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Gabriel Moss

Western Washington University

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The Impact of MNC Involvement on the Lives of Workers in Developing Economies of Latin

America

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Introduction:

It is clear that multinational corporations (MNCs) have significant impact in the growth trajectory of developing countries. The nature of this relationship, however, is heavily debated. What is the downstream impact from MNCs on the lives of workers in developing countries? Are countries perversely incentivized to repress and exploit their unskilled labor forces to attract investment? Do multinationals promote better working conditions and raise standards of living for workers? In this essay, I argue that multinationals have the potential to bring massive benefits to the working class in developing countries. If the government of the host country develops strong linkage institutions, connecting MNCs to a large portion of the labor force and promoting information sharing, MNCs can bring increases in wage levels, decreases in inequality, and increased standards of living overall. My study combines quantitative analysis and case study research to explore the effects of MNCs on six developing Latin American economies: Colombia, Costa Rica, Guatemala, Honduras, Mexico, and Venezuela.

To preview my main findings, there are strong correlations in all countries between foreign direct investment (FDI) net inflows (a proxy variable for MNC involvement) and adjusted net national incomes. I also show that overall levels of FDI coming into a developing economy evidence a more significant relationship with income levels than do their relative share of that economy's market, indicating that industry domination is not as important as the total

amount of incoming FDI. The data also shows that increased exposure to foreign capital appears to lead to absolute wealth gains across the economy. In other words, all income groups are made absolutely better off by increased MNC involvement. However, there is strong evidence to suggest that the gains associated with FDI are not evenly distributed across income brackets, that the benefits to the wealthy are disproportionate to those to the poor. Finally, the data shows a good deal of support for the theory that different periods of FDI development affect and enfranchise different groups in different ways. When MNCs initially enter a country, in the early stages of development, we see strong associations between increased levels of FDI and increased Human Development Index (HDI) scores. As time goes on, and peripheral economies adapt and shift their development strategies, the relationship becomes weaker and appears to plateau. The central goal of this essay is to explore the extent to which predictions from the established literature hold true in select countries in Latin America, with an eye toward what their experiences can say about the impact of MNC FDI more broadly.

Overview:

This paper is structured as follows. First I review the literature on MNC involvement, centering on the debate over the existence of a “Race to the Bottom,” and its counterpart, the “Climb to the Top.” Second, I present my hypotheses and variables derived from that literature. Third, I present a series of paired case study analyses: Mexico and Venezuela, Colombia and Costa Rica, Honduras and Guatemala. Evidence will be presented on a country-by-country basis as well as in a cross-sectional comparison. Finally, I summarize my findings in a concluding section with attention to what the findings suggest for out of sample cases. Tables and Figures referenced in my case studies can be found in the appendices following my bibliography.

Literature Review:

In order to properly understand the nuanced and varied ways in which MNCs have impacted and altered the development trajectories of periphery countries, we must engage the vibrant debate over the two primary poles in development theory. The first group, a large cohort of anti-globalization scholars informed by the Marxist canon, has formed around one central critique — the “Race to the Bottom.” Drawing on dependency theory, Race to the Bottom theorists propose that in order to attract MNCs and FDI, countries systematically lower their standards for worker protection, wage levels, and environmental standards. The second group finds its footing among the Austrian and Friedmanian disciplines, popularized as the “Climb to the Top”. These theorists stress the positive correlations between rule of law (RoL) and MNC involvement, focusing on the absolute gains associated with globalization, rather than the relative gains emphasized by their Race to the Bottom peers. Climb to the Top theorists are primarily concerned with long-run aggregate analyses, whereas Race to the Bottom theorists focus on cross-sectional and case study approaches to construct their arguments.

Race to the Bottom theory draws heavily on dependency theory, the operating assumption of which is that as peripheral countries develop, they will become more closely intertwined with and dependent upon developed economies for resources and capital. A central player in this dynamic is the MNC, which enters a developing country, out-competing domestic producers, eroding private sector autonomy and making the host country reliant on it for goods, capital, and technologies. Responding to this fear, many developing countries pursue an Import Substitution Industrialization (ISI) development strategy, insulating their domestic businesses and limiting or even prohibiting the entry of MNCs.

Building on the work of previous dependency scholars, Peter Evans shows how the economic system put in place under imperialism created a stagnant Brazilian economy (Evans 1979). Evans postulates that due to the economic incentives in place, the main outcome of imperialism was to impede and control the growth of underdeveloped countries. He explicates three main groups: the international capitalists (MNCs), the local government, and the local bourgeois (Evans 1979). Stage by stage, these three agents stripped the underdeveloped periphery economies of development possibilities. The resulting system was a rapacious alliance between monopolists, landowners, and compradors, all dedicated to maintaining the status quo. High volumes of low value added products were exported to the metropole and high value added products imported in return. Despite often running trade surpluses, this form of trade only deepened the divide between the working class and the compradors in the periphery.

Dependent development necessitated the concentration of wealth in the hands of a few in order to continue producing low value added goods. Because the economies of the periphery, the wages of their workers, and their access to capital were so intimately intertwined with the metropole, they became increasingly vulnerable to economic shocks in the capital exporting economies. Due to the low value added nature of the commodities exported by the periphery, economic shocks to the metropole will have drastic implications on the developing world. As such, MNCs lock the developing world into a state of delayed or stagnant development. They inhibit technological innovation and capital accumulation in the periphery, and encourage the development of a highly unequal economic structure (Evans 1979). Evans attributes much of the economic uncertainty and volatility in the periphery to this highly dependent relationship (Evans 1979).

Evans argues that the rules of the game, the institutional apparatus constructed around the

market, are crucial to how players will operate (Evans 1995). In line with the Weberian ideal, Evans' optimal state features an effective and streamlined bureaucracy. The theory proposes that if institutions are constructed in such a way as to promote effective and fair RoL, and establish robust impartial bureaucracies, MNCs will be able to enter and compete with domestic businesses, increasing the productivity and the wages of the workers in host states. If the bureaucracy is too inefficient and cumbersome, such as in the case of Brazil, domestic firms will be unable to develop fully and will not compete effectively with MNCs. The goal for Evans is to create a bureaucratic apparatus that is embedded — fully ingrained in the state and market — and autonomous — free from popular controls. He acknowledges the almost impossible nature of this duality, but still stresses the need to strive towards this sort of system (Evans 1995).

Going a step beyond Evans' claims, Anita Chan argues that exports and global orientation will not benefit a developing country (Chan 2003). “Globalization scarcely leads to improved wage conditions for the workers who make goods for export compared to the populace at large” (Chan 2003, 46). Her view, emblematic of Race to the Bottom literature as a whole, contends that a host country will remove protective barriers and minimum wage requirements for workers in export sectors. She believes that intra-firm competition, though it may well exist, will not be enough to outweigh the competition between countries, which she sees as putting downward pressure on wage levels.

In her discussion of Chinese labor law, Chan explains the *Hukou* system, a system of formal and informal laws that keep migrant workers within China in positions of poverty, unable to access higher wages or expand their rights. This system restricts where workers are legally allowed to live, preventing them from relocating to find adequate or better paying jobs. Chan asserts that a large reason for the continued existence of this law is the bargaining power and

influence of MNCs (Chan 2003). In seeking lower labor standards, manufacturing companies have done what they can to influence Chinese policy, supporting the continued implementation of this law, which guarantees them a steady supply of non-migratory laborers. Without the ability to relocate for a better job, Chan argues, workers have very little bargaining power and are largely at the mercy of MNCs.

Chan shows that although massive amounts of FDI and a sizable cadre of MNCs have flowed into China, the benefits of this increased supply of capital have been narrowly confined. “As a region becomes more prosperous, it violates the national guidelines and seeks to maintain its attractiveness to foreign capital by keeping its minimum wage level low, in order to compete with other localities in China in selling the labor of migrant workers. The benefits of globalization in accordance with this competitive logic have not, and will not, trickle down to those who make the products” (Chan 2003, 46). Chan argues that working conditions have declined in China in the wake of globalization. She sees this dynamic as direct proof of the existence of Race to the Bottom incentives. This claim stands in direct opposition to the causal theory at the heart of Climb to the Top literature.

China’s central government has played a direct role in the reduction of minimum wages throughout the country. “The central government has intervened in a way that encourages even lower pay. Though migrant workers’ wages in Guangdong province are very low, the central government has been worried that Guangdong is pricing itself out of the international market. The government therefore has started to encourage foreign capital to move inland, to places where the pay is even lower” (Chan 2003, 46). Although Climb to the Top theorists would see this as potential for competition between interior Chinese firms and MNCs (a relationship they believe leads to increased wage levels), Chan is far more pessimistic. She believes the

introduction of manufacturing MNCs to the Chinese interior, predominantly rural markets, will provide substantive incentives for further reductions in the already minuscule rural average income (Chan 2003). This negative relationship between rural wages and the presence of manufacturing MNCs is distinct to Race to the Bottom theory.

Writing some 25 years after Evans, Martin Wolf claims that MNCs do not seek to exploit or dominate their host countries (Wolf 2004). “The bottom line is that corporations have influence, but not decisive power [...the fear that] democracy will founder under the assault of corporate interests is wildly exaggerated” (Wolf 2004, 247). He wrote about an economic system that looks starkly different from the one Evans was observing. By the time Wolf was writing, MNCs were no longer solely engaged in manufacturing and resource extraction, periphery economies had grown enormously, and there was far more competition from within periphery economies. Indeed, the very differentiation between periphery and metropole was beginning to blur. Wolf stresses the limited power of MNCs and their motivation — profit maximization — distinct in his view from political manipulation and bribery.

Wolf claims the host country remains in the dominant position, dictating the capacity and actions of MNCs through constraints on MNC action. “Even the weakest states can force people to do things most of them would very much prefer not to do [...] companies [can] not. They are civilian organizations that must win their resources in the marketplace” (Wolf 2004, 223). In Wolf’s framing, the state remains the dominant player, setting the rules of the game, and regulating the actions of companies and corporations (Wolf 2004).

The production shift to global supply chains dramatically changed the opportunities available to domestic businesses. Increased complexity of production encouraged participation of domestic producers to supply and compete with MNCs. The backward linkages formed during

this era of multinationalism distinguish it from earlier, extractive production, spreading gains to developing economies.

Wolf claims that what draws multinationals more than anything is RoL. “The more advanced the rule of law, [...] the higher the direct foreign investment. [...] The great bulk of direct investment continues to go to countries with high labor costs and strong regulatory regimes” (Wolf 2004, 233). Analyzing data gathered by the World Bank, Wolf shows that one of the largest determining factors for MNC investment choice is often consistency (Wolf 2004). Though labor costs will have an impact on the profitability of a firm in the short run, long run survivability is far more dependent on the consistency and reliability of the host country’s regime. Wolf sees China in a much different light than Chan, calling it “the most economically successful developing economy since 1980” (Wolf 2004, 234). He sees the lack of regime change, relative economic stability, and consistent laws regulating the behavior of MNCs within China as strong attractors of FDI.

In exploring NIC development trajectories, Stephan Haggard argues against dependency theorists showing that although MNC involvement was high at the beginning of Export Oriented Growth (EOG), it shrank as a relative value to the share of the market held by domestic firms (Haggard 1990). In Taiwan, for example, “when exports are weighted by the share of foreign ownership, the role of foreign investment starts smaller and drops more sharply” (Haggard 1990, 202). Though having a good deal of influence initially, MNC power is quickly diluted by domestic businesses, who are prompted by competition and government incentives to increase productivity. Countries pursuing EOG would allow MNCs easier access to their markets, forcing budding firms to compete to survive. Haggard highlights the success of these policies, showing that increased openness to MNC involvement led to substantial growth and development in

Singapore, Hong Kong, Taiwan, and South Korea (Haggard 1990).

Jagdish Bhagwati emphatically refutes the existence of the Race to the Bottom.

“Multinationals, generally speaking, do not go streaking to where labor rights are ignored or flouted” (Bhagwati 2004, 130). This finding, supported by Wolf, is key to understanding the nature of MNC involvement in the Climb to the Top model. Bhagwati and Arvind Panagariya show substantial evidence that the presence of MNCs increases the living condition of the working class (Bhagwati and Panagariya 2013).

Bhagwati and Panagariya provide further empirical evidence in the form of a case study of India’s development to support these claims about the benefits from MNC involvement. They show that during a period of ISI protectionism, India’s economy stagnated (Bhagwati and Panagariya 2013). As policy makers began to reform India’s economic policy in the 80’s, Bhagwati and Panagariya show the substantial economic benefits, many of which were captured by the poor. Their claim boils down to a simple relationship: more employment means less poverty. As MNCs entered India, they increased demand for labor, pulling rural farmers out of abject poverty into the cities (Bhagwati and Panagariya 2013). Their work demonstrates a clear link between globalization and economic development in India.

Paolo Figini and Holger Görg explore this initial dynamic further in a case study of Ireland’s recent development. Figini and Görg show that initially the demand for labor created a spike in inequality, but as more firms entered the market, the market reached an inequality maximum of sorts. After this apex, the addition of further competition caused a reduction in inequality. Contrary to Race to the Bottom theory, this reduction was not at the expense of the initially elevated workforce, but rather the result of an increase in the wages offered to the remaining workers (Figini and Görg 1999).

James Crotty, Gerald Epstein, and Patricia Kelly argue that the effects of FDI and MNC involvement are directly dependent on the form of the regime in which they take root (Crotty, Epstein, and Kelly 1989). They argue that the power and influence of MNCs are contingent on levels of international aggregate demand, the nature of competition in their host markets, and the domestic and international regulations and rules of play.

