax evasion and avoidance for these groups easier and thus has hampered political efforts to reduce inequality.

Literature and Hypotheses

Our main focus is on the impact of the various measures of globalization on inequality. We treat the variables from our 2006 *American Sociological Review* article on politics and inequality as control variables (see Table 2).

Globalization

Capital Market Openness: Free movement of capital should attract more capital to developing countries, thus increasing the demand for labor and lowering the cost of capital, both of which should reduce inequality – unless, of course, capital is substituted for labor. Morley (2001) found a progressive effect of capital account opening in Latin America. However, higher

openness of capital markets has also been associated with higher volatility, and in downturns those with more assets can protect themselves better, which should increase inequality. Because it gives capital an exit option that labor does not have, capital mobility also increases the power of capital over labor both in wage bargaining and in the political arena. Thus, we adopt a non-directional hypothesis.

Trade Openness: Openness of the economy to trade theoretically should favor the abundant factor of production – unskilled labor – in developing countries. However, since more open economies in Latin America have also been exposed to competition from countries with even lower labor costs, such as China, this effect may be neutralized. Moreover, in more open economies in the information age there is a premium on higher education, such that the returns to higher education may rise and inequality increase. Accordingly, we adopt a non-directional hypothesis.

Foreign Direct Investment: Previous studies have found that stock of foreign direct investment has a positive effect on inequality (Bornschieer and Chase-Dunn 1985, Evans and Timberlake 1980). Tsai (1995) found that this effect is region-specific and that foreign direct investment has no significant distributional effect for Latin American countries. Reuveny and Li (2003) found that inflows of foreign direct investment have a positive effect on inequality in a worldwide sample of countries. We found that stock of foreign direct investment had a consistent positive effect on inequality in our models with politics and policy (Huber et al. 2006). We expect that stock and flows of foreign direct investment will continue to show a positive effect on inequality in Latin America and the Caribbean because foreign investment usually brings capital-intensive production that creates comparatively few but well paying jobs.

IMF Conditionality: IMF-prescribed austerity programs depress real wages, raise interest rates, and cut public expenditures, particularly on subsidies for popular consumption items and public services such as health and education. All of these measures hit lower income groups particularly hard and thus can be expected to increase inequality. The cuts in expenditures on health and education over the longer run result in lower human capital at the bottom, a further factor accounting for inequality. Relationships between the IMF and debtor countries are mostly tense, and agreements on austerity programs are frequently broken. Therefore, we measure the number of years during which countries have been under IMF programs, and we expect more years of IMF presence to result in higher levels of inequality.

Transition from ISI to liberal market capitalism

Industrial Employment: Industrial jobs in Latin America on average have paid higher wages than jobs in agriculture or services. In addition to higher productivity, this is also a result of the fact that industry, along with mining, has traditionally been the sector with the highest levels of unionization. The higher the proportion of the labor force employed in industry, the greater was the share of wage income. Thus, we expect higher levels of industrial employment to be associated with lower levels of inequality.

Informal Sector: The informal sector in Latin America is very heterogeneous, but low productivity activities dominate. Accordingly, workers employed in small enterprises in the informal sector earn less than workers in the formal sector, even controlling for experience and

years of schooling. The same is true for self-employed workers, the vast majority of whom are in the informal sector. Moreover, the difference between male and female earnings is larger among workers in the informal than in the formal sector and among the self-employed than among formal sector workers (IDB 1998: 40). Thus, we expect a larger informal sector to be associated with greater overall income inequality.

Market Liberalization: The transformation of ISI into liberal market economies in Latin America has been driven by policy changes in markets for goods and capital and in tax structures, as well as by privatization of state enterprises. We discussed the expected effects of trade and capital market liberalization above. The essence of tax reform was to lower marginal tax rates on income and corporate tax rates, and rely more on indirect taxes, which are generally regressive. Privatization tended to produce windfall gains for private investors and rationalization and job losses for employees, thus increasing inequality. On balance, then, we would expect the whole package of market liberalizing reforms to have regressive effects, and higher levels of market liberalization to be associated with higher levels of inequality.

Controls

Democracy: We have shown in our earlier study (Huber et al. 2006) that length of a country's democratic experience is associated with lower inequality. There are strong theoretical arguments to explain this association (Rueschemeyer, Stephens and Stephens 1992: 10). Democracy gives the powerless and underprivileged the chance to organize and use organization as a power base to gain entry into the political decision-making process. The most effective channels for underprivileged groups into the political decision-making process are political parties, as the poor lack the connections and funds to influence decision-makers directly. However, it takes time for parties to gain coherence and establish roots in social bases, as well as for legislatures to pass major pieces of legislation and for that legislation to be implemented. In particular, it takes time for parties representing the interests of less privileged groups to consolidate and gain representation in competition with parties representing privileged groups and enjoying a financial advantage. Therefore, we look at the whole democratic record in the second half of the 20th century.

Repressive Authoritarianism: We also examined the impact of different kinds of authoritarianism. Not all alternatives to democracy are equal. Indeed some non-democracies, such as the Peruvian military regime under Velasco in 1968-75, introduced redistributive reforms and allowed few human rights violations. Under the Velasco regime, popular organizations flourished. Others, such as the bureaucratic-authoritarian regimes in Argentina and Chile, redistributed income upwards and killed, tortured, and incarcerated thousands of their citizens, particularly targeting leaders of the left, organized labor, and other social movements. In the former case, forces promoting redistribution emerged strengthened from the regime, while in the latter case they emerged greatly weakened. We, therefore, expected extended rule by repressive authoritarian regimes to increase inequality. Yet, we expected this effect to begin to fade after the replacement of the repressive regime with a democratic one. In other words, we expected that the effect of 10 years of repressive authoritarian rule in the 1960s on inequality in the 1990s would be weaker than the effect of 10 years of repressive authoritarian rule in the 1980s.

Partisanship: In democratic settings, the prime carriers of political worldviews and corresponding policy orientations are political parties, and therefore we would expect the partisan balance of power in the legislature and the partisan affiliation of the executive to shape a variety of policies that affect inequality over the medium and long run. Parties classified as left of center are those that have favored redistributive policies, whereas right of center parties have favored growth without regard to its distributive consequences. Accordingly, we would expect to see some impact of differences in the strength of left of center parties and in frequency of incumbency of left of center executives relative to that of right of center parties and executives on income distribution. Centrist parties in Latin America and the Caribbean are those that base their appeals not primarily on a socio-economic agenda but rather on non-contested values such as commitment to the rule of law, honest government, and competent leadership. Accordingly, we would not expect any effects on inequality from legislative strength of centrist parties and frequent incumbency of centrist executives. Right of center parties, in contrast, are those that have generally based their appeals on growth, prosperity, and order and have protected the interests of business and of upper income earners, so we would expect long-term legislative strength of right of center parties and frequent incumbency of right-leaning executives to increase inequality.

