Trade, Class Structure, and Development: The Hispaniola Puzzle

Don Leonard
PhD Candidate
Department of Government
Cornell University
DRL43@Cornell.edu

Prepared for presentation at the 2013 WPSA annual meeting

ABSTRACT: Under what conditions does international trade integration lead to development? When does it act as a catalyst for economic convergence between the agrarian periphery and the industrialized core, and when does it act as an impediment? Findings from a highly structured and empirically grounded paired comparison on the island of Hispaniola challenge the theoretical propositions of trade integrationists and skeptical institutionalists alike. Contrary to the received wisdom about import substitution industrialization, my research demonstrates that the Dominican Republic's mixed strategy of protectionist development and ongoing agro-exportation produced higher rates of investment and long-run growth than Haiti's reliance on the agro-export model alone. Yet I also find that prior trade liberalization created the middle class in the Dominican Republic that later became a decisive political force for the emergence of protectionist ISI policies and the developmentalist state institutions that implemented them. These findings suggest a more conditional positive relationship between trade and economic development than existing theories have argued; one that is sensitive to domestic politics and the timing and sequence by which developing countries are exposed to, or insulated from, international markets. They help explain why both integrationists and institutionalists find positive empirical evidence to support their theories.

Imagine for a moment that you were born into this world on Hispaniola, the Caribbean island that is home to both Haiti and the Dominican Republic (DR). If you had been born on the Dominican side of the island as a “statistically average” person, your material life would not be without hardship according to the UN Human Development Report (HDR 2011). You would stand an exceptionally good chance of being literate, even though, on average you would only have attended school for seven years. Your annual income would be around $8,000 US dollars, a far cry from the $43,000 per capita income of the average *yanquee norteamericano*. Your life expectancy, 73 years, would also be about five years shorter than theirs. However, if you had been born on the western side of the island as the statistically average Haitian, the prospects for your material life would be considerably grimmer. The odds of dying before your fifth birthday would be almost triple what they are for the average Dominican. Assuming you survived childhood, your life expectancy would be eleven years shorter than theirs. You would stand less than a 50/50 chance of ever learning how to read, a level of education that would support an annual income of only $1,100. The differences in material wellbeing separating your life as a Dominican from your life as a Haitian would not be trivial. Why do Haiti and the Dominican Republic look so different today in terms of economic and social development, and what were the historical processes that produced this variation?

My findings from the highly structured and empirically grounded paired comparison on Hispaniola pose a challenge to the theoretical propositions of trade integrationists and skeptical institutionalists alike about the conditions under which trade openness leads to economic growth and development. Contrary to the received wisdom about import substitution industrialization (ISI), my research demonstrates that a mixed strategy featuring both inward-oriented development and ongoing agro-exports produced higher rates of investment and growth than reliance on agro-exports alone. Yet I also find that prior trade integration created the very class coalitions that later became a decisive political force for the emergence of protectionist ISI policies and the developmentalist state institutions that implemented them. These findings suggest a more conditional causal relationship linking trade and institutions to economic growth and development than either strand of the trade and development literature presently allows.

The contemporary debate about long-run gains from trade began in the 1980s. It was structured largely in terms of comparisons between the export-oriented industrialization (EOI) models of East Asia and the ISI models of Latin America and large parts of Africa and South Asia. Emerging markets attempting to finance industrialization were flooded with foreign capital in the 1970s as an international financial system awash in petro-dollars began to favor sovereign lending. Typically denominated in US dollars set to variable interest rates, this easy money became a major liability to debtor countries during the 1980s as efforts to curb US inflation through monetary retrenchment, beginning in 1979 with the so-called "Volker Shock," sent borrowing rates into the double-digits. The US prime lending rate rose from an annual average of 7.59 percent between 1970 and 1978 to an average of 14.08 percent between 1979 and 1984 (Board of Governors of the Federal Reserve System 2013). As Sachs (1985) observes, while several East Asian states were as exposed to international debt as Latin America, the continued availability of foreign exchange provided by their EOI model prevented all East Asian economies save the Philippines from being forced to reschedule their debt payments. Conversely, the twin crises of unsustainable debt payments and declining terms of trade for primary commodity exports forced all major Latin American countries except Colombia to reschedule their debt. And while East Asian economies were able to continue growing at an average rate of

3.4 percent between 1976 and 1985, growth rates in Latin America and Africa were a meager 0.3 percent and 0.4 percent, respectively (Dollar 1992, 523).