In order to tease out the underlying foundation for a given country's political and economic institutions, Daron Acemoglu, Simon Johnson, and James Robinson construct a model for explaining divergence in economic development trajectories and political institutions in the periphery, based on the death rates of European settlers during colonization (Acemoglu, Johnson, and Robinson 2001). Their theory is that a legacy of imperial institutions heavily influences modern institutions. Drawing on path dependency theory, their model suggests that European colonizers imposed different types of institutions based on the expected death rates of early settlers. Their work shows high correlations between early colonial death rates, current levels of development, and forms of political institutions. Their findings support Evans' claims that the historical alliances formed during imperialism have long-standing ramifications for modern development. They also provide support for Wolf's theory that host governments have a dominant role in the process of development vis-à-vis MNC involvement and potential for action. Their work can be seen as an amplification of Wolf's conclusion about the power of government, suggesting that the most important and powerful factor contributing to the development trajectory of a periphery economy is not the presence or absence of MNCs, but of a history of MNC and imperial involvement in the host country's early years. They make note of the fact that institutions are resistant to change, a sentiment echoed by Evans and other new institutionalists. If they are correct that modern institutions are both highly determined by a

history of colonial institutions and also slow to change, their theories could have substantive ramifications for the developing world. Countries that did not inherit beneficial institutions from colonialism must then take steps to establish those institutions early on in their development processes.

Benjamin Powell shows that by and large MNCs offer substantially higher wages than their domestic competitors (Powell 2008). Most protested companies still offer higher wages than their competitors. Paul Krugman corroborates these findings. He testifies to the measurable benefits incurred from export industries, and argues that protesting sweatshops will serve as a substantial blow to the working class of the host country, perhaps even reversing the progress made in a given country during a period of MNC involvement (Krugman 1997).

Not all agree on this dynamic however. Mehrene Larudee and Tim Koechlin are skeptical of the reliability of data offered by MNCs about their factor costs and operations. Larudee and Koechlin argue that the wage gap between MNCs and domestic firms is actually far smaller than Powell has found (Larudee and Koechlin 1999). They postulate that isolated geographic competition largely influences this phenomenon. The positive correlation between MNC wages and domestic wages is isolated to small regions, and not distributed throughout the economy (Larudee and Koechlin 1999). However, Bhagwati and Panagariya do a good job of showing the immensely diffused effects of MNC involvement (Bhagwati and Panagariya 2013).

Type of MNC Involvement:

There is a strong temporal aspect to this debate. Multinationals have manifested in distinct forms in different eras with drastically different implications for host economies. There are three main eras of MNC investment that demand our attention: extractive, productive, and

high-tech multinationalism. The first category, extractive multinationalism, is marked by a strong alliance between military and private enterprise from the metropole in extracting natural resources from the host economy. It is not until the second form of MNC involvement, productive multinationalism, that benefits from MNC investment begin to be seen in the periphery. This second form of MNC involvement manifests as low-skill manufacturing, service jobs, and highly routinized industrial production. It is this second era over which the debate has been the most intense. The third form, high-tech multinationalism, is marked by a high concentration of FDI in high-tech industries. It is a generally held belief that backward linkages formed during this third stage between MNCs and local firms will lead to enhanced technological proficiency, increased knowledge, and access to more advanced means of production across the domestic economy.

Oil:

There are three main competing views on the impact of petroleum on a given country's development trajectory. Michael Ross' work has sought to explore the relationship oil has on economic as well as social development. His findings show a strong relationship between the national production of oil, poor economic policies, heightened levels of corruption, and the oppression of women. Because petroleum oriented MNCs operate in isolated, remote regions, employing foreign labor, using imported machinery and building materials, they do not actually compete in a host economy. Rather, they exist outside the regular economy of a host country, providing massive revenues to the host government in the form of resource use fees (Ross 2012). One of his main contributions to the canon is demonstrating the direct negative impact an oil industry has on the economic development of the rest of the economy (Ross, 2012).

Victor Menaldo has taken a different stance. His work advances the belief that instead of oil, institutions are the cause of poor economic development. He argues that countries with poor institutions, such as tax collection problems, will rely heavily on petroleum rents in order to finance their growth (Menaldo, 2016). Venezuela and Mexico are prime examples of this dynamic. Mexico has a robust and established tax collection system, allowing the Mexican government to collect a good deal of revenue from the population at large. This contributes to a relatively representative government and public policy that addresses wealth redistribution. Venezuela, on the other hand, does not have the same well-established tax collection institutions. As a result, the government was forced to focus development strategies on oil rents in order to fund social welfare programs.

Under these conditions, Menaldo argues that industrialization will occur through crony, not competitive, capitalism. Taking advantage of high inequality and political institutions, elites will use politicized financing and seignorage in order to consolidate power. The high transaction costs in political systems with poor institutions will push elites toward policies that consolidate political power and perpetuate high levels of inequality. This is especially true for oil extraction, as host country elites will encourage explorations and new wells as a way of increasing economic and political gains.

Finally, Thad Dunning's work straddles the two theories, arguing that both good and bad economic and political institutions can be the result of — or reinforced by — a large petroleum sector. In line with Jan Teorell's work on democratization, Dunning argues that a large oil industry can reinforce both autocratic and democratic regimes. By providing rents gained without the implementation of income taxes, oil production can allow for a relatively autonomous and unrepresentative government. Citizens are provided with government-funded

programs, financed by oil rents, which smooth over issues of inequality and lack of representation. Relatively consistent oil revenue can allow a country, such as Venezuela, to develop and grow without needing to address high levels of inequality (Dunning, 2008). In such a case, the presence of MNCs and inflows of FDI into the oil industry can ensure steady revenue streams to the government. Venezuela provides compelling evidence for this dynamic, with higher levels of foreign investment allowing for increased social welfare institutions. The downside to such development strategy is that when the underlying price of oil inevitably drops to a level where the country can no longer finance its public programs, demands for wealth redistribution dramatically increase.

Causal Mechanisms

Before proceeding to the specification of hypotheses, this section briefly summarizes the causal mechanisms at play in the literature reviewed thus far. Bhagwati's and Panagariya's work is emblematic of the logic at the heart of Climb to the Top theories. Their mechanism highlights competition between MNCs and local firms as a primary motivator for productivity and efficiency enhancements, and accompanying economic development in peripheral economies. As MNCs enter a host country, they will hire large numbers of previously unemployed workers. This will increase demand for labor in the host economy, giving bargaining power to workers and increasing the wages offered by domestic, competing companies. As wages rise, people will be pulled into urban areas from rural communities, gaining opportunities for political socialization. In order to increase worker productivity, MNCs will begin to educate their workforce. Although modest at first, this education will allow for stratification of the workforce, and will lay the foundation for a middle class. The children raised by these new workers will

grow up with increased levels of socialization and education (Bhagwati and Panagariya 2013). Over time, Bhagwati and Panagariya believe that the introduction of competitive manufacturing MNCs will lead to higher levels of income, socialization, education, and political rights for all groups in the host country. This mechanism is not concerned with analyzing relative gains, and specifically addresses the long run average growth trajectories of developing economies.

Evans argues that the causal mechanism used by Bhagwati and Panagariya is inherently flawed (Evans 1979). Because there is little incentive for the development of a middle class in the periphery, no link exists between increased MNC involvement and a growing middle class (Evans 1979). Dependent development will instead result in the development of the wealthy bourgeoisie, and a large, predominantly poor working class. Even if the poor are made better off in absolute terms, Evans argues they will be relatively worse off compared to the wealthy. His tripartite model incorporates political power as a means for maintaining the highly unequal economic stability favorable to dependent development. The coercive aspects of the state are accentuated and a tendency toward repression is developed. Evans sees this as largely driven by economic necessity (Evans 1979). Depressed wages keep the products of the host economy internationally competitive, and the concentration of income emboldens the luxury goods market, drawing in imports for the metropole. It is due to this articulation, he argues, that the local economy does not display any relationship between wage levels and the process of industrialization (Evans 1979).

Furthermore, Evans argues that developing economies are prevented from undergoing the same process of development that occurred during the industrial revolution in Europe and the United States (Evans 1979). When MNCs enter a country, they bring with them only those modes of production already routinized and largely optimized (Evans 1979). By and large the

innovation associated with the technology being used is done long before the production is exported to the periphery from the metropole. Bringing only highly routinized technology with little potential for further innovation, MNCs inadvertently rob the host economies of the period of capital accumulation and technical innovation necessary to the development process.

Layna Mosley (Mosley and Uno 2007) highlights the complicated nature of this debate. Mosley shows that there exist both pressure on countries for the Race to the Bottom and incentives for the Climb to the Top. The downward pressure, she claims, is the result of international trade arrangements. In order to attract business, developing countries will consent to trade agreements that restrict the bargaining power of unions, lower labor regulations, and reduce environmental standards. At the same time, endogenous pressure from MNCs and domestic firms motivates increased rights for workers and higher salaries. In keeping with Evans, Haggard, and Wolf, Mosley finds that the outcome ultimately depends on how the country is integrated into the global economy. The rules of the game absolutely matter to the formation of incentives and the existence of either a Race to the Bottom or a Climb to the Top. She finds a strong correlation between increased democracy, income, and civil conflict and worker rights (Mosley and Uno 2007). This finding is in line with Bhagwati and Panagariya's emphasis on the importance of growth incentives.

In sum, the Climb to the Top theorists stress absolute, longitudinal comparisons, and deal primarily with productive MNCs in relatively competitive international markets. As a result, their work tends to downplay the importance of case study analysis, emphasizing aggregate data and insisting that absolute growth is the target worth addressing. Race to the Bottom theorists, on the other hand, focus on relative comparisons between the haves and the have nots, emphasizing cross-sectional comparisons. Their work utilizes case study analyses, stressing relative

comparisons of income levels and economic growth. Because of these divergent methodological approaches, the two groups regularly draw opposing conclusions. The goal of this study is to reconcile their dissenting opinions, analyzing their mechanisms on their own terms, and seeing to what extent their theories hold true in the Latin American experience.

Hypotheses and Variables:

The core argument of this paper is that the most significant determining factor for how MNCs will affect the lives of workers in developing economies is mode of MNC production (extractive, productive, or high-tech). In order to support this hypothesis, I must test the robustness of the claims made in the literature. Since the Race to the Bottom and Climb to the Top theories assume inverse outcomes, we can test the strength of both by testing the robustness of one. If neither is shown to be valid, we can conclude that there is some variation not explained by the standard models, providing support for my thesis. I have chosen to explore the validity of Climb to the Top theory in my sample cases. Controlling for regional differences and the presence or absence of an oil industry, I explore the relationship between MNC involvement and absolute income growth of the poor in a selection of countries. I measure the different effects of one central independent variable — MNC involvement. Unfortunately, the data concerning MNC involvement is spotty at best, therefore as a proxy variable I will be looking at FDI inflow data collected from both the World Bank data set and the KOF Index of Globalization. By looking at FDI Figures, I expect to capture at least a rough picture of MNC investment patterns within a given country over a period of time. This is by no means a perfect fit. As J. Steven Landefeld and Ralph Kozlow point out, a great deal of work is needed in the form of in-depth case study analysis of MNCs before the available data can be seen as truly satisfactory

(Landefeld and Kozlow 2003). With this in mind, I have chosen to focus simply on the effect of FDI, as a proxy for MNC involvement, on the incomes of workers in developing countries.

In order to understand the relevance of the literature to the Latin American experience, I explore the basic causal mechanisms put forward by both competing perspectives on FDI. I test the effect of MNC involvement on four dependent variables at the country level: the adjusted net national income per capita, the Gini coefficient score — a ratio measure of inequality — the Human Development Index (HDI) score, and the relative and absolute levels of wealth held by different income groups within the country (see bibliography for data sources). Adjusted net national income per capita and HDI variables will be lagged two years and the Gini coefficient will be lagged five years behind the independent variable.

As a second independent variable, I test the presence or absence of an oil industry with at least \$100 per capita income per year generated by petroleum extraction on the same dependent variables. This is to test Ross' proposition that oil economies lack the same mechanisms linking MNCs to the bulk of the workforce. According to the Climb to the Top literature, increased MNC activity should reduce inequality. As more people are employed and the middle class grows, the dispersion of resources becomes increasingly equitable. As inequality decreases and the average worker wage increases, we expect to see an increase in the HDI, life expectancy, and education levels. From this, we can conclude that as MNC involvement in a country increases, it is reasonable to expect to see a resulting increase in the country's HDI score.

Hypotheses:

H1: Increased MNC involvement will result in positive change in average incomes across all areas of the economy, expressed as a percent increase in the adjusted net national income per capita. This measure accounts for fixed consumption and natural resource depletion.

H2: Increased MNC involvement will decrease the levels of income inequality in the country.

H3: Increased MNC involvement will increase level of human development within the country.

H4: Increased MNC involvement will increase absolute income levels across all income groups.

H5: Increased MNC involvement will decrease the gap between relative income levels between the top and bottom ten percent.

Alt. H: H1-H5 will not hold true in oil producing host countries.

Case Studies:

In order to partially control for cultural variation, regional differences, and historical differences, I have chosen to examine countries only in Latin America. Within my sample, I selected what I believe to be a robust and varied group, capturing a range of population sizes and geographical traits, including both developing and developed, oil and non-oil states represented. Between the two major oil producers, Venezuela and Mexico, we see varied development approaches, as well as a large difference in political systems and histories of MNC involvement. Colombia and Costa Rica allow us to explore the impact of extractive multinationalism as compared to high-tech multinational production. Honduras and Guatemala show us variation in the developmental impact of different forms of MNC production on highly impoverished economies. The tables and figures referenced below can be found in the appendix section at the end of the paper.

Data Interpretation:

The data from this study shows key areas of divergence from the standard model of Climb to the Top theory. The findings suggest that there are very few generalizable traits across all forms of MNC investment. Rather, data shows that different forms of MNC FDI have widely varied effects on developing economies. Table 1 shows strong correlations in all countries in this study between FDI net inflows and adjusted net national incomes support H1. The strongest relationship is found in Costa Rica, which as a major tourist hub and high value-added export manufacturer, is to be expected. The strong relationship shown across the sample suggests that the causal mechanism undergirding H1, linking FDI and income levels, may be robust in Latin America.