Social Security and Welfare Spending: The prime policy instruments for shaping the distribution of income are taxes and social expenditures. In Latin America and the Caribbean, the distributive impact of social spending is mixed and tends to be different for different kinds of expenditures. Social security spending, particularly the largest share that goes to pensions, is generally regressive (de Ferranti et al. 2004; Lindert et al. 2005). Social security schemes are typically tied to formal sector and thus exclude the sizable informal sector. Moreover, social security benefits are very unequally distributed among those covered because they are earnings-related and because of the existence of different schemes for different groups, with particular privileges for some, such as the military, police, upper level civil servants, judges, etc. Social security and welfare spending is generally reported in one category by the IMF; where disaggregated figures are available, they show that over 80% of the expenditures in this category go to social security. Thus, higher social security and welfare spending should increase inequality.

Health and Education Spending: Spending on health and education is an investment in human capital, and there is a considerable lag between the moment of expenditure and returns (in the form of decreased inequality levels). The distributive effect of health and education expenditure depends on its allocation. For example, spending on primary education is more redistributive than spending on university education. We do not have breakdowns for these different allocations available, but evidence from case studies cited by de Ferranti et al. (2004: 263-5) and from analyses by the IDB (1998: 190-7) and by Lindert et al. (2005) indicates that the bulk of education spending is progressive and health spending slightly progressive or neutral. We found no effect of health and education spending in our earlier study and do not expect to find one here.

Social Security and Welfare Spending in a Democratic Context: In a pooled time series analysis of income inequality in a worldwide sample, Lee (2005) showed that the impact of government spending on inequality is dependent on regime type. In authoritarian regimes, greater government spending is associated with greater inequality. In democracies, greater

government spending is associated with less inequality. This is a very plausible hypothesis for social spending in Latin America, where the main alternative to democracy has been right wing authoritarianism, not communism. Indeed, we did find such an effect in our earlier study and we expect to find it here again.

Education: The spread of education in the population, or the improvement of human capital, is regarded as a positive factor not only for the promotion of economic development but also for the reduction of inequality. In some sense, we can see average years of education in the population as an indicator of successful education policy, that is, education spending that keeps more students in school for longer. In Pribble, Huber, and Stephens (forthcoming), we found a strong negative effect of average years of education on poverty in Latin America. Thus, we expect higher levels of average education in the population to have a depressing effect on inequality in Latin America and the Caribbean as well.

Economic Development: Theories linking economic development and inequality have been profoundly shaped by Kuznets's (1955) inverted U conjecture. Most of the Latin American and Caribbean countries are at medium levels of development; several of them are near the peak of the curve and a few have passed the peak (IDB 1998: 89). Thus, for the whole sample we would expect the relationship between economic development and inequality to be mildly negative, which is what we found in our earlier study.

Sector Dualism: Much statistical research has been devoted to establishing and explaining the U-curve relationship between economic development and inequality (e.g. Bollen and Jackman 1985, Crenshaw 1992, Muller 1985, 1988, 1989, Nielsen 1994, Nielsen and Alderson 1995, Simpson 1990). Alderson and Nielsen (1999) emphasize the role of labor force shifts and sectoral dualism, along with the demographic transition and the spread of education. Sectoral dualism refers to the coexistence of a low productivity traditional sector and a high productivity modern sector, and it is expected to contribute positively to overall inequality in a society (Alderson and Nielsen 1999: 610).

Employment in Agriculture: Alderson and Nielsen (1999: 610), based on Kuznets (1955), hypothesize that the shift of the labor force out of the agricultural sector is associated with increasing inequality, because the degree of inequality within the agricultural sector is assumed to be lower. However, the assumption of lower inequality within the agricultural sector for Latin America is questionable. Indeed, a comparison of Gini indices based on urban and rural surveys contained in the full WIID (2007) data base (described in the Data section) shows that inequality in the rural samples in Latin America is generally higher than at the national level. Therefore, we would expect the opposite in our set of countries; the larger the proportion of the labor force in agriculture, the higher the degree of inequality.

Inflation: Morley (2001:72) argues that during periods of high inflation labor markets adjust only with a lag, which leads to a decrease in real wages, and this decrease is particularly steep for the minimum wage. Thus, high inflation drives up inequality. The IDB (1998: 100-2) and World Bank studies (de Ferranti et al. 2004: 11; 231-9) agree that macroeconomic shocks, which are typically accompanied by high inflation, have a detrimental impact on inequality.

Demography: Previous studies have shown a strong association between population growth and the size of the young population, and a positive impact of population growth on inequality (Bollen and Jackman 1985, Simpson 1990). Alderson and Nielsen (1999) explain this impact with the oversupply of young unskilled workers that further depresses lower incomes and increases wage differentials. We, therefore, expect percentage of the population under 15 years of age to push up the level of inequality.

Ethnic Composition: Scholars agree that indigenous people and people of African descent have generally lower incomes and lower educational attainment. On the other hand, studies have shown that national inequality is mostly explained by inequality within racial, ethnic, and gender groups and not by the differences between demographic groups (De Ferranti et al. 2004: 85-96). Nevertheless, we include ethnic diversity among our control variables and expect a positive relationship to inequality, which is what we found in our earlier study.

*Data*¹

Our dependent variable is the Gini index of income inequality from the United Nations' University World Income Inequality Database, WIID, version 2b, (UNU-Wider 2007) and SEDLAC (2007), a Latin American partner of WIID. WIID/SEDLAC were compiled using several national sources and represent a major improvement in quality over the previously most frequently used data of Deininger and Squires (1996a, b), which they subsume. Each observation in WIID/SEDLAC is coded for its quality, area of coverage, income sharing unit, unit of analysis, and the use of a household size equivalence scale. We deleted observations with the lowest quality rating and those with expenditure or consumption as the income concept, as well as those without coverage of the entire population.² In case of multiple observations for the same year we kept observations which (a) have the individual as the unit of analysis and (b) use an equivalence scale adjusted for household size. If there were still multiple observations, we took the average of the Gini values for the year in question. We used indicator variables to control for three remaining hypothesized sources of variation due to survey methodology: no adjustment for household size, earnings as an income concept, use of gross (vs. net) income, and absence of information on the use of gross vs. net income. In preliminary analyses we found that absence of information on the use of gross vs. net income did not have a significant impact on inequality, so we dropped it from the analyses.³

The measure of democratic history is derived from Rueschemeyer, Stephens, and Stephens (1992). Yearly democracy scores were coded: colony = 0, authoritarian regime = 1,

¹ A more detailed explanation of measurement of the control variables can be found at the following website: <http://www.unc.edu/~jdsteph/index.html>.