It was in the context of this international debt crisis that a series of papers presented evidence that deeper integration into world markets was significantly correlated with higher rates of economic growth and income convergence between developed and developing economies. Beginning with Sachs (1985), this literature concluded that the greater economic performance of EOI model over the ISI model during the 1970s and 80s indicated that policies favoring deeper integration with global markets were the fastest way to economic growth (Dollar 1992; Sachs and Warner 1995) and income convergence (Ben-David 1993). Enthusiasm about the use of trade policy as a means to bring about economic development was tempered by the findings of Frankel and Romer (1999), who instrument geographic location for the effects of trade due to the potential co-variance between policies of trade liberalization and other policies that could lead to faster economic growth. They conclude that while trade is an important determinant of income, geographic barriers are an important exogenous determinant of trade.

In response to the emerging consensus among development scholars and policymakers about the benefits of lower barriers to trade, an institutionalist perspective emerged in the late 1990s that challenged the integrationist consensus. In their update to the review on the trade and growth literature provided by Edwards (1993), Rodríguez and Rodrik (2000) repeat the challenge to more specifically identify the mechanism(s) linking international economic integration to development. Noting that the empirical results of numerous cross-national statistical studies have relied on indirect proxies or indices of trade integration, Rodríguez and Rodrik find that direct measures of neither tariff nor non-tariff barriers are significant and negatively correlated with trade. Furthermore, attempts by the authors to replicate the positive results of the leading studies connecting trade to growth find that these results are highly sensitive to model specification issues related to omitted variable bias. Vamvakidis (2002) finds that, even using the measures of trade openness employed by the integrationists, the positive relationship between trade openness and growth is temporally bounded; between 1870 and 1970 the correlation between integration and growth disappears, except for the 1930s when it actually flips negative. In place of trade, a group of scholars have argued that institutions—namely property rights and the rule of law—are the mediating variable that determines whether trade will translate into economic growth (Rodrik, Subramanian, and Trebbi 2004).

Finally, a nascent literature has begun to explore the endogenous relationships that exist between trade and institutions. Dollar and Kraay (2003) problematize the large correlation between trade and institutional quality for cross-national studies attempting to measure the relative importance of these two factors as predictors of growth. Exploiting historical data on international trade, social change, and institutional development among European countries between 1500 and 1850, Acemoglu, Johnson, and Robinson (2005) demonstrate that the ascendance of Western Europe over other parts of the subcontinent was driven by the transformation of European institutions through the political ascendance of a middle class comprised of Atlantic traders. This merchant class drove institutional change by moving against the monarchy to constrain the state's power to tax and expropriate property. Acemoglu and Robinson (2006) develop a variant of this argument formally, constructing a model that explains, in part, why trade integration may promote institutional quality. By introducing technologies and economic opportunities that provide a material basis for the expansion of the middle classes, mounting political pressure for better public goods like private property rights as well as lower rates of taxation could enable societies to reform or replace inefficient regimes and their leaders.

The improvements to institutional quality described by these two studies are theorized to produce economic divergence with less-integrated countries as economies that encourage investment become more productive, yielding increasing returns from trade openness. The generalizability of these findings in the contemporary period was explored by Bhattacharyya, Dowrick, and Golley (2009) using panel data on 59 European and non-European states between 1980 and 2004. They identify a positive and statistically significant interaction between trade and institutions, finding that the level of institutional development moderates the effect of trade integration on economic growth; it is only once a certain threshold of institutional quality has been reached that integration leads to growth.