When examining the impact of FDI measured as a percentage of total GDP on national incomes, this relationship grows weaker. In all countries except Venezuela, there is still a strong correlation, although with the exception of Honduras, this relationship is significantly weaker than with overall levels of spending. This finding casts doubt on some of Evans' claims (Evans 1979). Specifically, it shows that overall levels of FDI coming into a developing economy evidence a more significant relationship with income levels than do their relative share of that economy's market. H1 is again supported. This relationship slightly undermines Evans' tripartite alliance of foreign capital, local compradors, and local government by showing that industry domination is not as important as the total amount of incoming FDI. Part of his theory is how the interactions between these three classes are engineered to pull in as much capital and profit for the participating entities as possible. The strong correlations seen between FDI inflows (both as a percentage and in absolute terms) and net national incomes provide a great deal of support for the existence of such an alliance, while reinforcing H1.

The data in Table 1 shows no correlation between FDI and change in the GINI coefficient

for all countries in the study. We do see a slightly negative association between the two variables in all countries except for Venezuela. Although given the lack of significance of these correlations, it may not be productive to read too much into that relationship. What we can say is that the data shown above does not support H2. We find no relationship between increased MNC involvement and reduced inequality.

Figures 1 through 12 display both relative and absolute wealth distributions for six countries. Relative shares of overall wealth and absolute wealth held by each observed income bracket is graphed temporally. These graphical representations allow for comparisons in both absolute levels of wealth growth and rates of wealth accumulation. An important note to make at the outset is that even though “absolute wealth” is used, relative comparisons of the data represented by such Figures can still be made. Similarly, we can attempt absolute comparisons of our “relative” data. The terms used for each Figure simply represent the way the data is presented. “Relative” Figures display percentage distributions of wealth over time. “Absolute” Figures display the total amount of wealth commanded each year (based on the corresponding percentage of wealth possessed by each income group in a given year). What we are primarily concerned with is addressing the relative comparisons between the top and bottom 10% and the absolute growth of each group. The middle 20% group has been added to give some indication of the distribution of wealth throughout the economy, although most of the critiques drawn from the literature review focus on the normal curve tails (high and low). For that reason, we will be primarily addressing the attributes of the top and bottom 10%.

For simplicity of purpose, we begin with an absolute comparison approach, consistent with Climb theorists. Followed by a relative comparisons approach, echoing the Race to the Bottom literature. Starting with Colombia, we see a noticeable absolute shift in the total amount

of wealth owned by the bottom 10%. Over the 30 years of available data, the bottom 10% increased their total wealth tenfold. Table 3 shows a strong correlation between increased FDI inflows and increases in the absolute income of the bottom 10%, significant at the .001 level. Indeed, we see evidence of possible effects of FDI on income in absolute terms across all three groups in all countries except Venezuela. Guatemala has the lowest level of significance, significant only at the .1 level, although here too we see across the board a significant correlation between FDI inflows and absolute incomes. Figures 2, 4, 6, 8, and 10 reinforce this dynamic, showing that in each country, except again Venezuela, the absolute wealth of the lowest 10% has increased over the observed period of time. Moreover, the absolute levels of wealth for the top 10% and middle 20% have also increased. The correlations are in keeping with our findings of the effect of FDI on net national incomes. We do not see just one group benefiting in a vacuum. Consistent with H1 and H4, increased exposure to foreign capital appears to lead to absolute wealth gains across the economy.

Transitioning to a relative comparison, we do not see the same strength of relationship between FDI and relative shares of wealth. Although many of the Figures display nominally positive trends, the slope of those trend lines is rather small. The percentage of national wealth held by the bottom 10% in Colombia, for example, has a slope of only $m = .0002$. What is more, we do not see consistently significant correlations between FDI and share of wealth, as we saw with FDI and absolute levels of wealth. Table 2 shows that only three countries, Costa Rica, Guatemala, and Mexico, display any sort of significant relationships between relative wealth and FDI. In Guatemala, an agrarian economy with a high concentration of multinational investment in extractive industry, we see a negative relationship between FDI and the income share of the bottom 10%, and a positive relationship between FDI and the income share of the top 10%. This

violates H4 and H5, while providing yet more evidence to expand the alternative hypothesis to include all forms of extractive multinationalism, not simply countries with large oil industries. The middle class has been largely unaffected by increases in FDI, but the lowest income group has suffered and the rich have benefited. Mexico displays similar relationships between FDI and the wealthy, although it is worth noting that the relative income of the middle 20% has also gone up. The form FDI takes in Mexico, namely industrial productive manufacture, can likewise explain this. In keeping with H1, H4 and H5, industrial manufacturing is associated with higher levels of wealth for the middle class.

In assessing the data on wealth distribution, it is important to take into account the large divide between Race and Climb theorists over how to best analyze progress. Climb theorists such as Wolf, Bhagwati, and Haggard have built their theories upon a platform of absolute growth comparisons. In contrast, the Race to the Bottom theorists like Chan have worked within the realm of relative comparisons, stressing the importance of comparing relative access to capital, bargaining power, and wealth between groups. In addition to these contrasting analytical perspectives, it is important to keep in mind how different eras of FDI might affect development. Early colonialism represents the first stage of FDI in its true sense, followed by a dependent development phase under ISI policies, and later by EOG development strategies.

Figures 2 and 4 illustrate these eras of shifting development and marked changes in equity relationships between the different classes studied. Figure 2 shows the wealth held by different groups over the last thirty years in Colombia. Between 2003 and 2004, there is a dramatic shift in the rate of growth of the absolute income share held by the top 10%. This coincides with the beginning of the disarmament process and easing of tensions between guerrilla, paramilitary, and military forces in Colombia. This easing allowed for increased

multinational investment into extractive industries, principally petroleum and coal. It is in no way coincidental that the increased access of extractive multinationals to Colombia has coincided with an increase in the rate of wealth accumulation of the top 10%. Here we see evidence to support the alternative hypothesis; the presence of an oil industry has violated H5. Figure 4 illustrates a similar relationship in Costa Rica. These two Figures are most intriguing due to the similarities in the different forms of multinationalism they depict. The increase seen in Costa Rica is largely due to the presence of high-tech MNCs. This provides evidence to suggest that in Costa Rica, high-tech manufacturing has had a very similar impact on the divergence of growth rates of wealth held by the 10% and the rest of the population as has extractive multinationalism in Colombia. This finding suggest an important addendum for the alternative hypothesis; the only form of multinationalism that will satisfy H1-5 is productive multinationalism.

The same transition is not seen in the rates of growth for the bottom 10% in Costa Rica, nor the middle 20%. This means that although the average per capita GDP of the country rose significantly around 2005, the gains associated with the increase were captured primarily by the top 10%. Although these two countries exhibit dramatic curvilinear growth rates for the top 10%, all countries in the sample, including Venezuela, show larger rates of growth for the top 10% than for the other two income groups. The rates of growth for the bottom 10% are significantly lower; they are barely positive, indicating a plateauing in the relative gains associated with FDI inflows to the bottom 10%. This data shows strong evidence against the robustness of H5. The top 10% grow in wealth at rates that far outstrip the rates of growth of the poorest 10%. Drawing on this relative comparison, we can conclude that there is strong evidence to suggest that the gains associated with FDI are not evenly distributed across income brackets. H5 does not hold

true.

Looking at HDI levels and FDI inflows in Figure 13, there is support for H3: as foreign companies move into a developing economy, the overall standards of living will rise. With the exception of Venezuela, we see dramatic increases in HDI as FDI increases. Decade to decade, countries display higher HDI levels as FDI is increased. The trend lines have been drawn to illustrate this point, but given the relatively small sample size these findings should not be extrapolated to apply to cases outside this study. What we see is strong evidence in support of H3. People in general are made better off over time by increased levels of globalization and foreign direct investment. The trend lines also show that although there is a positive correlation across the three decades observed between FDI and HDI levels, the relationship seems to exhibit diminishing returns to scale. This is to say that although we observe positive correlations between our variables, there is a plateauing effect in the data. This provides support for the theory that different periods of FDI development affect and enfranchise different groups in different ways. When just entering a country, in the early stages of development, we see strong associations between increased levels of FDI and increased HDI score. As time goes on and periphery economies adapt and shift their development strategies, perhaps pursuing EOG or ISI, or trapped in Evans' dependent development, the relationship becomes weaker and appears to plateau.

Mexico:

Mexico plays a pivotal part in this comparative case-study analysis. Mexico is one of the highest recipients of FDI in the world, second only to Brazil in the region. Its close proximity to the U.S., as well as its participation in the North American Free Trade Agreement (NAFTA), has

led to a great deal of temporal variation as to the form of FDI within its economy. Unlike Venezuela, the majority of FDI flowing into Mexico is concentrated in three key manufacturing subsectors: machinery and equipment, chemical substances, and textiles and leather products (Pacheco-López, 2005). The concentration of MNC involvement in these manufacturing subsectors is important to understand Mexican economic development in comparison with that of the other case studies.

Alexandre O. Vera-Cruz & Gabriela Dutrénit explore the spillover effects of these MNC investments on the Mexican economy at large. Their findings show that firms with founders, engineers, or managers that have previously worked for multinationals show higher competitiveness, have higher levels of market influence, and have higher managerial and technological capabilities than other domestic firms (Vera-Cruz and Dutrénit, 2005). Their work focused primarily on the manufacturing sector, looking at firms that supply or compete with MNCs. Their causal mechanism, explaining and predicting positive spillover effects from MNC competition, is very similar to the one used by Bhagwati and Panagariya and adapted for use in this study. Managers who have received training from MNCs will be exposed to more advanced technologies and managerial tactics than those who were trained exclusively by domestic firms. After leaving the MNC, these managers are able to join or start-up domestic firms, either competing with their previous foreign employer or working to fill a gap in the supply chain (Vera-Cruz and Dutrénit, 2005). The authors find that occupying a managerial position within an MNC is a necessary component for developing the highest levels of technological advancement and competitiveness within a given sector (Vera-Cruz and Dutrénit, 2005).

Trade and economic policy are central to the patterns of FDI in Mexico. The program, developed to replace the Bracero Program in the 1960s, greatly reduced costs to MNCs operating

in Mexico's manufacturing sector. This incentive was achieved with a special tariff placed only on the value added by Mexican laborers during re-importation of a given good. Raw materials used to produce the good were not taxed during importation to Mexico (Pacheco-López, 2005). This reduced tax, amplified by the creation of NAFTA in 1994, led to high rates of foreign investment in Mexico's manufacturing sector. In her paper on FDI in Mexico, Penélope Pacheco-López attributes the attractiveness of investment in Mexico primarily to its location in relation to all of North America. Reinforcing this advantage is the relatively cheap price of labor within Mexico, which Pacheco-López argues works to further increase the country's attractiveness to foreign investment (Pacheco-López, 2005).

The concentration of foreign investment in the manufacturing sector has been key for Mexico's relatively successful economic growth. Despite the presence of a large petroleum industry, the majority of MNC involvement has been located in economic areas that have exhibited positive spillover effects to the market overall. Unlike Venezuela, where a third of FDI is concentrated in extractive industries, the majority of MNCs operating in Mexico are in the manufacturing sector (Pacheco-López, 2005). In sum, we would expect to see the development of a large middle class within Mexico, consistent with H1, H2, H4, and H5. In the data, there is a strong relationship between increased amounts of FDI and the income share held by the middle 20% of citizens. This relationship is likely due to the positive spillover effects of MNCs operating within Mexico's manufacturing sector.

Venezuela:

In almost every aspect besides income distribution, Venezuela is an outlier. This phenomenon can likely be attributed to a simple and profound difference between it and the

other countries in the sample: oil. As Ross has shown, a petroleum industry can have long lasting and profound effects on a country's development trajectory (Ross, 2012). The other large oil exporter in this sample is Mexico; however, several key differences exist between Mexico and Venezuela that may account for their different traits. First, Mexico's economy is far more diversified than Venezuela's. Mexico both refines and exports its own finished petroleum; in contrast, Venezuela only exports crude oil. Mexico has also taken steps to both privatize and distance itself from Pemex, the state oil company, in contrast to the strong government control over oil seen in Venezuela. Although the Mexican government receives a substantial sum of tax revenue from Pemex — approximately 62% of its revenues — Pemex's overall share of Mexico's exports has dropped from 61.6% in 1980 to 7.3% in 2000. By contrast, petroleum exports make up over 60% of Venezuela's total exports in 2000, and over half of its total GDP. This is a profound distinction. Venezuela's economy is far more tied to international petroleum markets than any other country in the sample, making it more susceptible to fluctuations in international prices and by implication to international monetary crises, as we see evidenced by Venezuela today (Dunning, 2008).

Venezuela exhibits starkly different relationships between FDI and economic development to those in Mexico. In keeping with this essay's alternate hypothesis, case study research seems to indicate that a large contributing factor to the lack of positive spillover effects of FDI in Venezuela is the form that FDI has taken. Unlike in Mexico, the majority of FDI is located outside of manufacturing. A third of total FDI flows into Venezuela is located in the manufacture of petroleum. Less than 30% of total FDI is in traditional manufacturing. This has significant ramifications for the relationship between FDI and economic development in Venezuela.

Brian J. Aitken and Ann E. Harrison explore the relationship between FDI inflows and domestic businesses in Venezuela. They find that those firms who have formed joint ventures with MNCs capture the majority of benefits realized by Venezuelan firms (Aitken and Harrison, 1999). This runs contrary to H1-5, supporting the alternative hypothesis. We would expect to see a strong relationship between FDI inflows and the success of domestic businesses through spillover effects and increased access to technology and managerial strategies. In short, we would expect Venezuela to exhibit similar tendencies to those of Mexico. Both countries have nationalized oil industries and monopolistic primary producers with very similar nominal revenue rates. The main difference is in how FDI has invested in the country. As Thad Dunning points out, MNCs seeking investment opportunities in Venezuela were offered joint ventures and investment opportunities with PDVSA, Venezuela's national oil company (Dunning, 2008). As a result, the majority of benefits to Venezuelan firms were concentrated in those firms that were able to participate in joint investment ventures with MNCs. The firms that benefited were small, with 50 or fewer employees. The firms that attracted direct investment were often already highly efficient. This contributed to a crowding-out effect. Larger and wholly domestically owned firms suffered greatly, losing market control to smaller and jointly owned companies (Aitken and Harrison, 1999).