² Following Londoño and Székely (1997), we used urban data for Uruguay since (1) it was the only data available; (2) Uruguay is heavily urban; and (3) for the few years in which rural data for Uruguay are available, there are small differences between the ginis for the urban and rural samples.

³ As household size in Latin America and the Caribbean varies inversely with income, we expected no adjustment for household size to result in lower inequality. By contrast, we did not expect use of gross (vs. net income) to greatly affect the inequality measure in Latin America and the Caribbean, where direct taxes represent a small percentage of GDP (contra Deininger and Squire 1996a). Even in the OECD countries, direct taxes do not affect much redistribution (Mahler and Jesuit 2005). Likewise we did not expect the absence of information about gross vs. net income to make much difference.

bureaucratic authoritarian regime = 2, restricted democracy = 3, and full democracy = 4. These categories were collapsed into non-democracy = 0, restricted democracy = .5, and full democracy = 1. To measure democratic history we cumulate the yearly scores beginning in 1945.

Legislative partisan balance is derived from Coppedge (1997), who consulted country experts to classify political parties in 11 countries of Latin America into two primary dimensions and several residual categories. The left-right dimension reflects a political party's ideology and class appeal, and relative prioritization of growth and redistribution. His experts classified parties along this dimension into five categories: left, center-left, center, center-right, and right. For example parties of the right presented themselves as, or appealed to, heirs of traditional elites, fascists or neofascists, or the military with a conservative message. Experts classified parties as center-right that "targeted middle- or lower-class voters in addition to elite voters, by stressing cooperation with the private sector, public order, clean government, morality, or the priority of growth over distribution." They classified parties as centrist that "stressed classic political liberalism, the rule of law, human rights, or democracy, without a salient social or economic agenda." Also included in this category are "governing parties whose policies are so divided between positions both to the left and to the right of center that no orientation that is mostly consistent between elections is discernible." Experts classified as center-left parties that "stress justice, equality, social mobility, or the complementarity of distribution and accumulation in a way intended not to alienate middle- or upper-class voters." Finally, they classified as left parties that "employ Marxist ideology or rhetoric and stress the priority of distribution over accumulation and/or the exploitation of the working class by capitalists and imperialists and advocate a strong role for the state to correct social and economic injustices" (see Coppedge 1997 for more details).⁴

We adopted Coppedge's (1997) classification of parties for the country-years that fall within our sample, with the exception of the Peronists in Argentina,⁵ and used his classification scheme to expand the coverage to the full range of countries and years in our data set, but using primary and reference materials instead of expert surveys. On parties for which there was a disagreement, we did seek external expert advice, and finally the entire research team convened to make a decision. After classifying each party, we summed the proportion of the seats in the lower house or constituent assembly held by each category of parties for each country-year, resulting in 5 annual series (left, center-left, center, center-right, and right) for each country. During years that are non-democratic, as defined by our democracy variable, all categories are scored as zero. We then calculated *legislative partisan balance of power* (or simply *legislative partisan balance*) by weighting the seat share in a given year of each category of parties by -1 for

⁴ The second primary dimension in Coppedge's (1997) classification is the religious one, with two categories: Christian and secular. Since we found that the religious dimension made no difference for our dependent variable, we combined the Christian and secular categories, resulting in five categories on the left-right dimension. The three residual categories (personalist, other, and unknown) were coded but not used in constructing the party balance score.

⁵ Which he classifies as "other" and we classify as a center-left party in the early decades, a centrist party in the 1970s and 1980s, and a center-right party in the 1990s under Menem. Since we only have one observation for Argentina, in 1972 (all later surveys are for urban areas only), our coding of the Peronists from the 1970s onward does not affect our results.

right, - 0.5 for center-right, 0 for center, 0.5 for center-left, and 1 for left parties, and cumulating seat shares from 1945 to the year of observation, following Cusack and Fuchs (2002), who call the measure *ideological center of gravity*. For the executive, we developed a parallel measure with identical weights for the five right-left categories. Since the executive is a single office occupied by a single representative of one ideological tendency, we call this variable *executive partisanship*.

We coded repressive authoritarian regime as a separate category, coded 1 for every year where the country had a repressive authoritarian regime and 0 for every year without such a regime, based on the extent of human rights violations committed or tolerated by the authoritarian government. Yearly scores were cumulated over the 15 years prior to the year of observation.⁶ Our sources were country studies.

Measures of social spending as a percentage of GDP are derived from several sources. The series for social security and welfare spending comes from the IMF Government Finance Statistics Yearbook (GFS) and the International Financial Statistics Yearbook (see also Kaufman and Segura 2001). Both spending and GDP are reported in current local currency units. The fact that these figures include only outlays by the central government is not a problem for social security and welfare expenditures, as these programs in general are uniform across the nation and centrally financed. This is confirmed by the fact that the data series from the IMF and our other sources (see below) are very highly correlated (.92 to .96). The bulk of spending in this combined category goes to social security. The IMF sources report the two types of expenditures separately for 179 country years only; in these observations, social security accounts for 83% of the spending.

For health and education expenditures, however, the exclusion of state and local spending is a major problem. To deal with this problem, we compared data series from four different sources: ECLAC (<http://www.eclac.cl/badeinso/SistemasDisponibles.asp>), Cominetti (1996), ECLAC's *Social Panorama* (various years), and the IMF sources cited above. Huber et al. (2008: 6) provides a detailed account of the procedure used to construct the health and education expenditure variable, which is available at our website. As noted, successful investment in human capital requires a sustained effort in the form of expenditure on health and education. In addition, improvements of the human capital base only have an impact on income inequality over the medium and longer run. Therefore, we measure health and education spending as the cumulative average from the first data point to the year of observation.

To test Lee's (2005) hypothesis that the effect of social spending depends on the political regime, we created an interaction term between the social security and welfare spending variable and the democratic record variable. To reduce collinearity between interaction and main terms we centered the democracy variable.

⁶ For the three political variables we developed, and experimented with, measures cumulated over four periods: 1945 to year of observations, and the 15, 10, and 5 years preceding the year of observation. We selected the measure used in the final analyses for theoretical reasons (democratic history expected to have longer term effect) as well as empirical ones (better performance in regression models).

Our indicator of the effectiveness of educational policy (average years of education) is compiled from the Barro and Lee (2000) dataset and provides the average years of total schooling for the adult population aged 25 and older. Where values were missing, we interpolated and extrapolated observations.