While the literature on trade and institutions has demonstrated both theoretically and empirically that these two variables move together, the shortcoming of relying on large cross-national studies is that they are unable to move beyond pattern identification in order to establish the causal mechanisms driving the endogeneity (Bhattacharyya, Dowrick, and Golley 2009; Edwards 1993; Rodríguez and Rodrik 2000). As Bhattacharyya, et al. conclude, "the key challenge is to move beyond broad cross-country comparisons to detailed workings of institutions and trade policy within each country in order to understand more fully how they interact and impact on economic development" (2009, 328). In the following section of this paper I do just that.

TRADE, CLASS STRUCTURE, AND INSTITUTIONAL DEVELOPMENT IN AGRARIAN STATES: THE HISPANIOLA PUZZLE

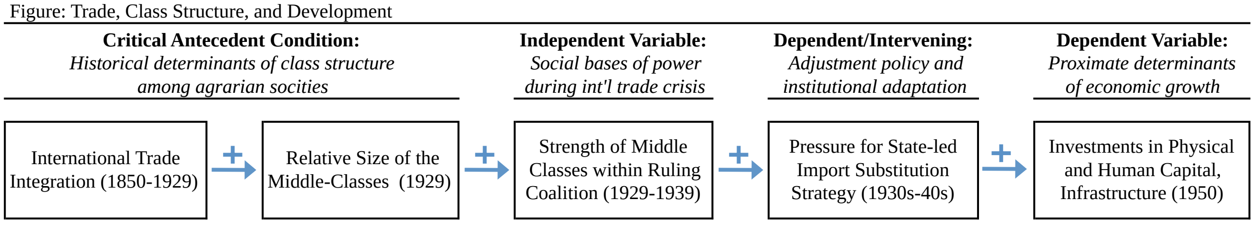
A large literature has argued that state institutions are an important determinant of economic growth, helping to explain why countries with otherwise similar endowments achieve different levels of productivity and arrive at very different development outcomes (see for example

Acemoglu and Robinson 2012; North 1990; Rodrik, Subramanian, and Trebbi 2004). Examining the historical relationship between trade, institutional development, and economic growth on the island of Hispaniola, I find that higher levels of trade integration in the 19th century resulted in better economic institutions and higher growth during the 20th century. This was due primarily to the impact that trade integration had on class structure. In both Haiti and the Dominican Republic the material costs of a prolonged terms of trade crisis during the 1930s, and the import scarcities that ensued, were borne disproportionately by the middle classes. The ability of domestic firms to profit from this scarcity by engaging in import substitution was constrained by investment coordination problems intrinsic to the initial phases of industrialization. On the Dominican side of the island, where income distribution favored a proportionally larger middle class, the political coalition that emerged out of shared economic hardship exerted powerful adaptive pressures on the state to resolve these coordination problems. In Haiti, where income distribution favored a proportionally smaller middle class, conversely, these political coalitions faltered and attempts at import substitution succumbed to investment coordination failure. Over time, the investments in infrastructure, physical and human capital required to sustain an industrial policy of import substitution in the DR produced higher levels of productivity and economic growth than ongoing dependence on international markets for agricultural exports and manufactured goods imports in Haiti.

My argument follows Easterly et al. (2006; 2001, 2007), Engerman and Sokoloff (1997), Sokoloff and Engerman (2000), and Mahoney (2010), who argue that social structure affects the quality of economic institutions by creating groups that vary in terms of their material interests and the amount of political power with which to pursue those interests through institutional rulemaking. However, unlike their argument that initial factor endowments of land and labor shaped colonial encounters and determined the social structures that emerged post-independence, this paper demonstrates how contingent differences in international trade integration during the late 19th century, rather than geographical endowments, explain why one side of the island developed a politically viable middle class prior to the international economic crisis of the 1930s while the other side did not. Thus, by highlighting the importance of expanding global trade beginning in the 1850s for reshaping income distribution across Latin America, these findings challenge recent accounts of post-colonial development that emphasize geographic or colonial path dependency. Furthermore, these findings suggest a more conditional relationship between trade, institutions, and growth than the existing literature on trade and development has allowed. This argument is summarized in Figure 1 below:

[FIGURE 1 ABOUT HERE]

Figure: Trade, Class Structure, and Development



Theory:

There are three characteristics specific to agrarian societies that are crucial for understanding why and under what conditions financial crises lead to import substitution industrialization. First, by definition these societies lack any significant industrial capacity. Accordingly, they rely on imports for the supply of many non-durable consumer goods like textiles, processed foods, and hygiene products. The capacity of an agrarian society to import such goods is determined by the amount of foreign exchange it can accumulate, primarily a function of export volume and the relative prices, or terms of trade, that volume commands on international markets. Any decline in national income directly impacts the material wellbeing of agrarian societies and their capacity to consume manufactured goods.

Second, the adjustment costs of such financial crises are born disproportionally by the middle classes. In agrarian societies, the middle classes depend heavily on cross-border commerce for both income and the consumption of imported (and especially manufactured) goods. Whereas the economic livelihood and consumptive habits of the agrarian peasantry rely primarily on materials that are locally grown or gathered, and economic elites have sufficient savings to continue consuming imported goods even during periods of great scarcity, it is middle class merchants, tradesmen, and professionals—whose personal income is directly or indirectly derived from the injection of foreign currency into the domestic economy—who bear the heaviest burden of a prolonged disruption in the terms of trade.

Third, during the initial phase of industrialization private entrepreneurs face qualitatively greater coordination problems when deciding whether or not to invest capital in the domestic production of manufactured goods than market actors in economies where industrialization is already underway (Gerschenkron 1962; Rostow 1960; Wydick 2008, 34). During a period where the relative price of manufactured goods imports rises due to declining terms of trade for agricultural commodities, decreased competition from foreign producers creates a window of opportunity for domestic manufacturing to emerge through import substitution. However, import substitution requires not only reliable supply chains of raw inputs, but also simultaneous capital investment in public goods such as infrastructure and human capital, as well as the capacity to manufacture intermediate goods, that are beyond the level that is required by an agricultural economy. For individual market actors, then, the coordination problems associated with simultaneous investment in the backward and forward linkages that constitute the initial phase of industrialization can be prohibitive. Absent well-developed domestic or foreign capital markets that might otherwise be capable of resolving these coordination problems by increasing the perceived probability of entrepreneurs that these simultaneous capital investments would take place, the kind of *bootstrap industrialization* that takes place under the condition of international economic and financial crises requires statist intervention in markets to direct investment capital towards developing those forward and backward linkages required by import substitution.

These insights help us make predictions about the conditions under which trade crises will lead to the kinds of institutional transformations that allow agrarian economies to industrialize and grow. Deteriorating terms of trade for agricultural commodities both reduce the amount of income circulating within the domestic economy as well as constrain the supply of imported goods as foreign exchange reserves become depleted. During a prolonged international economic crisis (like the 1930s global depression) where neither foreign lending nor aid are forthcoming, the only choice available to an agrarian society to alleviate the foreign exchange shortfalls is either to accept a contraction of the domestic economy or to offset the shortfalls through a strategy of import substitution. During such a crisis, the political survival of rulers is contingent on choosing the adjustment policy that best provides for the material wellbeing of their political coalition.

Thus, where the middle class is proportionally larger and more powerful, the regime faces greater incentives to choose import substitution as a means of adjusting to the crisis. By pursuing such a strategy, rulers (both authoritarian and democratic) not only consolidate their hold on political power by improving their legitimacy via greater economic stewardship; they also behave as a stationary bandit (Olson 1993) increasing the size of the national economic pie that they can siphon resources off from. This explains why state investment is paradoxically compatible with the predatory nature of patrimonial authoritarian regimes.[1] What follows from a strategy of import substitution industrialization (ISI) is transformation of the economic purpose of state institutions and an increase in state capacity, as rulers set about investing resources and coordinating the production of domestic substitutes for those goods that the country can no longer afford to import. These are the characteristics of a so-called developmental state.