Furthermore, Aitken and Harrison demonstrate that there is nothing to suggest the existence of positive spillover effects in technology or efficiency of production from increased FDI (Aitken and Harrison, 1999). Because the benefits of MNC involvement were concentrated in small, highly efficient joint ventures, and the costs largely diffused across most domestically owned firms, the net effect of increasing FDI was negligible. Considering this, we would not expect to see the same sort of positive relationships between FDI inflows and economic

development. If, in general, the majority of domestically owned Venezuelan firms suffer losses from increased FDI, higher levels of foreign investment would be associated with lower levels of employment, not higher. The data in this study reinforces this inverted dynamic, supporting the alternative hypothesis.

Similar to Mexico's case, economic policy has played an important role in Venezuela's development. Dunning shows that starting in the 1960's the Venezuelan government was able to pursue democratic and economic development, without addressing the central issue of inequality, by utilizing oil rents. Through the utilization of general welfare programs financed by oil rents, and not taxable income, the Venezuelan economy was able to grow without being forced to address high levels of inequality. This same dynamic does not exist in Mexico. Though PEMEX brings in substantial rents for the Mexican government, the majority of government money comes from taxable income. This has been the result of economic policy focused on bolstering the growth of a large middle class in order to form a substantial tax base. In Venezuela, the same has not been the case. There is a large informal market, and due to the relative lack of need for taxes on incomes, the government is not responsive to pressure for wealth distribution and income equality. Over the last decade, financial crises and decreasing oil revenues have led to increasing political tensions in Venezuela over rising inequality.

In sum, due to concentration of FDI in extractive industries in Venezuela, there is no relationship or spillover effect between domestic and foreign business. As a result, the causal mechanism does not function properly in Venezuela. MNC presence neither positively nor negatively effects levels of inequality. What is clear is that there is no evidence to suggest technological or efficiency spillovers in Venezuela as a result of MNC involvement.

Comparing Mexico and Venezuela, two main takeaways about oil production are

apparent. First: diversification is key. The actual size of the extractive industry does not appear to matter nearly as much as its dominance over incoming FDI. If a large portion of MNC investment is in extractive industry, the relationships hypothesized in H1-5 will likely not hold true. As in the case of Mexico, diversification of MNC investment into productive multinationalism can greatly dilute the negative impact of extractive MNC investment. The alternative hypothesis appears robust in Venezuela and not in Mexico, suggesting that what matters is not necessarily the existence or absence of an extractive industry, but rather the relative share of foreign investment it is attracting. This is an important finding, as it does not prohibit the development of an extractive industry. Rather, it demonstrates the need for diversification of FDI across a range of industries that are accessible to domestic businesses.

Second: extractive multinationalism allows a host country to ignore pressing issues of inequality. By enabling a country to develop without growing a strong tax base or generating any redistributive institutions, extractive multinationalism greatly complicates future movements toward productive or high-tech multinational investment. This is the direct result of government reliance on extractive multinationalism to fund its programs. As more revenue is gathered from extractive MNCs (as a percentage of total government revenues), it becomes increasingly costly for the government to move away from extractive multinational dominance. This cycle will continue until an exogenous shock forces the government to address latent issues of inequality not resolved by an extractive multinational system.

Colombia:

Comparing Colombia and Costa Rica shows the delayed effects of switching from productive to either extractive or high-tech multinationalism. Both countries employed similar

development strategies in the wake of colonialism, but policy shifts through the 1970's and 1980's have led to distinct development trajectories. In both countries, policies implemented in the early 2000's to encourage MNC investments have had remarkably similar outcomes despite the dramatically different form of multinational production undertaken. Colombia's extractive industries offer an interesting comparison to Costa Rica's high-tech focused ones, and its civil war allows for a discussion of multinationalism in countries with intense danger and uncertainty. On the surface, the data in Table 1 shows a significant correlation between inflows of FDI and increases in average gross national incomes. The relationship persists when accounting for FDI's share of Colombia's overall GDP. However, this increase belies an important dynamic at work within Colombia's economy: although increasing overall levels of income and absolute levels of income held by each strata of the society, FDI inflows have had no effect on wealth redistribution (see Table 2). Similar to the case of Venezuela, there is no evidence in the data to suggest that MNC investment has led to any relative income gains by any one group over any other.

In order to explore this dynamic, we turn to a more in-depth look at the form and function of MNC capital flows to Colombia. In the initial wave of MNC investment in Colombia (1994-2000), 60% of FDI went to the service sector, of that amount, the majority went into airport services and telecommunications, 30% went to manufacturing, 9% to oil, mining, and mineral extraction, and 1% to agricultural production (Kalin, 2009). In the period that followed (2001-2006), oil, mining, and mineral extraction rose to 47% of FDI inflows, while manufacturing and service sector investment dropped by 11% and 26% respectively (Kalin, 2009). This shift, from service sector and manufacturing investment to mineral extraction has had significant ramifications for the Colombian economy.

In 2005, Colombia was ranked the fifth largest crude producer in Latin America, contributing to about 5% of total crude output of the region (Torres, 2005), thereby increasing its importance to the overall economy. Although a relatively modest producer of crude oil, oil exports rose to around 25% of total Colombian exports in that year (Torres, 2005). In addition to its petroleum production, Colombia is the largest producer of coal in Latin America, contributing to 70% of total Latin American coal production. In 2004, FDI inflows rose in Colombia by 73%. Of that total, over three fourths went to mining and petroleum extraction, and of that, 41.5% went toward mining alone. In that same year, mineral exports made up an additional 22% of total Colombian exports, alongside the 25% generated by crude exports (Torres, 2005). Although a single state-owned company, Ecopetrol, initially handled petroleum production, legislation passed in 2003 removed prohibitions on private sector investment. As a result, MNCs were able to enter the market without having to work with or through Ecopetrol.

The implication here is that, unlike Mexico, where a large majority of FDI has gone to manufacturing and the service sector, high levels of investment into extractive industries will not generate the positive linkages between MNC involvement and upward mobility and improved standards of living of the poor encapsulated by H1-5. The data in Table 2 reflects this proposition, showing no relationship between income redistribution and FDI inflows. Our alternative hypothesis that economies that feature high levels of investment in extractive industries will not show strong relationships between income redistribution appears to hold true. In short, the resource curse demonstrated by Ross seems to have afflicted Colombian development.

Building upon resource curse literature, a study by Nazih Richani finds that MNCs have contributed in two significant ways to the 40-year conflict in Colombia between guerilla forces,

paramilitary groups, government troops, and drug cartels. Adapting the rhetoric of resource curse literature, Richani shows that the underlying distribution of resources among social classes, regions, and ethnic groups has caused the development of 'war systems,' or patterns of violent interactions among different actors over sustained periods (Richani, 2005). A central player in Richani's war systems is the MNC. According to this work, multinationals have contributed in three main ways to the development and perpetuation of the conflict in Colombia. Principally, MNCs operating in mineral and petroleum extraction have greatly disrupted the Colombian peasant economy, spurring violent conflict and formalizing struggles over land. Secondly, MNCs fund the central players in the conflict, perpetuating the war system without jeopardizing returns on FDI. Finally, by providing funding to militarized groups in order to ensure steady and stable investment, MNCs have internationalized the conflict, further cementing the war systems (Richani, 2005).

The most obvious group of MNCs complicit in this dynamic is private security companies, mercenaries that primarily contract out to MNCs and the Colombian government. However, the most influential group of MNCs in the perpetuation of war systems within Colombia are those engaged in extractive mineral production. By displacing large numbers of peasant laborers through land seizures and increasing the relative wage gap in rural areas (MNC employees receive on average three times the wages of rural laborers), extractive MNCs have contributed to increased rural poverty (82.6% living on less than \$2 per day) and rural violence (Richani, 2005). The suddenness of this shift has galvanized violent conflicts and contributed to rising homicide rates in Colombia's rural communities. In order to ensure continued long-run safe investment, extractive MNCs fund paramilitary and guerilla groups alike, providing both sides with weapons and money, thereby deepening and extending the conflict.

In Colombia's development, we can see the detrimental impact that FDI in extractive industries can have. It is important to note that although crude exports make up a sizable portion of Colombia's GDP, it is not considered a petrostate. In comparison to our other cases, it appears that what matters most is not the absolute amount of funding going toward extractive industries, but rather the form of investment (private vs. public ownership of firms receiving funding), and its relative weight in the overall economy. Mexico's crude production far outstrips that of Colombia; however, due to the high level of FDI in Mexican manufacturing, the impact of a large oil sector is diluted.

Costa Rica:

Costa Rica differs from Colombia and Venezuela in that instead of encouraging MNC investment in mineral extraction, Costa Rican policy has focused on encouraging investment in high-tech manufacturing. As a result of ISI policies enacted throughout the 1950s and 60s, Costa Rica significantly boasted higher levels of education. Capitalizing on its stock of highly skilled labor, Costa Rica began an aggressive campaign to attract efficient FDI (Giuliani, 2008). The MNCs that began to invest in the Costa Rican economy during this period were primarily concerned with exporting back to metropole economies. The fundamental difference between efficient and extractive FDI is the level of education required by periphery economy laborers. The model suggests that the existence of backward linkages between efficient investment MNCs and domestic business in host economies is vital. Increasing levels of FDI into high-tech industries will correlate with increased levels of technological efficiency for domestic businesses, a strong positive impact of efficient investment MNCs that is not present with extractive production MNCs. Policies aimed at increasing rates of high-tech investment began in

the wake of the 1970's oil shocks. Initially the Costa Rican government decided to focus on the formation of an apparel manufacturing export industry. While Colombia began privatizing its extractive industries and opening up mineral extraction and petroleum production to foreign investment, Costa Rica retained relatively minimal levels of privatization. By introducing export subsidies, reducing import tariffs, and expanding free processing zones, Costa Rica was able to grow its fledgling apparel industry up to 36% of total Costa Rican exports by 1994 (Giuliani, 2008). Unfortunately, the apparel industry proved too low value, and was unable to successfully revitalize domestic production.

The question then arises, is there evidence of these backward linkages in Costa Rica? The answer is, unfortunately, no. Unlike the highly interconnected domestic and international manufacturing seen in Mexico's maquila system, only about 5% of inputs processed by high-tech MNCs in Costa Rica were procured locally, and only half of those were actually produced within Costa Rica (Giuliani, 2008). There appears to be very limited transfers of technology or skills between MNCs and domestic firms. In fact, most of the transfers that do occur are horizontal exchanges between MNCs, often between competitors (Giuliani, 2008). The transfers that do occur are generally bi-directional and take place between domestic firms and those MNCs that have been present since the days of ISI. This suggests a temporal distinction between long run, market-seeking MNCs, and efficiency focused MNCs.

The lack of backward linkages has an important policy implication for the Costa Rican government. Resources would be best spent on increasing the knowledge base, rather than on encouraging continued investment into high-tech manufacture in the hope of backward linkages (Giuliani, 2008). Despite high levels of education, Costa Rican workers are often unable to meet the needs of high tech MNCs. Although in general MNCs are satisfied with proficiency of Costa

Rican employees' use of email, information acquisition, word processor proficiency, spreadsheet utilization, and database management skills, they were highly dissatisfied with problem-solving, scientific and mathematic, business administration, and foreign language skills (Monge-González and González-Alvarado, 2007). Analysis of degrees offered by Costa Rican universities indicates that degrees earned are largely in areas other than those that would be more relevant for Costa Rica's transition to a knowledge-based economy.

When comparing Costa Rica and Colombia, we see a great deal of similarities in Figures 2 and 4, as well as in the lack of linkages between MNC activity and domestic business. This is a startling and important takeaway message. Our hypotheses assumed, incorrectly, that productive and high-tech multinationalism would have very similar effects on the lives of workers in host countries (the Alt H only applied to oil FDI). What we see is that high-tech and extractive multinationalism have much more in common with one another than either does with productive multinationalism. This brings us to a second takeaway message from this comparison, linking institutions matter. We have seen some of this in the previous example of Mexico and Venezuela, but it becomes abundantly clear when approaching Colombia and Costa Rica. The main structural feature distinguishing MNC investment in extractive industries from investment in labor-intensive manufacturing is demand for a large quantity of unskilled or low-skilled labor. This crucial element is also missing in high-tech multinationalism, where companies require highly trained workers in target fields of specialization. Without a connection between a large portion of the host country's workforce and an MNC, the positive relationships in H1-5 will not hold true.

Honduras:

Honduras is an important point of comparison because it is the most impoverished nation in Latin America with the highest poverty headcount ratio in the region and therefore allows us to explore how widespread poverty may amplify or distort the causal relationships addressed by the hypotheses. While not included in NAFTA, it is a member of CAFTA-DR (Dominican Republic-Central American Free Trade Agreement), a treaty aimed primarily at reducing tariff barriers to U.S. manufactured goods and agricultural products. As part of this agreement, it has implemented its own version of the maquila program, permitting a comparison of the success of the program in a variety of national income levels (Mexico, Costa Rica, and Honduras). Honduras' maquila program also offers an interesting point of comparison with the development strategy of Guatemala, which has not implemented a program to encourage productive multinationalism.

Historically, FDI flowed into Honduras' agricultural sector. This extractive multinationalism contributed to high rates of inequality, low levels of domestic capital accumulation, and operated as predicted in Evans' account of extractive multinationalism (Evans, 1979). In the wake of the U.S. withdrawal from the region in the late 1980's, the new Honduran government sought to build a taxable base of middle-income workers. Through the 1990s a textile-manufacturing sector developed, attracting productive multinational investment. The maquila program implemented as a part of CAFTA-DR focused on increasing FDI inflows to this sector.