Reasonably good data on ethnic divisions in Latin America are only available as cross sectional data for circa 2000 on the percentage of the population that is indigenous and the percentage of the population that is of African descent (De Ferranti et al. 2004: 78). We reasoned that there would be a threshold effect, so we created a dichotomous variable in which total population of indigenous and African descent of less than 20% or over 80% (as in the case of some of the English speaking Caribbean countries) were coded as non-diverse and between 20% and 80% were coded as diverse.⁷

Gross Domestic Product in 1996 purchasing power parity dollars is taken from the Penn World Tables supplemented by the World Bank's (2007) *World Development Indicators*. Employment in agriculture as a percent of total employment is compiled from four sources (ILO 2003, ECLAC various years, World Bank 2007, and Alderson and Nielsen 1999). Some of the 1970s observations for employment in agriculture are estimated by interpolation. World Bank (2007) is also the source for our measures of employment in industry and inflation. Twenty-six data points for industrial employment are interpolated. Sector dualism measures the absolute difference between employment in agriculture as a percent of total employment and agriculture as a percent of GDP (also from World Bank 2007).

The measure of inward investment stock is taken from two sources, UNCTAD's (2002) *Handbook of Statistics* and from the United Nations Centre on Transnational Corporations (1985). The source for our measure of trade openness, exports plus imports as a percentage of GDP is the World Bank (2007). Our measure of capital market openness is taken from a new dataset developed by Chin and Ito (forthcoming). Like the Quinn measure, it is drawn from information in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions and it is highly correlated to the Quinn measure for the country years in the Quinn dataset ($r=.92$). To measure IMF influence, we develop several alternative measures. The first is a simple dichotomy to tap whether or not a country has repurchase obligations to the IMF in a given year. Our second, and primary, measure is a cumulative version of the dichotomy from 1970 to the year of the observation. A third measure is repurchasing obligations to the IMF as a percent of GDP.

World Bank (2007) is the source for our measure of employment in industry. The data on informal sector employment are compiled from several ILO publications. The observations are primarily taken from the *Panorama Laboral* and include all non-agricultural informal workers. Where values were missing for these variables, we interpolated and extrapolated observations. Our measure of market liberalizing reforms is taken from datasets on Latin America by Morley Machado, and Pettinato (1999) and Lora (2001). The Morley data build on an earlier version of the Lora data. Both contain overall measures of market liberalization,

⁷ Analyses conducted support the threshold hypothesis: The dichotomous indicator was significant while percent indigenous and percent African descent (entered individually or together) and total percent indigenous or African were not significant.

Morley for 1970-1995 and Lora for 1985-1999, as well as a number of sub indices measuring reforms in particular areas. The measures reflect government legislation, such as tariffs or tax rates, rather than outcomes of policies, such as trade flows or budget deficits. The Morley data contain indices of liberalization of trade, finance, and capital account, along with tax reform and privatization. The overall index is an average of these five sub indices. Our measure is based on the Morley data for 1970-1995. To estimate the Morley measure for 1996-1999, we regressed the Morley index on the Lora index and used the regression equation to estimate the Morley measure for 1996-1999 with the Lora data.

Analytic Techniques

We use an unbalanced panel data set with 199 observations from 21 Latin American and Caribbean countries: Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay, and Venezuela. The inequality data were available for varying numbers of time points for the countries. The data span the period 1970 to 2000.

A central problem in estimating regression models from panel data is that the assumption of independence of errors across observations is unlikely to be satisfied. As a result OLS produces incorrect standard errors for the regression coefficients (Greene 1993). One approach to deal with correlated errors in panel data assumes serially correlated errors within each unit (country) obeying a unit specific autoregressive process (which may optionally be constrained to be the same across units). This approach requires what Stimson (1985) calls temporally dominated time-series of cross-sections, i.e., data structures consisting of relatively few units observed over many equally spaced time points (Beck and Katz 1995:635-4; Beck 2001). Since the average number of time points (9) is much smaller than the number of units (21), and our observations are not equally spaced, our data set precludes this approach.

We adopt an alternative estimation strategy, combining OLS estimation of the regression coefficients, which provides consistent estimates of the regression coefficients, with the use of a *robust-cluster* estimator of the standard errors. The standard (i.e., non-cluster) Huber-White or "sandwich" robust estimator of the variance matrix of parameter estimates provides correct standard errors in the presence of any pattern of heteroskedasticity (i.e., unequal variances of the error terms) but not in the presence of correlated errors (i.e., nonzero off-diagonal elements in the covariance matrix of the errors) (Long and Ervin 2000). The robust-cluster variance estimator is a variant of the Huber-White robust estimator that remains valid (i.e., provides correct coverage) in the presence of *any* pattern of correlations among errors *within* units, including serial correlation and correlation due to unit-specific components (Rogers 1993; see also Sribney 1998; StataCorp 1999: 256-260). Thus, the robust-cluster standard errors are unaffected by the presence of unmeasured stable country-specific factors causing correlation among errors of observations for the same country, or for that matter any other form of within-unit error correlation.

The robust-cluster estimator of the standard errors is only impervious to correlations of errors *within* clusters. It requires errors to be uncorrelated *between* clusters. The latter assumption might be violated if unmeasured factors affect the dependent variable in all units at the same point in time. Global economic fluctuations, such as the debt crisis period in Latin America in the 1980s, could produce such contemporaneous effects. To evaluate the potential impact of such unmeasured period specific factors we estimated the models with indicator variables for the debt crisis (1982-89) and for the 1990s (1990-2000), the period of recovery; the baseline category corresponds to 1968-82. Table 1 shows that inequality increased over these three periods, and thus we expect positive effects from the debt crisis and the recovery variables. In order to check for robustness, we also estimated the models with OLS panel corrected standard errors and GLS random effects estimation. All of the significant coefficients in the robust cluster estimations were also significant in the panel corrected standard error estimations and random effects estimations. The robust cluster estimates proved to be more conservative.

The partisan legislative balance and executive partisanship are highly correlated, so we entered these variable separately in our preliminary analyses. Since legislative balance was not significant in any of our models, we do not present it in the analysis in this paper in order to keep the number of tables manageable. Employment in agriculture and youth percent of the population created multicollinearity problems. Since they were not significant, they were dropped from the analysis.

We have missing data for all of our variables measuring the shift in economic models, even after interpolating observations for industrial employment and informal employment and estimating data for 1996-1999 for market liberalization. The number of missing observations for industrial employment, informal employment and market liberalization are 24, 14, and 62 respectively. When entered in the same analysis we lose 73 cases, 37% of our total cases. Thus, we enter these three variables in separate models to avoid substantial reductions in the sample size. The means of the dependent variable and selected independent variables are displayed in Table 3.