Conversely, in agrarian societies where the political power of the middle class is proportionally smaller and weaker, the ruling coalition is more likely to be dominated by economic elites with sufficient personal assets to maintain their standard of living throughout the crisis. Such a coalition permits rulers to continue consuming state resources privately rather than investing them in the infrastructure, physical and human capital required by ISI. Absent coordinated state investment in public goods and capital, market actors face prohibitive levels of uncertainty about the willingness of other private entrepreneurs to invest in the forward and backward linkages that constitute an industrial supply chain; thus, they withhold private investment. What results is a Pareto-inferior outcome whereby a failure to exploit the opportunity created by a major disruption in the international flow of manufactured goods by shifting to a new economic equilibrium of higher value-added production leaves everyone worse off. Over time, these differences in investment shape the rates of domestic productivity and transaction costs that determine long-run trajectories of economic growth and development.

Critical Historical Antecedent: Trade integration and changing class structure (1850-1920)

The analytic narratives of Haiti and the Dominican Republic reveal two connected historical processes to be crucial for explaining the different decisions rulers took when confronted with

[1] Patrimonial regimes are characterized by personalistic leaders who seek public office to gain control over state resources and distribute them to their patron-client networks as private goods, rather than distributing them more programmatically as public goods.

the prolonged economic crisis of the 1930s: variation in international trade integration during Latin America's liberal reform period (roughly 1870-1920), and the consequences of that variation for the expansion of the middle classes. These variables operates as critical historical antecedents, a kind of "cause of causes" (Slater and Simmons 2010) that determine the value of the successive variable—the relative size of the middle classes—that in turn shaped the adjustment policies chosen by elites during a protracted financial crisis.

Opportunities for agrarian states to integrate into the international economy increased dramatically during the second half of the 19^{th} century. The demand for primary commodities in the early industrializing countries of England, France and Germany surged during this period, both as inputs for their industrial activities and for consumption by their rapidly expanding and urbanizing populations. Such trade was facilitated by an equally dramatic decrease in the costs of transactions between nations. During this period the combination of British management of monetary exchange through the gold standard, as well as improvements in transportation introduced by technologies like the steamship and the railroad, removed significant barriers to exchange between the industrial core and the agrarian periphery (Frieden 2006).

The greater profits to be had through international trade in primary commodities during this period provided the material incentives for a set of domestic liberal economic reforms that swept across the decolonized states of Latin America and the Caribbean. Between roughly the 1870s and the 1920s, countries across the region transitioned in varying degrees from feudal land systems inherited from the colonial period to commercial agriculture—especially the transfer of communal and unused land to private ownership. They adopted these liberal reforms in order to take advantage of the export opportunities presented by this increasingly lucrative international markets for primary commodities.

The adoption of liberal reforms related to the intensification of commercial agriculture did not go uncontested and were not uniformly adopted across the Americas (Mahoney 2001). Factors related to the social and productive structures of agrarian societies as they emerged from the colonial period, and the international environment into which these newly independent states were born, all shaped the ability of agrarian societies to capitalize on the economic opportunities presented by increased demand for agricultural commodities on the international market.

By the final decade of the 19th century, Haiti and the Dominican Republic had nearly identical trade volumes on an average annual basis ($3.1 million and $2.9 million in current dollars, respectively). (See Table 1 below).

[TABLE 1 ABOUT HERE]

Table: Value of Exports 1890-1898 (in thousands of current gold dollars)

Year	Haiti	Dom. Rep.
1890	3,306	1,948
1891	3,120	1,463
1892	3,164	1,822
1893	3,301	2,829
1894	3,007	2,692
1895	3,310	-
1896	2,500	2,199
1897	2,993	4,661
1898	3,212	5,790
Average export value, 1890-1898	**3,101**	**2,925**
Average export value per capita, 1890-1898	**$ 2.44**	**$ 5.74**

Sources: For trade: Gaillard Pourchet (1990), Gomez (1979). For population: Lubin (1951), Lozano (1985).

And by 1913, during the waning years of the liberal reform period and just prior to the onset of WWI, the absolute value of agro-exports had increased to approximately $10 million current dollars in both Haiti and the Dominican Republic (Astorga, Bergés, and Fitzgerald 2003).