Race to the Bottom theorists have strongly criticized this trade agreement, citing concerns over a lack of language guaranteeing working conditions and the lack of regulatory ability on the part of the Honduran government to enforce what laws did exist. In a response to their criticisms, the Honduran government passed a series of minimum wage laws aimed at combating the

downward pressure on wages perceived to be associated with globalization. The minimum wages were targeted primarily at large (MNCs) and small (domestic) firms within Honduras, but did not include any language pertaining to informal or self-employed labor (both large areas of employment in Honduras). The minimum wage implemented in Honduras was the third highest in the region. T.H. Gindling and Katherine Terrell explored the impact these minimum wage laws had on workers living in abject poverty (Gindling and Terrell, 2010). They found that, due to a lack of efficacy in enforcement, minimum wages were only effectively enforced in by the government in large companies (Gindling and Terrell, 2010). This finding undermines the Race to the Bottom theory that host governments have little ability to influence how MNCs treat workers.

Furthermore, they found that increases in minimum wages led to an overall reduction in levels of extreme poverty (10% minimum wage increase led to 2.2% reduction in extreme poverty) (Gindling and Terrell, 2010), but not reductions in poverty in general. This is likely because the majority of people living in poverty in Honduras were not employed by MNCs. Large firms only employed around 20% of the labor force, so any legislation targeted at them would have diluted effects across the population as a whole. They find that the benefits associated with higher minimum wages were confined to those working for large firms, and were not seen by employees of small, domestic businesses (Gindling and Terrell, 2010). Finally, they did not find any relationship between higher minimum wages and capital investments (Gindling and Terrell, 2010). This shows that MNCs will not automatically begin investing in higher levels of capital in order to increase productivity in response to higher minimum wage levels. This removes a serious danger faced by host governments when contemplating increases in minimum wages.

Viewed through a lens of CAFTA-DR's effects on Honduras, we can explore the targeted FDI effects and trade liberalization. Honduras also provides a strong point of comparison with Mexico, Costa Rica, and Guatemala, allowing us to explore how differing levels of poverty and areas of MNC investment can affect growth and development. Samuel Morley, Eduardo Nakasone, and Valeria Piñeiro's work on CAFTA's effect on Honduras found that CAFTA-DR has had unequal benefits for different income groups based on area of employment and levels of education (Morley, Nakasone, and Piñeiro, 2008). In all areas, they found absolute increases in income levels, but they also found that the income levels for workers employed by MNCs operating within the maquila system grew at much higher rates. They attribute this divergence largely to the form of new jobs offered in each sector. New jobs in the self-employed and informal sectors were predominantly the same as those that had preceded them. On the other hand, jobs created in large-scale, productive multinational manufacturing required higher levels of skill and as a result compensated workers at a higher rate (Morley, Nakasone, and Piñeiro, 2008). This partially explains why income inequality was largely confined to urban areas. Figure 7 supports this finding, showing no aggregate negative relationship between FDI and income inequality. Data in Table 2 likewise shows no correlation between FDI inflows and the relative shares of wealth held by any one group. This supports H1, H4, and H5. We see absolute gains in general without a deepening of inequality.

The most significant finding they present is the dramatic benefit the maquila program has had on Honduras. They estimate that by 2020, maquila industry in Honduras will contribute to employment growth of 4.5% (Morley, Nakasone, and Piñeiro, 2008). They find that this relationship is intimately intertwined with FDI inflows. As in Mexico, FDI into maquila manufacturing encourages the development and production of domestic firms working to supply

and compete with multinationals. By shifting some of the supply of human capital to an area of production with relatively high demand for unskilled labor, the maquila system employs a good deal of the supply of unused labor in Honduras (Morley, Nakasone, and Piñeiro, 2008). The direct, tangible effect of this is that people who previously had no ability to work and no access to job markets now have a potential place of employment. Combining this finding with Gindling and Terrell's findings on the efficacy and impact of minimum wage laws on multinationals, we see high potential for the FDI in productive multinationalism within the maquila program to raise standards of living for those living in extreme poverty.

Guatemala:

Guatemala is also a member of CAFTA-DR with poverty levels close to those of Honduras, thereby allowing for variation in one crucial dimension: mode of MNC production. Extractive multinationalism has dramatically affected Guatemala's development. Historically, the majority of FDI in Guatemala was in coffee production. The industry did not begin to diversify until the 1950s, expanding to incorporate cotton, grain, and other crops for export. The plantation-based economic elite established during the colonial period persisted through the 20th century due largely to the ethnic divide between the Ladinos (predominantly urban elites) and the Indians (rural peasants).

Carol A. Smith explores the evolution of this divide. She shows that the extractive multinationalism pursued by companies in Guatemala was a strong contributing factor to the development and perpetuation of this divided system (Smith, 1984). The lack of common ethnicity between political elites and the rural population prevented the development of patron-client relationships. Instead, the only potential form of political power that Ladinos exerted over

rural communities was through extortion and political violence, alienating the rural populations from the urban government. In this power vacuum, plantation oligarchs rose to be the dominant political class (Smith, 1984). Economic development was concentrated in the capital city, and rural communities languished. Outside of cities, plantation owners dominated regional politics. The ethnic divide between urban and rural populations prevented free movement of peasants into the cities, forcing them instead into positions of subservience to the local plantation owner. Extractive multinationalism fueled this divide, strengthening the control of the oligarchs over the rural populations.

When, in the 1950s and 1960s, MNCs began to invest in Guatemalan textile industry, FDI was concentrated entirely within Guatemala City, deepening the inequality and divide between urban and rural populations. Responding to FDI inflows into one specific urban center, Ladinos from more remote urban areas began to migrate to Guatemala City. At the same time, increased investment in extractive industries, both gold mining and agriculture provided enough demand for unskilled labor that rural populations were not encouraged to move to urban centers (Smith, 1984). This ethnic, cultural, and economic divide came to a head in 1960 with the outbreak of a civil war that continued until 1996. Throughout and in the wake of the civil war, extractive MNCs galvanized intense and violent opposition from the rural peasants. Gold mining companies specifically were seen as neoclassical conquistadores (Pedersen, 2014). Their presence continues to be protested throughout Guatemala, both peacefully and violently. The lack of connection between the Guatemalan government and rural populations is at the heart of this dynamic.

Guatemala is an excellent example of how intense poverty and extractive multinationalism can intersect to deepen ethnic and cultural divides, alienating large groups from

their government. The core difference between Guatemala and the other countries in the sample is the development of ethnic and geographical gulfs between urban political elite and the rest of the population. Though some degree of ethnic difference between urban and rural communities is common in the other cases, the socioeconomic and social barriers preventing free movement of people into urban areas is unique to Guatemala.

Two major takeaway messages are evident from the Guatemalan and Honduran examples. First, extractive multinationalism can lead to intense and systematic inequality between rural and urban populations, violating H1-5 expectations and again supporting an amended Alt H to include all forms of extractive multinationalism. This inequality has obvious and long lasting political and social implications. Second, and most important for our comparison, the addition of productive multinationalism is not enough on its own to achieve political, social, or economic enfranchisement. Compared with Honduras and Costa Rica, both of which had very similar colonial and postcolonial extractive multinational institutions, we see that without some form of public policy designed to connect rural labor to industrial development, the gains associated with FDI inflows will be highly concentrated and unequal. In order to combat widespread poverty, the Honduran government encouraged economic development by implementing a maquila program designed to connect domestic workers with productive MNCs. Rural workers were able to find jobs in multinational factories, connecting the labor force to FDI, and creating robust linkages. Guatemala, on the other hand, did not implement any such policy. The majority of FDI coming into Guatemala was in extractive production. The few Korean-owned maquilas built in the highlands were unable to offset the detrimental impacts of the extractive producers. Due to a lack of influence over rural communities, the Guatemalan government focused economic development policy on the capital, erecting a serious ethnic and

cultural barrier to rural workers accessing jobs offered by productive multinationals. Robust linkages between the unskilled and low skilled labor forces and multinationals are needed in order to achieve political, social, or economic enfranchisement through attracting FDI.

Conclusion:

Synthesizing the case studies and quantitative data, several main takeaway messages come into view. First, and most fundamental in reconciling core arguments from the literature, we see both absolute wealth growth for all observed income groups, with the exception of Venezuela, (H4 is supported) and unequal rates of growth (H5 is found untrue). Table 3 shows the relative significance of this relationship. Although on average workers in host countries receive higher wages as a result of increased multinational investment, the gains associated with that investment are not equally dispersed throughout the economy (see Figures 2, 4, 6, 8, 10, and 12). Therefore, we cannot completely reject the claims made by either Climb to the Top or Race to the Bottom theorists. It is clear that there is evidence supporting both points of view, and that the fundamental divide in the conclusions arises from their differing modes of analysis (relative for Race to the Bottom, absolute for Climb to the Top).

We see that MNCs pursuing both extractive and high-tech multinational investment accentuate this divergence. The similarities between Colombia, Costa Rica, and Guatemala highlight this dynamic. We see little evidence of backward linkages and easy mobility of low-income workers into MNCs in economies dominated by both extractive and high-tech multinationalism. In order for the gains associated with MNC investment to reach the poor, there must exist a link between FDI and domestic workers. In its most simple form, the link is the ability for a prospective worker to get a job working for the multinational. When MNC

investment occurs in remote areas (oil extraction) or requires high levels of technological proficiency or training (high-tech multinationalism), it becomes increasingly difficult for workers, especially those in rural communities, to access MNC jobs. This lack of mobility cripples the ability of domestic businesses and workers to acquire sufficient capital and knowledge to compete with MNCs.

This brings us to the second main takeaway message; it cannot be stressed enough how important the form of MNC investment is to its impact on the host economy. Extractive multinationalism robs the periphery of both capital and resources, creating tripartite alliances, and in the case of Colombia, directly financing a multi-decade civil war. Clearly, this form of development is neither sustainable nor desirable in the long run. High-tech multinationalism is not as detrimental as extractive multinationalism, although in practice it does have the potential to affect the host country's economy in a similar fashion. The vast majority of the capital high tech MNCs generate or accrue will be channeled back to the metropole and the knowledge they gain will not be disseminated to domestic firms. We are left then with productive multinationalism. With Mexico as our sample case study, it is clear that there have been significant, tangible benefits accrued by Mexican citizens as a direct result of the maquila program and this form of manufacture in general. We have seen similar outcomes in Honduras. The contract-based support structure established by this type of MNC involvement has ensured the existence of backward linkages between MNCs and domestic producers. Without the development of backward linkages, high-tech MNCs will engage neither properly nor fully with the host economy. There are certain policy options that can help to mitigate this dynamic and help to repair the missing linkage between MNCs and domestic firms.

This brings us to the third takeaway message: effective public policy is crucial. An

important point of comparison between Guatemala and Honduras is the necessary but not sufficient status of productive multinational investment. It is not enough simply to add productive manufacturing to an economy, there must be a public policy structure linking that new industry to the majority of the rural, low-skilled labor force. Venezuela and Guatemala are alike in that neither has strong policies encouraging the hiring and contracting of domestic workers and businesses for multinational production. Mexico and Honduras, on the other hand, have value-added-only tax incentives encouraging contracted manufacturing by domestic firms. Costa Rica has implemented similar policies, but has not done well at encouraging college students to graduate with degrees in internationally competitive fields. Without proper linkages, the gains associated with FDI will be, as in the case of Guatemala and Venezuela, confined to urban centers, and will therefore deepen inequality between rural and urban populations. Domestic businesses must have a way to access and compete in international markets. Policies akin to NAFTA and CAFTA-DR lower some of the barriers isolating domestic firms. They allow for increased interaction between productive multinationals and domestic businesses and provide incentives for MNCs to employ domestic workers. Linkage institutions are the key bridge between MNC FDI and domestic workers and businesses. Without this link, the causal mechanisms of Climb to the Top theories will not function; worker quality of life and FDI will not exhibit positive correlations.

As a final note, high levels of inequality, either social or economic, compound upon poor linkage institutions, deepening the disparity in wealth growth between the top and bottom ten percent. We see this most clearly in Guatemala, where inequality has overlapped with a lack of formalized linkage institutions to effectively prohibit the migration of rural workers to urban centers in pursuit of more competitive or desirable jobs. In Honduras, the government's lack of

funding has limited the scope of available policy options, hampering regulatory efforts. While it is important to understand how increased multinational involvement may reduce or deepen levels of inequality, it is vital that we understand how existing inequality may compound or amplify the dynamics we are studying.

There is also a temporal element to MNC involvement that is often overlooked. The nature of global investment changed dramatically over the last forty years. We cannot talk properly about linkage institutions without understanding their evolution over time. There appears to be a strong, path-dependent quality to the development of strong linkages. Guatemala and Venezuela demonstrate the difficulty of creating these links in a short period. For Venezuela, the tax base required to effectively redistribute wealth and fund government programs in the absence of oil rents could not be created in time to ease significant social unrest and political turmoil. The Guatemalan case demonstrates the importance of developing these linkages before productive multinational investments are made. Without first creating a bridge for low-skilled labor to access MNC jobs, the Guatemalan government ensured that the gains associated with FDI inflows remained restricted to Ladinos. The longer a country goes without creating pathways for workers to access MNC jobs, the more detrimental FDI inflows will become.

Tentatively, the conclusions of this study could be used to address the role of MNCs in the developing economies of South America and Africa. South America is the safest extension of this study, given the geographic proximity, shared colonial history, and interactions with the U.S. Given this work's fixation on the form of MNC investment, Africa offers an interesting alternative set of MNCs. In contrast with FDI flows to Latin America, which originate primarily from U.S. companies, FDI flows to Africa are from a far larger range of countries, with investments from Chinese corporations almost equaling those of U.S. corporations in 2014

(United Nations, 2015). Many of these MNCs are a mixture of public and private ownership structures. This difference could affect the way Chinese MNCs interact with developing countries in Africa.