Results

Table 4 displays the results of our analysis. Model 1 represents the variables (other than inward stock of FDI) in our previous analysis of the determinants of inequality in Latin America (Huber et al. 2006). Model 2 adds the five globalization variables. Models 3-5 add the three variables tapping the shift in economic models one at a time to the model 2 baseline. As expected, model 1 shows that social security and welfare spending, sector dualism, and ethnic heterogeneity are positively related to inequality, and average years of education, executive partisanship, and the democracy/social security spending interaction term are negatively related to inequality. If the interaction term is dropped from the model (or any of the models in the table), democracy becomes highly significant and social security and welfare spending drops to insignificance. This indicates the contingent nature of the effect of social security spending; high spending is associated with high inequality in authoritarian contexts but with low inequality in democratic contexts. The effect of democracy is also contingent; it results in larger decreases in inequality if it is coupled with high spending. An examination of Table 3 suggests that this finding might be a result of two outliers

Uruguay and Costa Rica, which are very high on democracy and social security spending and low on inequality. However, when these two countries are dropped from the analysis, the interaction term remains negative and highly significant, which indicates that these two countries are not driving the result. In model 1, education and health spending is positively related to inequality and statistically significant, but the finding is not robust as it is not significant in the other models in the table. The other results are more robust.

Model 2 adds the five globalization variables to model 1. Inflows of FDI is the only one of the five that is significant in model 2. However, trade openness becomes significant in models 3-5, essentially because of the loss of the 11 or more cases without observations for the variables added in. Moreover, the period indicators show that most differences between the time periods shown in Table 1 remain when the globalization variables are added to the analysis in model 2. If the other two IMF measures are substituted for the cumulative measure, the IMF variable remains insignificant. Model 3 adds informal employment to model 2. It is positive and significant, and the period dummies are now not significant, which indicates that the increasing informal sector employment is part of the reason for increasing inequality through time. Model 4 adds industrial employment. It is significant and the coefficients for the period indicators are reduced in size as compared to model 2, though they are still statistically significant. Thus, the decline in industrial employment may be another reason for the increase in inequality. Model 5 adds the market liberalization measure to model 2. It falls just short of significance ($p=.07$). However, the indicator for the recovery period loses significance, which indicates that market liberalization is in part responsible for the higher inequality in the 1990s. The trade liberalization component of the overall liberalization index is significant when it replaces the overall index in model 5 (not shown). If all three production regime variables in Table 4 are added to model 2 (not shown), the debt crisis coefficient falls to 1.439 and the recovery coefficient falls to .587 which indicates that together the production regime variables account for most of the period differences.

Given the dependence of significance tests on sample size, they do little to tell one about the size of the effects of different variables. Given the different metrics of the independent variables, the effects of unit changes in the variables are not good indicators of the relative effects. The most convenient way to compare the effects of independent variables is to compare the effect of a two standard deviation increase in the independent variable on the value (increase or decrease) of dependent variable, as we do in Table 5. We also include the correlation of the independent variable with time to elucidate the probable effect of a given independent variable on the time trends in the Gini.⁸

One can see that average years of education, sector dualism, and the democracy/social security interaction term have very large effects on the Gini. However, they are correlated with time, if only modestly, in a direction which predicts less inequality through time, which is why the period dummies in model 1 show no difference

⁸ The ethnic diversity variable is not in table 5 because it does not vary through time and because the interpretation of the strength of its coefficients in Table 4 is transparent since it is a dichotomy.

from the overall period averages in the Gini in Table 1. Executive partisanship has a moderate effect on the Gini and the time trend in these data does predict more inequality through time, but this is an artifact of the particular data points in the sample and not a long term trend in Latin America and the Caribbean, a point which we will return to in the conclusion. Inflows of FDI are moderately strongly related to inequality and trends moderately strongly with time, so part of the trend toward greater inequality is probably due to the increase in FDI inflows. The remaining variables, those measuring production regime change, are yet stronger candidates for explaining the increase in inequality as they either are highly correlated with time and have a moderate impact on inequality or moderately correlated with time and have a high impact on inequality.

Conclusion

Our central finding, then, is that inequality in Latin America and the Caribbean has risen through time since the 1970s, and that this rise is a result of the transformations of the Latin American economies from ISI to liberal market economies. Inequality increased during the debt crisis of the 1980s and kept increasing during the recovery of the 1990s, when economic growth resumed and foreign direct investment started flowing into Latin America at a rapid rate. Indeed, we found higher levels of inflow of FDI to be related to inequality, as are the higher levels of trade openness that characterized Latin America and the Caribbean in the 1990s. In contrast, we found three conventional indicators of globalization; capital market openness, stock of FDI, and presence of the IMF; to have insignificant effects on inequality.

Taken together, these findings suggest that there is no mechanistic, linear, and additive relationship between conventional indicators of globalization and inequality. The higher levels of exports and imports are a symptom of the momentous underlying transformation of the Latin American economies from highly protected economies with heavy state intervention to open economies with a predominant role of market forces. This transformation destroyed industrial jobs through import competition and thereby caused a shrinking of the formal sector. The shrinking of the formal sector was aggravated by lay-offs in privatized public enterprises. Both deindustrialization and informalization increased inequality because they destroyed jobs with relatively decent pay for workers with low skills. At the other end of the income spectrum, privatization and rationalization increased returns to capital and to higher education (Morley 2001). Inflows of direct foreign investment at a rate much higher than in the 1970s fueled this process by providing technology and thus creating comparatively few but well paying jobs in the formal sector.

One might argue that the transformation of the Latin American economies itself is simply a consequence of globalization, that is, of the inexorable expansion of capitalism around the globe. This view is only partially correct, in so far as the ISI model had exhausted itself before globalization took a quantum leap in the 1980s, and insofar as political decisions played a major role. Persistent balance of payments problems had plagued the ISI economies since the 1950s, and the model was kept alive in the 1970s through easy borrowing on world capital markets flush with petrodollars. The debt crisis of the 1980s made the further pursuit of the model impossible, because the model was

driven by the state and the state was in a fiscal crisis. At that point, political decisions became crucial, the political decisions about what to liberalize, how far and how fast. These decisions, of course, were not taken autonomously by Latin American governments but rather under heavy pressures from the International Financial Institutions for liberalization. To the extent that governments took the decision to liberalize fast and fully, they contributed to the advance of globalization and they inflicted costs on their own countries. It is worth noting here that it is not at all clear that the decisions to liberalize were always optimal. Particularly where the process of liberalization was radical (fast and far-reaching), the costs in terms of growth, poverty, and inequality were high (Huber and Solt 2004). Comparisons with the East Asian development model suggest that radical state retrenchment in favor of free markets was not the only alternative to ISI. The point is that globalization is in large part a political creation rather than a process driven exclusively by the logic of capitalism, and that expanding world markets leave room for choice for governments as to how they want to insert their economies into these markets. The room for political action becomes even stronger when it comes to domestic policies to deal with the distributive effects of integration into world markets.