Yet while the absolute value of agro-exports were virtually identical at the turn of the 20th century, the size of the population on either side of the island and the consequent differences in the relative, *per capita*, value of exports tell a different story. In 1913 the Dominican population was approximately half the size of the Haitian population. Thus, in per capita terms, the value of Dominican exports was about $12.80 in current (1913) US dollars; slightly more than double the value of Haitian exports per capita at that time (Astorga, Bergés, and Fitzgerald 2003). The Dominican Republic was able to produce the same amount of foreign exchange from its agro-exports as Haiti despite being a smaller agrarian society.

Why, despite having only half the population, was one agrarian society able to produce the same value of agricultural commodity exports as its neighbor? We can discard *a priori* the principal geographic obstacles to trade openness established by Frankel and Romer (1999); neither Haiti nor the Dominican Republic differ dramatically in terms of size, distance from trading partners, or access to the sea for shipping; but what about the indirect effects of geography on a country's propensity to trade?

In his preliminary treatments of causes of development variation on the island of Hispaniola, Diamond (2005, 2010) argues against treating the island as a geographical constant, emphasizing differences in precipitation, deforestation, terrain, and population density on the western and eastern parts of the island. Because the trade winds blow from east to west, the Dominican Republic receives a greater proportion of the annual precipitation today than does Haiti. The mountain ranges that traverse the island feature wider valleys more suitable for cultivation on the Dominican side, especially the fertile and economically important Cibao valley. Finally, he notes that the greater population density of Haiti, whose surface area is approximately half the size of the DR, introduces greater pressure on the environment and contributes to the deforestation that has reduced both arable land and the availability of subsistence fuel.

A closer examination of the determinants of economic growth on the island reduces our confidence in the causal import of these geographical differences. In geographic terms Haiti and the DR are sufficiently similar to make development comparisons. While it is true that deforestation was also markedly less prevalent on the Dominican side of the island, aided in part by public policies in support of the tourism sector, the greater depletion of forests on the Haitian side of the island is primarily attributable to spillover effects of economic underdevelopment. Through rising standards of living, by the 1970s Dominican peasants had largely transitioned away from wood-based cooking fuels towards gas-based fuel. This transition did not happen in Haiti. Still today, poorer people in both rural and urban Haiti continue to rely upon domestic supplies of wood and charcoal—a supply that has dwindled rapidly over the past 25 years but still comprises approximately 70 percent of the country's total national fuel usage (World Bank 2007). While it is true that the DR under Trujillo and Balaguer did choose to implement a series of natural conservation policies, it is unlikely that the Dominican state would have had the capacity to enforce its these conservation laws had economic pressure on its forest environment been as great as it was in Haiti.

And while Haiti is more mountainous and contains regions that receive lower rates of precipitation than the eastern half of the island, a history of successful agro-exportation right up until the slave revolution suggests that the differences in climate and terrain that separate it from the Dominican Republic did not prevent Haiti from becoming the wealthiest and most productive French colony during the 18th century. Indeed, Haiti's leading export commodity, coffee, is well suited to smallholder cultivation in mountainous terrain. Furthermore, historical data on precipitation (Alpert 1941) and settler mortality through incidence of malaria (Acemoglu, Johnson, and Robinson 2001) reflect an island that shares roughly the same tropical climate

(Jaramillo and Sancak 2009). Finally, regarding labor endowments, it is worth noting that Gallup et al. (1998) found population density to be positively correlated with economic growth among top-performing east-Asian economies.

On the other hand, institutional explanations for variation in economic growth have found that geographic explanations exert, at most, an indirect effect by shaping how institutions emerge and evolve over time (Rodrik, Subramanian, and Trebbi 2004). Perhaps differences in colonial encounters prior to early 19th century independence produced different institutions that in turn affected the capacity or propensity to trade. Building from the work of Douglas North (North and Thomas 1973; North 1981, 1990), a large literature has emerged that links contemporary relations between state and markets to the enduring legacies of colonial encounters. Some scholars argue that it matters whether states were colonized for settlement (with corresponding state institutions to govern that expatriate society) or merely to facilitate the extraction of primary commodities (Acemoglu, Johnson, and Robinson 2001). Others focus on the effect of colonial encounters on bureaucratic culture to explain why some states were better positioned than others to implement state-directed industrialization (Kohli 2004).