I have not found enough evidence in these cases to definitively prove the claims of either Climb to the Top or Race to the Bottom theorists. Both theories are too overarching, too reductionist to adequately describe and predict the complex ways MNCs have affected the lives of workers in Central America. The true dynamic is highly nuanced and complicated. Poverty, a history of multinational involvement, current public policy, and modern modes of multinational production overlap, problematizing any comprehensive studies of the topic. Neither the Race to the Bottom, nor the Climb to the Top properly takes into account how the type of multinational investment influences development trajectories. The dependency and oil scholars do a good job of highlighting the negative impacts of extractive multinationalism, but gloss over, or fail to address the similarities between how extractive and high-tech FDI can affect a host economy. The Institutions Curse theory (Menaldo, 2016) attaches too much significance to public policy, overlooking the impacts of different types of MNC investment on the decisions of policy makers. Variation in form of MNC production remains a strong explanation for the variation in outcomes seen across the case studies.

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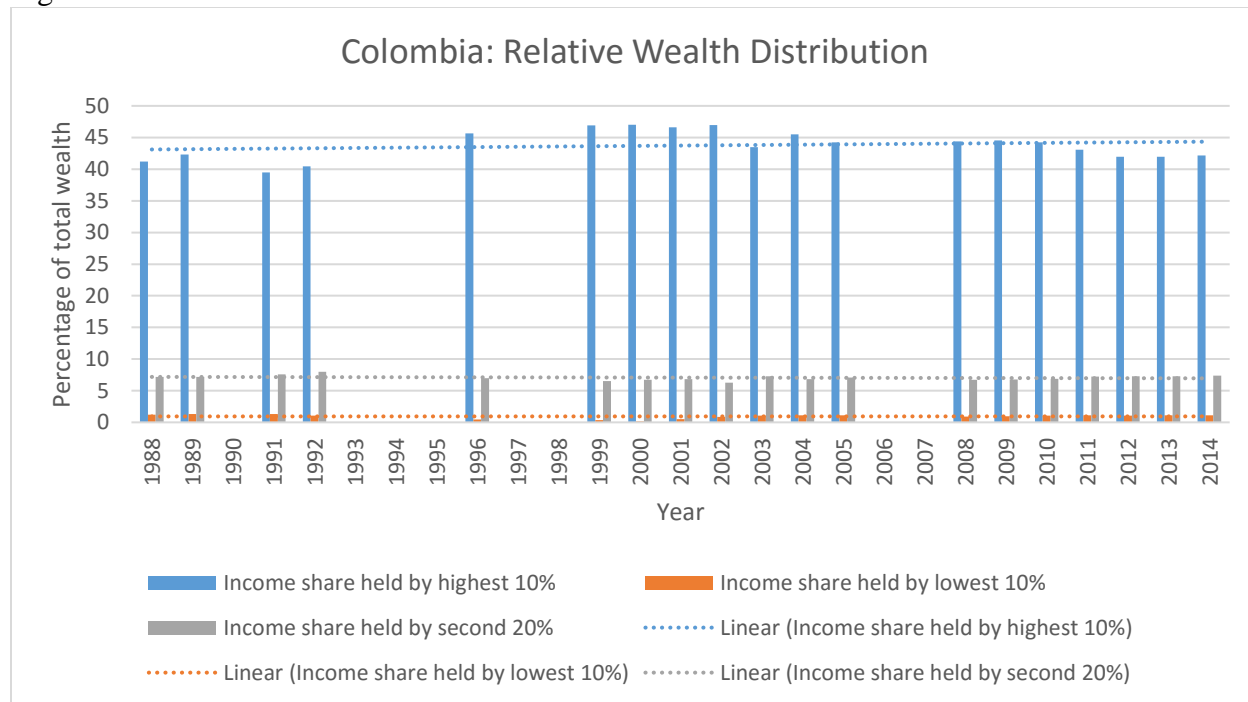
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Appendix 1, Figures

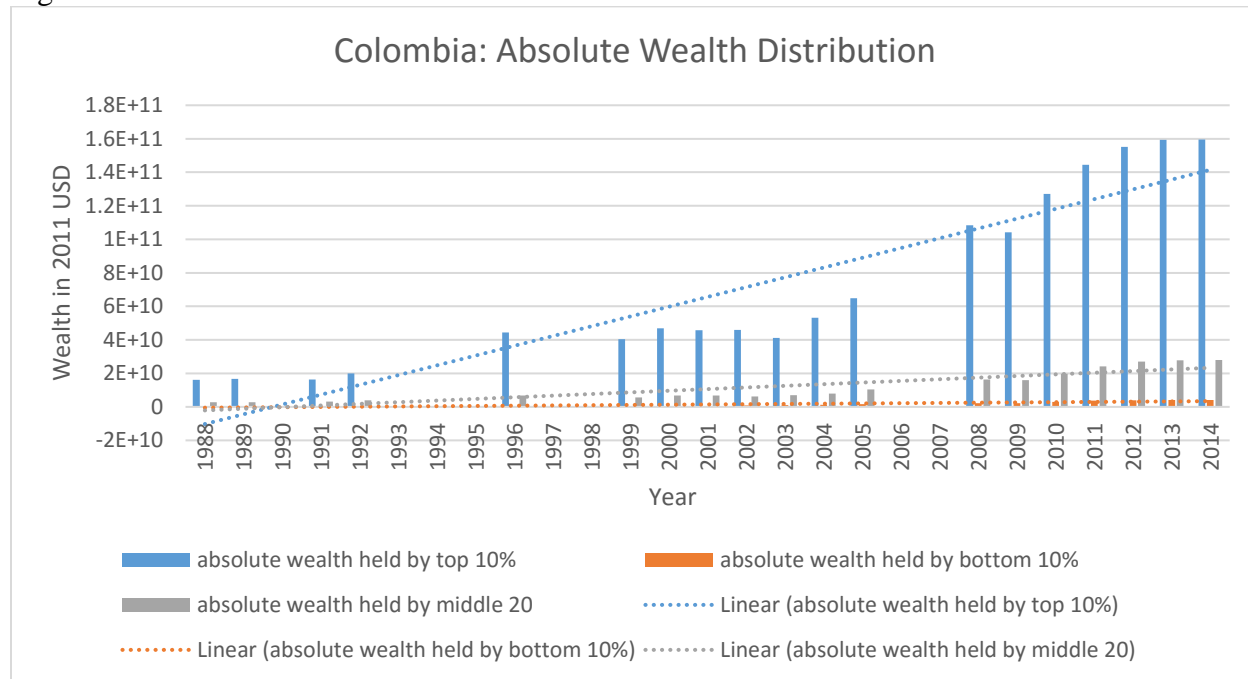
Colombia:

Figure 1



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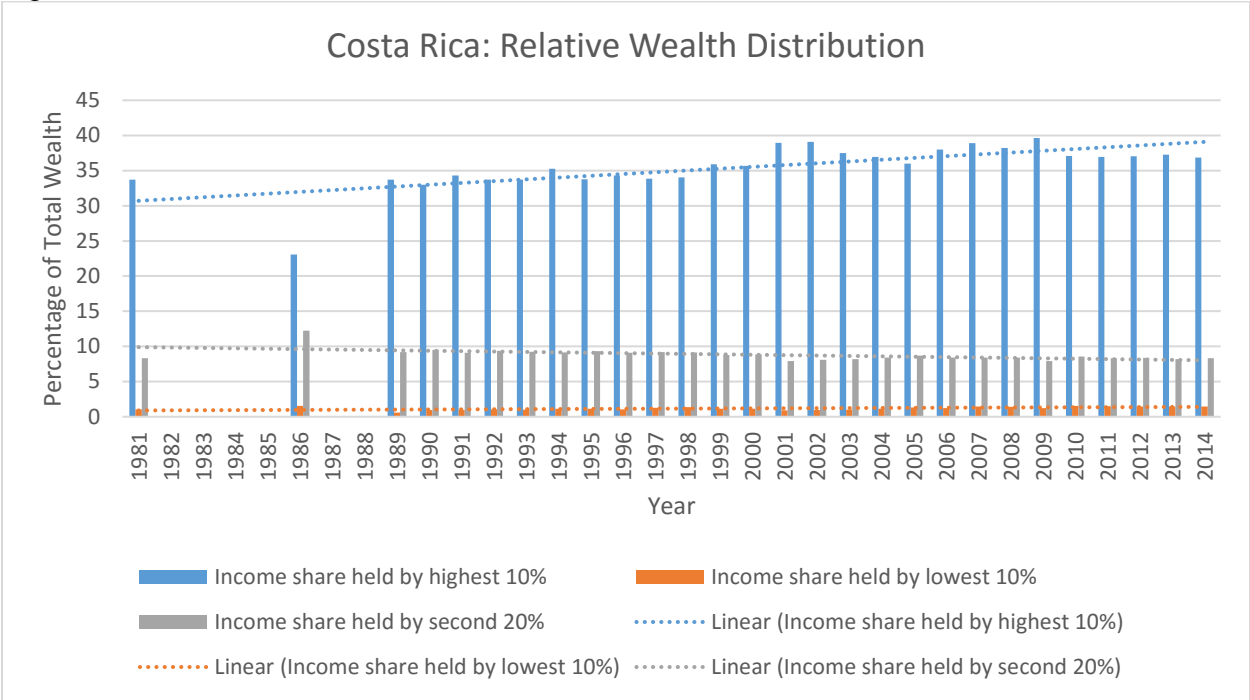
Figure 2



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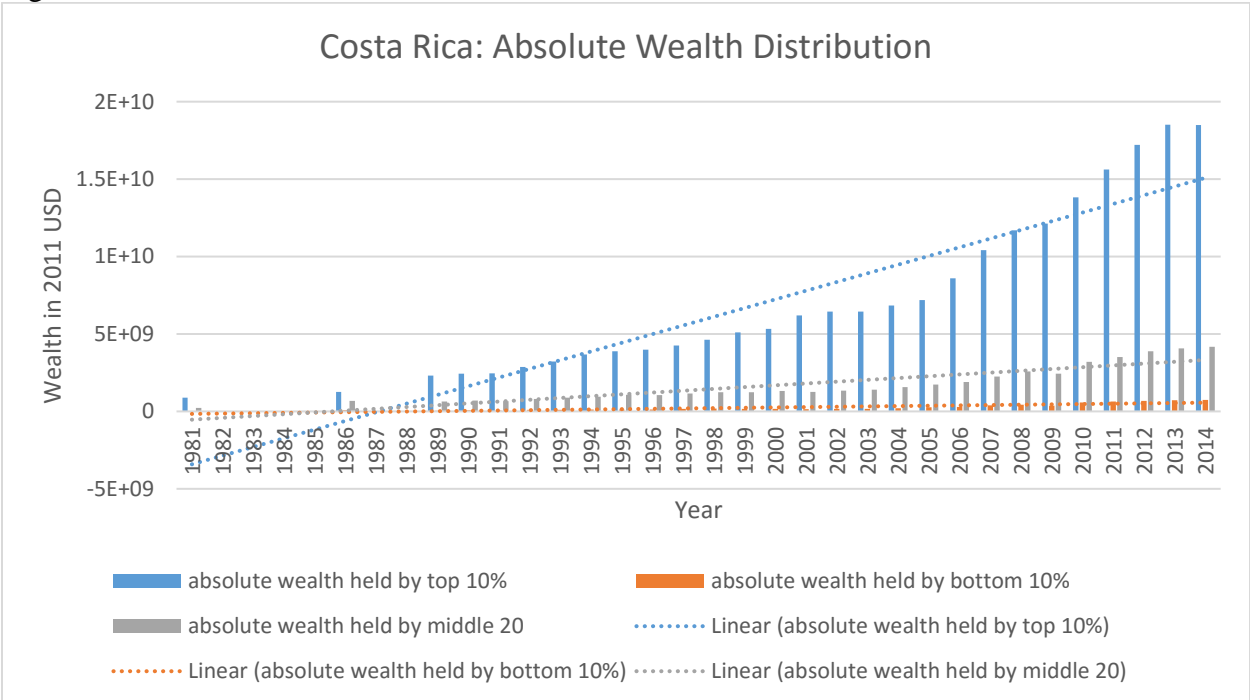
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Figure 3