In fact, our analysis shows that the combined effects of the political and policy variables are quite large, which holds some hope that the trend toward inequality in Latin America and the Caribbean could be reversed in the future under the proper political conditions. Our findings indicate that if countries remain democratic, if the left is in government for extended periods and governments increase social spending and raise educational levels, inequality could decline substantially. Moreover, the transition from ISI to a liberal market economy is an accomplished fact, and while it is not correct to say that the economies of the region now conform to the neo-liberal ideal, it is almost certainly true that the bulk of the transformation is in the past and the future will not see such momentous changes. In addition, it is not clear that further neo-liberal reforms would make most of the Latin American economies more competitive in export markets. On the contrary, the “new Washington consensus” is that inequality is bad for growth, democracy, and absolute poverty, and that investments in human capital at the bottom are necessary not simply to reduce poverty but also to reach an optimal growth model and to protect and deepen democracy (De Ferranti et al. 2004). Thus, the factors that we have shown to have increased inequality over the three decade period from 1970 to 2000 need not do so in the future. Even further increases in FDI inflows, which increase inequality because they accrue to formal sector workers, might have offsetting effects by increasing formal sector employment in industry and well paid services. For most Latin American countries, the destruction of the old ISI protected jobs is a largely completed process. If higher education becomes more widespread in these societies, the high skill premiums and thus one of the factors driving inequality will decline also.

References

- Alderson, Arthur, and François Nielsen. 1999. "Income Inequality, Development, and Dependence: A Reconsideration." *American Sociological Review*. Vol. 64, August: 606-631.
2002. "Globalization and the Great U-Turn: Income Inequality Trends in 16 OECD Countries." *American Journal of Sociology* 107:1244-99.
- Barro, Robert J. and Jong-Wha Lee. 2000. "International Data on Educational Attainment: Updates and Implications." *CID Working Paper no. 42*. [<http://www.cid.harvard.edu/ciddata/ciddata.html>].
- Beck, Nathaniel. 2001. "Time-Series Cross-Section Data: What Have We Learned in the Past Few Years?" *Annual Review of Political Science* 4: 271-93.
- Beck, Nathaniel and Jonathan N. Katz. 1995. "What to do (and Not to Do) with Time-Series-Cross-Section Data in Comparative Politics." *American Political Science Review* 89 (3):634-647.
- Bollen, Kenneth A. and Robert W. Jackman. 1985. "Political Democracy and the Size Distribution of Income." *American Sociological Review* 58: 283-301.
- Bornschier, Volker and Christopher Chase-Dunn. 1985. *Transnational Corporations and Underdevelopment*. New York: Praeger.
- Bradley, David, Evelyne Huber, Stephanie Moller, François Nielsen, and John Stephens. 2003. "Distribution and Redistribution in Post-industrial Democracies." *World Politics*. Vol. 55, No. 2 (January) 193-228.
- Cominetti, Rossella. 1996. "Social Expenditure in Latin America: An Update." Santiago, Chile: CEPAL Technical Department.
- Coppedge, Michael. 1997. "A Classification of Latin American Political Parties." Working Paper Series #244. The Helen Kellogg Institute for International Studies, University of Notre Dame.
- Crenshaw, Edward. 1992. "Cross-National Determinants of Income Inequality: A Replication and Extension Using Ecological-Evolutionary Theory." *Social Forces* 71: 339-63.
- Cusack, Thomas R. and Susanne Fuchs. 2002. "Documentation Notes for Parties, Governments, and Legislatures Data Set." Wissenschaftszentrum Berlin für Sozialforschung.
- De Ferranti, David, Guillermo E. Perry, Francisco H.G. Ferreira, and Michael Walton. 2004. *Inequality in Latin America: Breaking with History?* Washington, D.C.: The World Bank.

Deininger, Klaus and Lyn Squire. 1996a. "A New Data Set Measuring Income Inequality." *The World Bank Economic Review*. 10: 565-591.

1996b. "Income Inequality Dataset" Available at:
[<http://www.worldbank.org/research/growth/dddeisqu.htm>]

ECLAC (Economic Commission on Latin America and the Caribbean). Various Years. *Statistical Yearbook on Latin America and the Caribbean*. Santiago: United Nations Economic Commission on Latin American and the Caribbean.

2002. *Social Panorama of Latin America*. Santiago, Chile: United Nations Economic Commission for Latin America and the Caribbean.

2004. *Social Panorama of Latin America*. Santiago, Chile: United Nations Economic Commission for Latin America and the Caribbean.

Evans, Peter B. and Michael Timberlake. 1980. "Dependence, Inequality, and the Growth of the Tertiary: A Comparative Analysis of Less Developed Countries." *American Sociological Review* 45: 531-51.

Greene, William H. 1993. *Econometric Analysis*, 2d ed. Englewood Cliffs, NJ: Prentice Hall.

Huber, Evelyne, Francois Nielsen, Jenny Pribble, and John Stephens. 2006. "Politics and Inequality in Latin America and the Caribbean." *American Sociological Review*, Vol. 71, No. 6, December 2006: 943-963.

Huber, Evelyne, and Fred Solt. 2004. "Successes and Failures of Neoliberalism." *Latin American Research Review*, Vol. 39, No. 3.

Huber, Evelyne, and John D. Stephens. 2001. *Development and Crisis of the Welfare State: Parties and Policies in Global Markets*. Chicago: University of Chicago Press.

Huber, Evelyne, and John D. Stephens. 2005. "Successful Social Policy Regimes? Political Economy, Politics, and the Structure of Social Policy in Argentina, Chile, Uruguay, and Costa Rica." Paper delivered at the Conference on Democratic Governability, Kellogg Institute, University of Notre Dame, October 7-8.

Evelyne Huber, John D. Stephens, Thomas Mustillo, and Jennifer Pribble. 2008. *Social Policy in Latin America and the Caribbean Dataset, 1960-2006*, University of North Carolina. <http://www.unc.edu/~jdsteph/common/data-common.html>.

IDB (Inter-American Development Bank). 1998. *Facing Up to Inequality in Latin America*. Washington, DC: Johns Hopkins.

ILO (International Labor Organization). 2003. *Online Labor Statistics*. Available at:
[<http://laborsta.ilo.org>].