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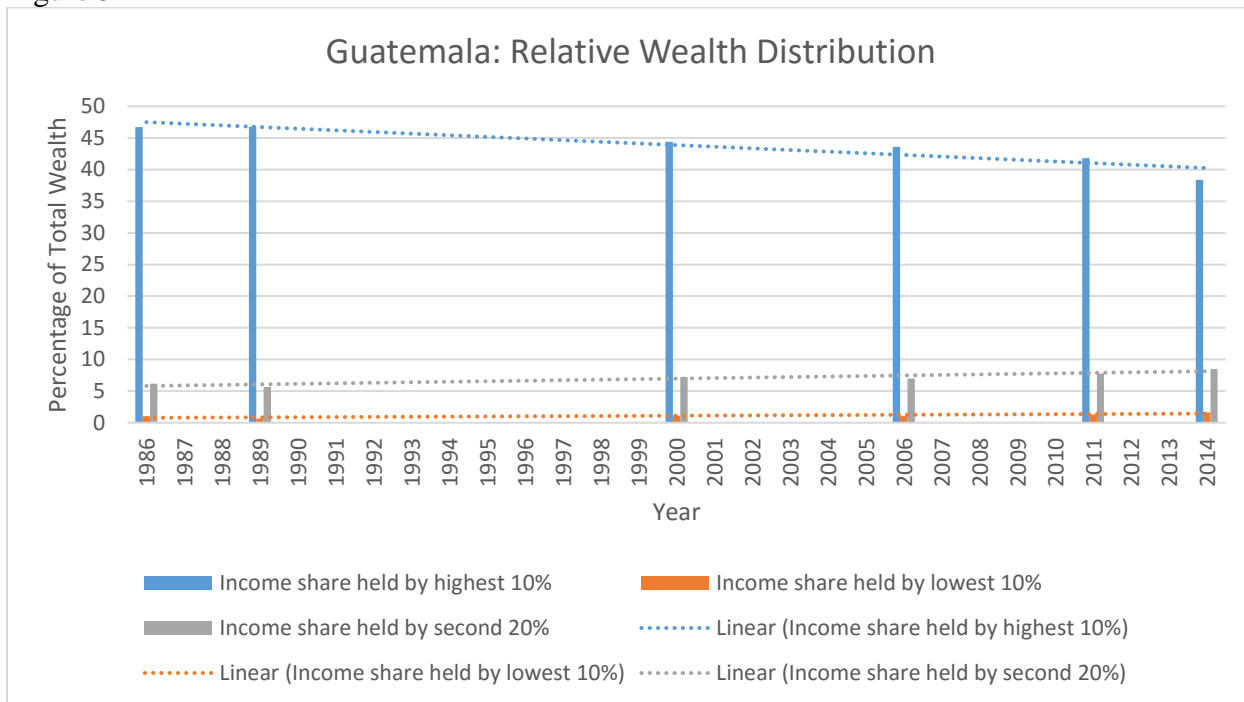
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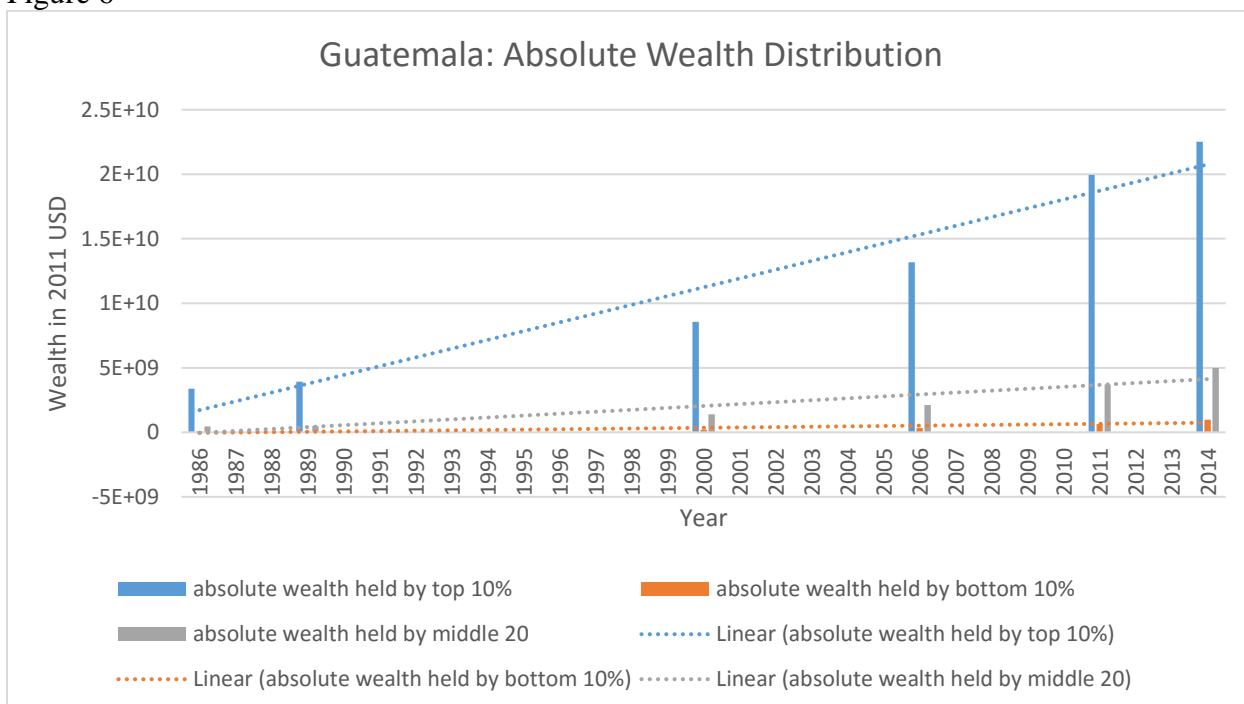
Guatemala:

Figure 5



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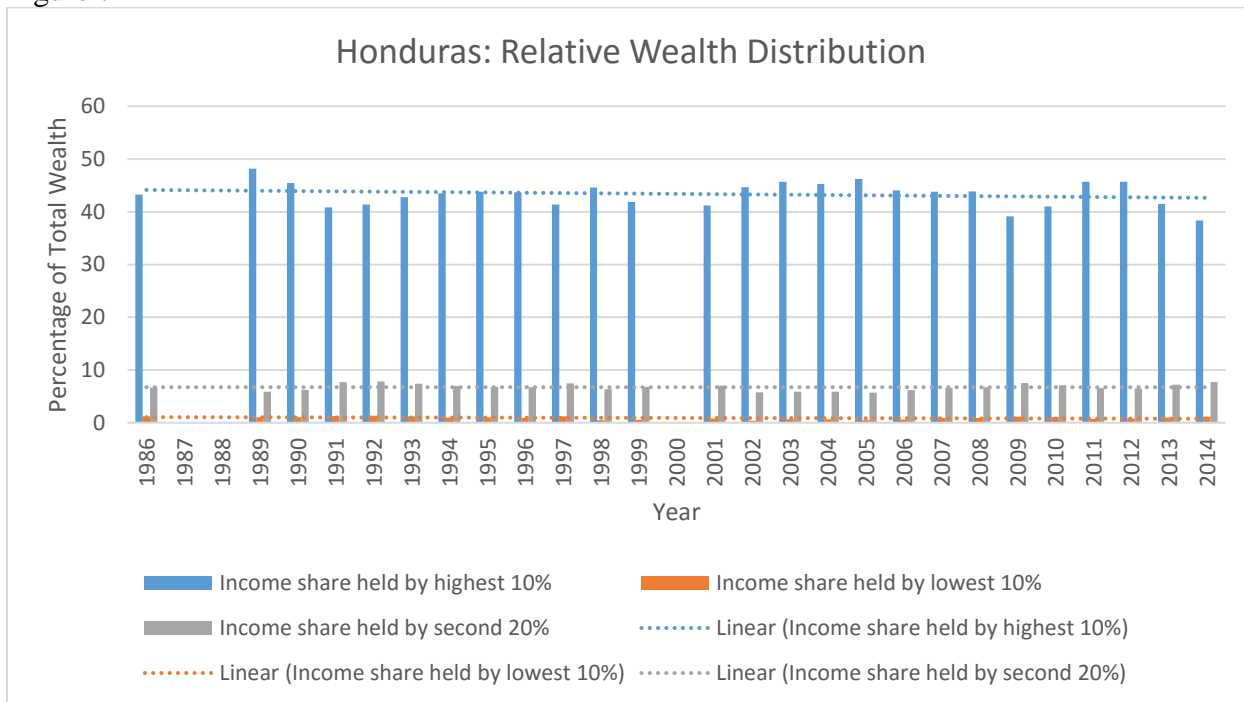
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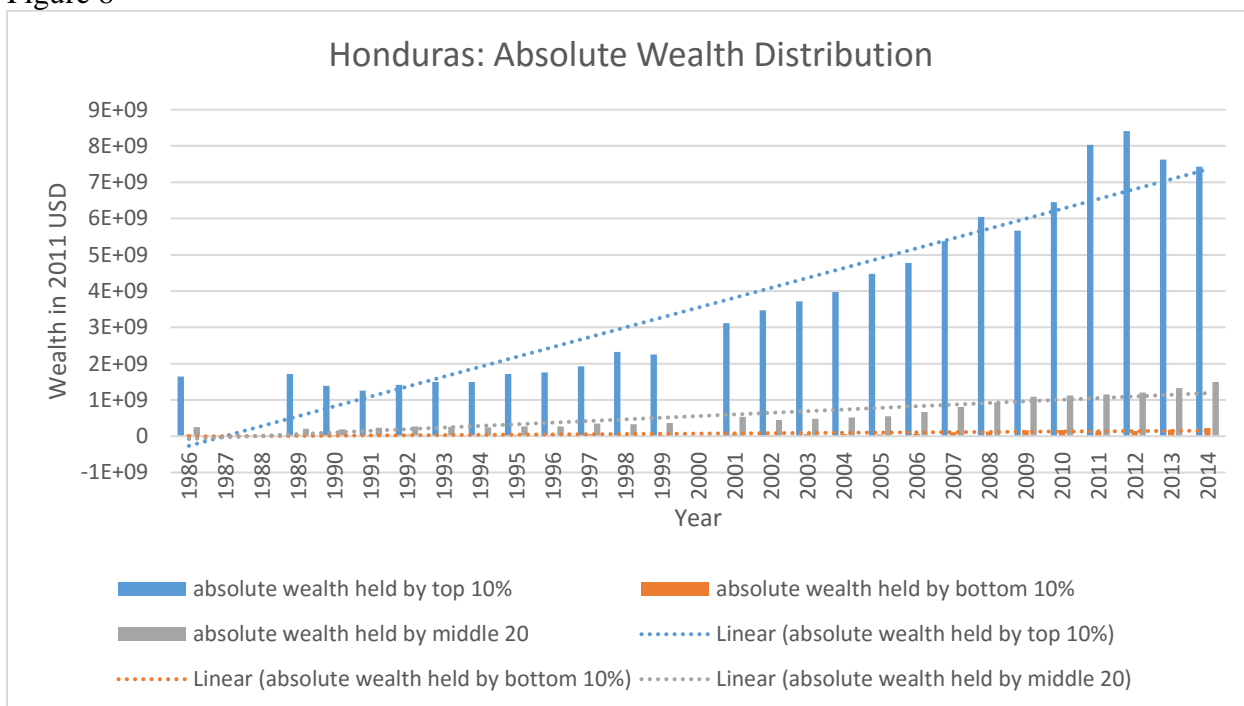
Honduras:

Figure 7



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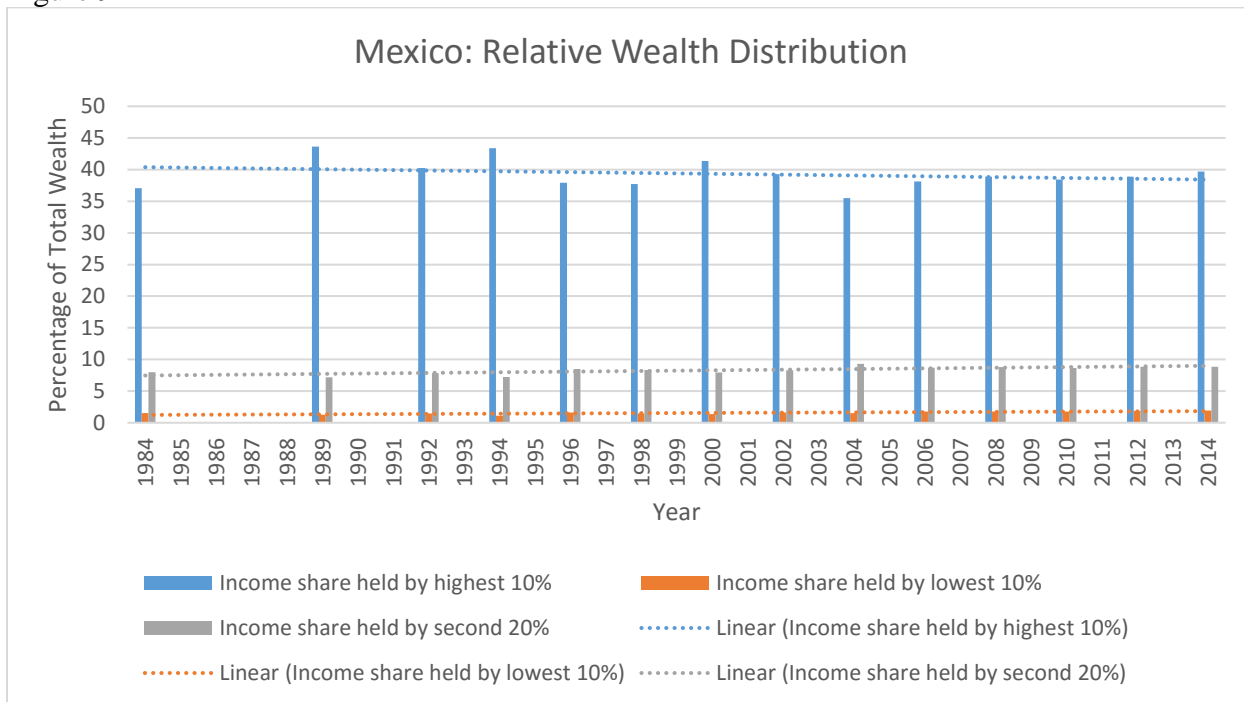
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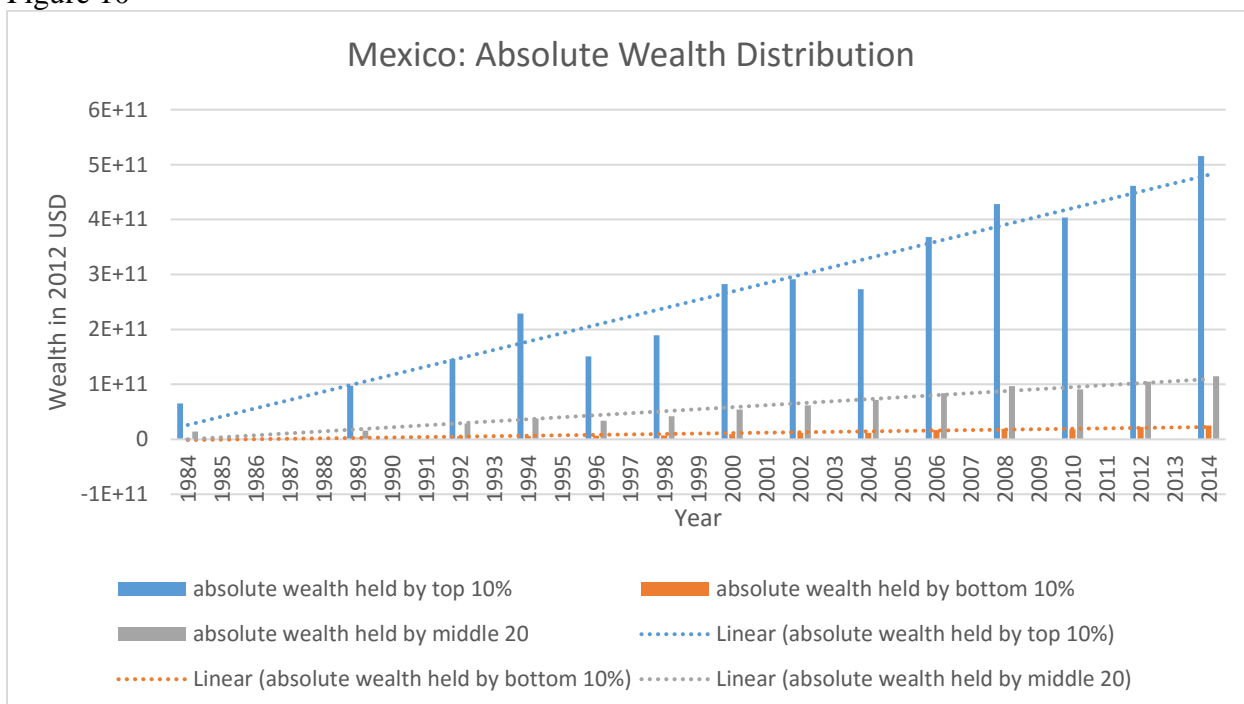
Mexico:

Figure 9



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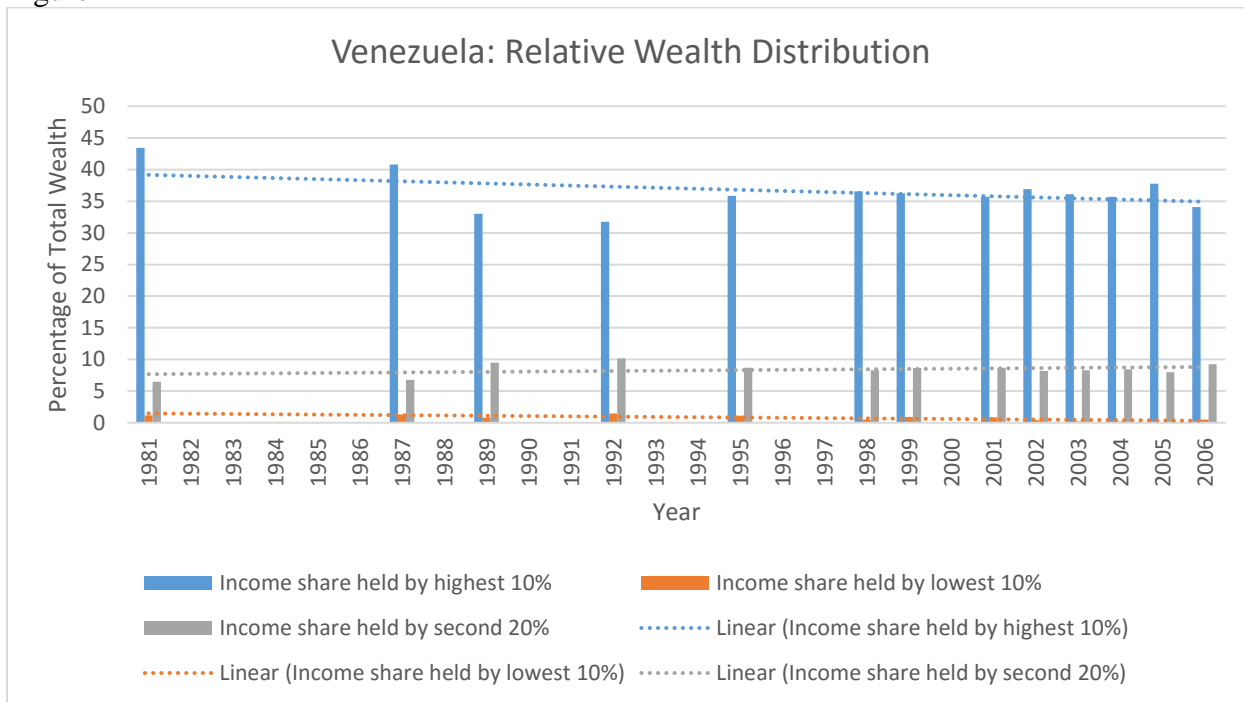
Figure 10



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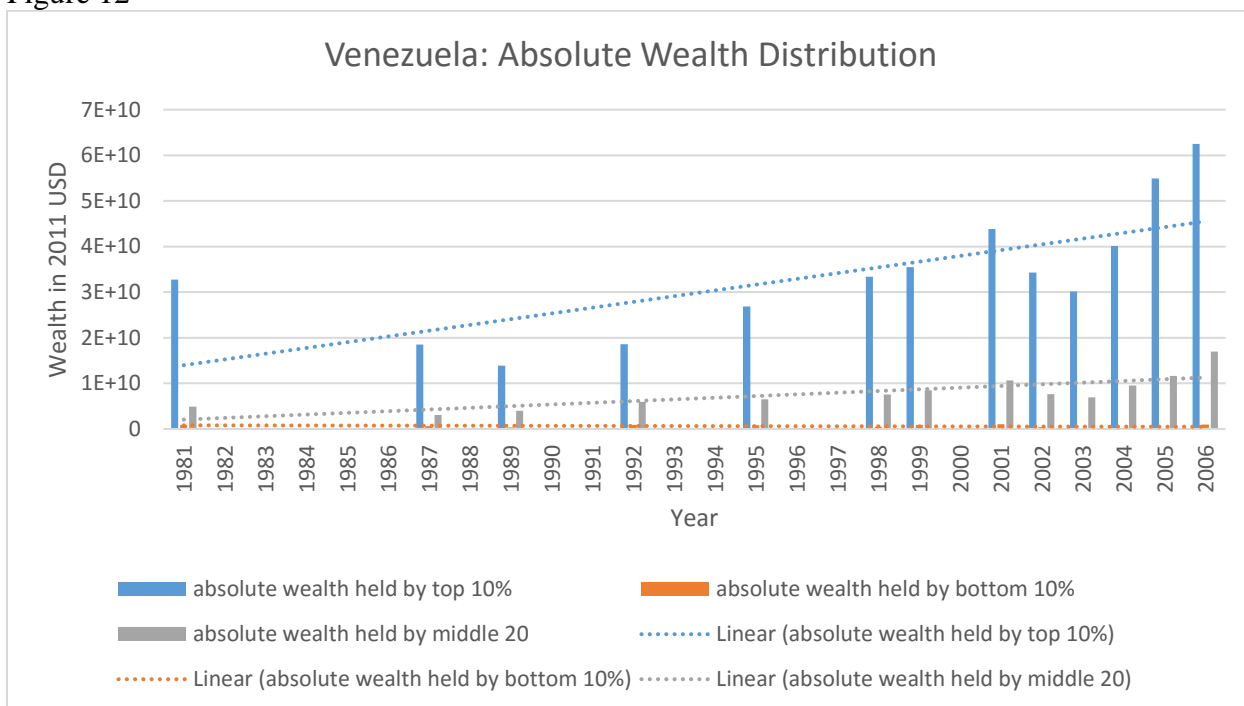
Venezuela:

Figure 11



Source: World Bank Dataset

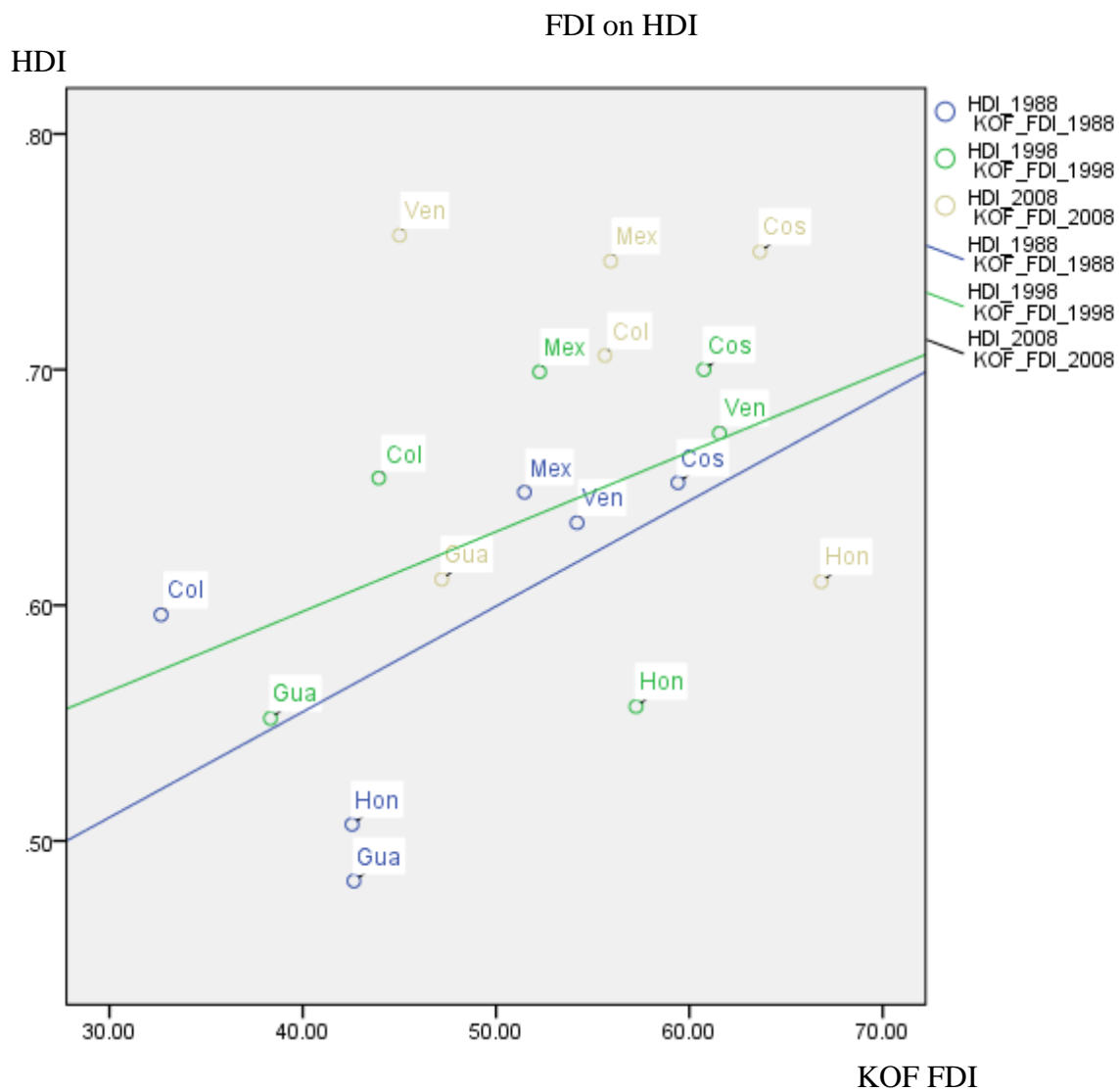
Figure 12



Source: World Bank Dataset

Cross Country Comparison:

Figure 13



Source: KOF Dataset and UN HDI data
 HDI is lagged 2 years.

Appendix 2, Table

Table 1 — FDI on net national income and Gini coefficient

Country	FDI, net inflows (BoP) on Adjusted net national income (current US\$)	FDI, net inflows (% of GDP) on Adjusted net national income (current US\$)	FDI, net inflows (BoP) on Gini index World Bank estimate (% change)
Colombia	.961***	.740***	-.061
Costa Rica	.976***	.858***	-.047
Guatemala	.704***	.704***	-.834
Honduras	.940***	.826***	-.240
Mexico	.935***	.760***	-.224
Venezuela	.451***	.115	.199

***, Correlation is significant at $p \leq .001$

Adjusted net national income is lagged 2 years, Gini score is lagged 5 years.

Source: World Bank Dataset

Table 2 — FDI on relative income share

Country	FDI, net inflows (BoP) on Income Share of Bottom 10%	FDI, net inflows (BoP) on Income Share of Top 10%	FDI, net inflows (BoP) on Income Share of Middle 20%
Colombia	.211	-.181	.121
Costa Rica	.484**	.702***	-.457*
Guatemala	-.697*	.630*	.557
Honduras	-.078	-.215	-.025
Mexico	-.314	.657**	.737***
Venezuela	-.080	-.319	.057

*, Correlation is significant at $p \leq .1$

** , Correlation is significant at $p \leq .01$

***, Correlation is significant at $p \leq .001$

Income shares are all lagged 2 years.

Source: World Bank Dataset

Table 3 — FDI on absolute income

Country	FDI, net inflows (BoP) on Absolute Income of Bottom 10%	FDI, net inflows (BoP) on Absolute Income of Top 10%	FDI, net inflows (BoP) on Absolute Income of Middle 20%
Colombia	.943***	.947***	.956***
Costa Rica	.978***	.970***	.974***
Guatemala	.771*	.784*	.775*
Honduras	.804***	.923***	.897***
Mexico	.861***	.891***	.908***
Venezuela	-.030	.275	.238

*, Correlation is significant at $p \leq .1$

**, Correlation is significant at $p \leq .01$

***, Correlation is significant at $p \leq .001$

Income shares are all lagged 2 years.

Source: World Bank Dataset