- Kaufman, Robert R. and Alex Segura-Ubierno. 2001. "Globalization, Domestic Politics, and Social Spending in Latin America." *World Politics*, 53, 4 (July): 553-88.
- Kuznets, Simon. 1955. "Economic Growth and Income Inequality." *American Economic Review* 45:1-28.
- Lee, Cheol-Sung. 2005. "Income Inequality, Democracy, and Public Sector Size." *American Sociological Review*.
- Lindert, Kathy, Emmanuel Skoufias, and Joseph Shapiro. 2005. "Redistributing Income to the Poor and the Rich: Public Transfers in Latin America and the Caribbean." World Bank. Discussion Draft, October 24.
- Londoño, Juan Luis, and Miguel Székely. 1997. "Persistent Poverty and Excess Inequality: Latin America, 1970-1995." *Working Paper #357*, Inter-American Development Bank.
- Long, J. Scott and Laurie H. Ervin. 2000. "Using Heteroskedasticity Consistent Standard Errors in the Linear Regression Model." *The American Statistician*. 54: 217-24.
- Lora, Eduardo. 2001. "Structural Reforms in Latin America: What Has Been Reformed and How to Measure it." *Inter-American Development Bank Working Paper #348*.
- Mahler, Vincent and David Jesuit. 2005. "Fiscal Redistribution in the Developed Countries: New Insights from the Luxembourg Income Study." Luxembourg Income Study Working Paper 392.
- Moller, Stephanie, David Bradley, Evelyne Huber, Francois Nielsen, and John D. Stephens. 2003. "Determinants of Relative Poverty in Advanced Capitalist Democracies." *American Sociological Review*. Vol. 68, No. 1 (February) 22-51.
- Moore, Barrington. 1966. *The Social Origins of Dictatorship and Democracy*. Boston: Beacon Press.
- Morley, Samuel. 2001. *The Income Distribution Problem in Latin America and the Caribbean*. Santiago: United Nations Press.
- Morley, Samuel, Roberto Machado, and Stefano Pettinato. 1999. "Indexes of Structural Reform in Latin America." *Serie Reformas Económicas 12*. Santiago: United Nations Press.
- Muller, Edward N. 1985. "Income Inequality, Regime Repressiveness, and Political Violence." *American Sociological Review* 50: 47-61.
1988. "Democracy, Economic Development, and Inequality." *American Sociological Review* 53: 50-68.
1989. "Democracy and Inequality." *American Sociological Review* 54: 868-71.

- Nielsen, François. 1994. "Income Inequality and Industrial Development: Dualism Revisited." *American Sociological Review* 59:654-77.
- Nielsen, Francois and Arthur Alderson. 1995. "Income Inequality, Development and Dualism: Results From an Unbalanced Cross-National Panel." *American Sociological Review*. Vol 60, October: 674-701.
- Rueschemeyer, Dietrich, Evelyne Huber Stephens and John Stephens. 1992. *Capitalist Development and Democracy*. Chicago: University of Chicago Press.
- Reuveny, Rafael and Quan Li. 2003. "Economic Openness, Democracy, and Income Inequality, an Empirical Analysis." *Comparative Political Studies*. Volume 36, Number 5: 575-601.
- SEDLAC. 2007. Socio-Economic Database for Latin America and the Caribbean. [Centro de Estudios Distributivos Laborales y Sociales](http://www.depeco.econo.unlp.edu.ar/cedlas/sedlac/) (CEDLAS) of the University of La Plata in partnership with the World Bank's [Latin America and the Caribbean Poverty and Gender Group](http://www.depeco.econo.unlp.edu.ar/cedlas/sedlac/) (LCSPG). <http://www.depeco.econo.unlp.edu.ar/cedlas/sedlac/>.
- Simpson, Miles. 1990. "Political Rights and Income Inequality: A Cross National Test." *American Sociological Review* 55: 682-93.
- StataCorp. 1999. *Stata Statistical Software: Release 6.0*. College Station, TX: Stata Corporation.
- Sribney, William. 1998. "Comparison of Standard Errors for Robust, Cluster, and Standard Estimators." Retrieved January 21, 2003. Stata FAQ Statistics, Stata Corporation (<http://www.stata.com/support/faqs/stat/cluster.html>).
- Stimson, James A. 1985. Regression in Time and Space: A Statistical Essay." *American Journal of Political Science* 29: 914-47.
- Tsai, Pan-Long. 1995. "Foreign Direct Investment and Income Inequality: Further Evidence." *World Development* 23: 469-83.
- United Nations Centre on Transnational Corporations. 1985. *Transnational Corporations in World Development*. Cambridge: Graham & Trotman.
- UNCTAD. 2002. *Handbook of Statistics*
- UNUWider. 2007. *World Income Inequality Database*. Version 2b: http://www.wider.unu.edu/research/Database/en_GB/wiid/
- World Bank. 2007. *The World Development Indicators*. CD Rom Version

Table 1: Inequality by Period

	Gini	N
End of ISI (1970-1981)	48.2	36
Debt crisis (1982-1989)	51.0	48
Neoliberal era (1990-2001)	52.4	115

Table 2. Variable Descriptions, Data Sources and Hypothesized Effects for the Analyses of Income Inequality

Variable	Description	Hypothesis
Dependent Variables		
Gini Coefficient	The Gini coefficient. ^a	
Independent Variables		
<i>Methodological Controls</i>		
No Adjustment Indicator	Coded 1 for Gini observations that are calculated based on household income not adjusted for household size. ^a	-
Gross Income Indicator	Coded 1 for Gini observations that are calculated using gross income or monetary gross income. ^a	+
Earnings Indicator	Coded 1 for Gini observations that are calculated using earnings. ^a	-
Debt crisis period indicator	Coded 1 for all observations falling in 1982-1989. ^b	+
1990s period indicator	Coded 1 for all observations falling in 1990-2000. ^b	-/+
<i>Controls</i>		
Repressive Authoritarianism	Regime type: repressive authoritarian regimes = 1 and all other = 0, score is cumulated for the fifteen years preceding the year of observation. ^b	+
Executive Partisanship	Left-right partisan position of the executive. See text for calculation. The variable is cumulated for the fifteen years preceding the year of observation. ^b	-
Democracy	Regime type: non democracy = 0, restricted democracy = .5, and full democracy = 1, score cumulative from 1945 to date of observation. ^{b,i}	-
GDP Per Capita	Gross domestic product per capita in 1000's of constant purchasing power parity dollars. ^{c,d}	-
Sector Dualism	The absolute difference between the percent of the labor force in agriculture and agriculture as a share of GDP. ^{c,e,f,g}	+
Employment in Agriculture	Employment in agriculture as a percent of total employment. ^{c,e,f,g}	+
Inflation	Annual percentage change in consumer prices. ^k	+
Youth Population	Population aged 0 to 14 as a percentage of total population. ^c	+
Ethnic Diversity	Dummy variable coded 1 when at least 20 percent, but not more than 80 percent of the population is ethnically diverse. ^l	+
Health and Education (cumulative average)	Cumulative average of government spending on health and education as a percent of GDP. ^j	-/+
Social Security and Welfare	Government spending on social security and welfare as a percent of GDP. ^j	+
Democracy and Social Security and Welfare Spending Interaction Term	Democracy (centered) *Social Security and Welfare	-
Average Years of Education	Average years of total education for the population aged 25 and older. ^c	-
<i>Globalization</i>		
Stock of FDI	Stock of FDI in as a percent of GDP. ^h	+
Capital Market Openness	Index of capital market openness. ^m	-/+
Trade Openness	Exports plus imports as a percent of GDP	-/+
IMF	Cumulative years of IMF programs since 1970	+
Inflows of FDI	Inflows of FDI as a percent of GDP. ^c	+
<i>Production Regime</i>		
Informal Employment	Percentage of workers classified as informal of non-agricultural labor force. ^e	+
Industrial Employment	Percentage of the labor force in industry. ^c	-
Market Liberalization (Morley)	General economic liberalization index. ⁿ	+

Sources: a.) United Nations University World Income Inequality Database, Volume 2.0a (June 2005); b.) author codings; c.) World Bank World Development Indicators CD (2007); d.) Penn World Table Version 6.1; e.) International Labor Organization's Online Labor Statistics (<http://laborsta.ilo.org>); f.) ECLAC's Statistical Yearbook on Latin America and the Caribbean (various years) g.) Alderson and Nielson (1999); h.) UNCTAD Handbook of Statistics, CD version (2002) and United Nations Centre on Transnational Corporations (1985); i.) Rueschemeyer et al. (1992); j.) Huber et al. (2008); k.) IMF's International Financial Statistics CD and Blyde and Fernandez-Arlas (2004); l.) Coding based on data presented in De Ferranti et al. (2004), m.) Chinn and Ito (forthcoming); n.) Morley et al. (1999), Lora (2001).

Table 3. Means of Selected Independent Variables for the 1990s

	Gini Coefficient	Years of Democracy cumulative	Executive Partisanship	Average Years of Education	Social Security & Welfare Expenditure	Sector Dualism	Market Liberalization 1970s	Market Liberalization 1990s
Argentina	47.0	21.5	-2.8	8.1	7.3	.6	.534	.871
Chile	54.5	19.1	.0	7.5	6.9	7.7	.528	.812
Uruguay	42.8	39.6	-2.3	6.9	17.6	.0	.522	.882
Costa Rica	46.0	44.5	2.1	5.8	3.8	9.5	.539	.825
Mexico	54.6	.8	-.8	6.3	3.2	18.1	.565	.805
Bolivia	54.6	15.7	.3	5.1	4.1	20.1	.525	.805
Brazil	59.2	18.0	.9	4.2	10.2	16.9	.522	.756
Colombia	56.2	19.8	-2.0	4.6	2.1	4.6	.517	.736
Peru	52.7	14.2	.7	6.9	2.2	24.0	.433	.800
Paraguay	52.2	3.0	-6.0	5.7	2.2	10.0	.471	.806
Venezuela	47.8	33.5	3.5	5.3	2.4	6.8	.437	.581
Barbados								
Jamaica	58.7	33.7	.9	5.0	.5	14.4	.400	.741
Trinidad & Tobago								
Dominican Republic	48.8	16.4	-1.6	4.9	.7	4.7	.367	.787
El Salvador	51.4	6.4	-9.4	4.0	.6	14.2	.498	.795
Guatemala	54.0	11.0	-6.0	3.0	.9	14.2	.499	
Honduras	54.2	8.8	2.7	3.8	.4	16.7	.628	.716
Nicaragua	56.3	4.5	2.5	3.8	4.5	9.3		
Panama	56.0	11.2	-1.0	7.7	5.1	12.6		
Mean	52.6	17.9	-1.0	5.5	4.2	11.4	.499	.781

Note that these are means for the years of observation we have in the 1990s. The one exception is market liberalization for the 1970s, which are the means for all years in that decade. No data means we have no observations for the 1990s.

Table 4. OLS Estimates of Determinants of Income Inequality with Robust Cluster Standard Errors

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Debt crisis	2.305 **	2.247 *	1.641	1.692 *	2.401 *
Recovery	4.580 ***	3.588 ***	1.595	2.475 *	2.587
No Adjustment	-2.881 **	-3.112 **	-2.845 **	-2.657 **	-2.506 *
Earning	-3.372 ***	-2.754 **	-2.905 **	-2.089 *	-3.541 **
Gross income	2.467 **	2.563 **	2.701 ***	2.507 **	2.768 ***
GDP per capita	.297	.513 ^	.868 ^	.812 ^	.949 ^
Inflation	.000	.000	.000	.001	.001
Sector Dualism	.229 ***	.231 **	.188 **	.186 **	.208 **
Ethnic Heterogeneity	4.094 ***	4.150 ***	4.920 ***	3.444 **	6.054 ***
Social Security and Welfare	.386 **	.483 *	.501 ***	.424 *	.422 **
Health and Education	1.226 **	.850	.778	.511	.906
Average Years of Education	-1.161 ***	-1.427 ***	-1.424 ***	-1.486 ***	-1.393 ***
Democracy	-.058	-.058	-.112	-.038	-.107
Repressive Authoritarianism	.058	.019	-.035	.043	-.016
Executive Partisanship	-.267 *	-.272 *	-.222 *	-.284	-.150
Democracy*Social Security Welfare	-.029 **	-.032 **	-.026 **	-.033 **	-.028 **
Stock of FDI		-.002	.029	.022	-.061
Capital market openness		-.007	-.195	-.048	-.059
Trade openness		.036	.058 *	.048 *	.086 ***
IMF		.034	-.024	.089	-.023
Inflows of FDI		.303 *	.344 *	.312	.488 *
Informal employment			.099 *		
Industrial employment				-.347 *	
Market liberalization					4.831
Constant	41.932 ***	41.416 ***	37.067 ***	50.093 ***	35.237 ***
R ²	.72	.74	.76	.75	.75
N	199	195	184	175	178

*** p \leq .001, ** p \leq .01, * p \leq .05, ^ p \leq .05 significant but sign of coefficient opposite of directional hypothesis.

Table 5: Impact of Selected Independent Variables

	Impact on Gini*	Correlation with time
Average Years of Education	-4.1	.34
Sector Dualism	3.5	-.17
Democracy*Social Security Welfare	-4.7	.27
Executive Partisanship	-1.8	-.27
Inflows of FDI	1.5	.50
Trade openness	1.9	.27
Industrial employment	-3.2	-.24
Informal employment	2.1	.69
Market liberalization	1.3	.62
Trade liberalization	2.4	.66

*Effect of a two standard deviation change in the independent variable on the dependent variable