While the varied colonial histories of the DR and Haiti prevent us from discounting this factor *a priori*, the Hispaniola cases present several problems for the colonial thesis. First, the data have associated not Spanish but British colonization with institutional legacies conducive to economic growth (Acemoglu, Johnson, and Robinson 2001; Lange, Mahoney, and vom Hau 2006; North, Summerhill, and Weingast 1998; Wiarda 1998). Second, neither in the Dominican nor the Haitian case did economic institutions from the colonial period survive the 19th century. At the time of their independence from Spain and Portugal in the early 1800s, Latin American societies were largely dominated by a semi-feudal class of *Hacendados*. In the DR, this class controlled vast swaths of land and peasantry in an economic relationship known as *Latifundia*, one that produced little more than subsistence agriculture and ranching, as well as meager exports of timber and sugar. This socioeconomic arrangement went unchallenged from the time of Dominican independence in 1821 until the onset of the liberal reform period, when a new class of economic and political actor grew out of the agro-export sector that was emerging across the region. This process began in the northern Cibao valley between roughly 1850 and 1870, where a political conflict that erupted between a coalition of capitalist liberal merchants (known as the *Azules*, or Blues) and the feudal landowning aristocracy (the Rojos, or Reds) culminated in a decisive victory for the liberals. Under a series of liberal presidents leading up to the reign of Ulises Heureaux (1882-1899), the *Azules* attempted to deepen the Dominican Republic's transformation into a platform for agricultural commodity exports.

In the Haitian case the break with historical institutions was more abrupt. The collapse of Haitian sugar exports in the first decades after independence was principally due to the shortage of labor. Having successfully prosecuted the slave revolution of 1796-1804, peasants objected to a return to coercive plantation labor relations. Many of these peasants fled to the mountainous countryside, where they squatted and engaged in smallholder subsistence agriculture (dubbed *marronage*) supplemented by the harvesting of coffee trees planted during the colonial period on the margins. Haitian elites, primarily mulattos, failed in their attempts to force black peasants back onto the plantations through legal decrees against vagrancy such as the *Code Rural*. Faced with a collapsing mode of accumulation, these elites were forced to abandon the plantation model inherited from the French colonial model. In its place, they developed a parasitic mode of accumulation that combined agro-export mercantilism and the collection of customs duties in the port cities, coupled with the use of the powerful but underemployed Haitian Army to act as tax collector, preying on the surplus value of peasant production in the countryside.

Despite the prevalence of inefficient systems of property rights across both sides of the island (Gonzalez 2012; Turits 2003), Haiti and the DR developed a smallholder agro-export sector between 1850 and 1870. Initially, it was tobacco and cacao cultivation that figured prominently in the Dominican Republic. In Haiti, the decline in plantation-scale crops like sugar cane was accompanied by the continued production of commodities like coffee that can be economically harvested at either large or small scale. However, the Dominican Republic was able to pull ahead of Haiti in terms of the value of exports on a relative (per-capita) basis during the later stages of the liberal reform period; this was mostly due to the influx of foreign investment in sugar plantations beginning in the 1870s. In Haiti, by comparison, international ostracization during the first half of the 19th century, coupled with enduring domestic opposition to plantation agriculture and foreign ownership—both of which stemmed from its historical experience with slavery and the political culture that emerged during its independence movement (Dupuy 1989)—prevented it from fully exploiting the commercial opportunities afforded by deepening global economic integration during the 19th century.

Trade and Class Structure

For agrarian societies, the expansion of the agro-export sector provided opportunities for increased income and social mobility. This social transformation occurred directly through arbitrage[2] and the provision of services complimentary to the export sector such as accounting, domestic shipping, legal services, and short-term lending. It also occurred indirectly through

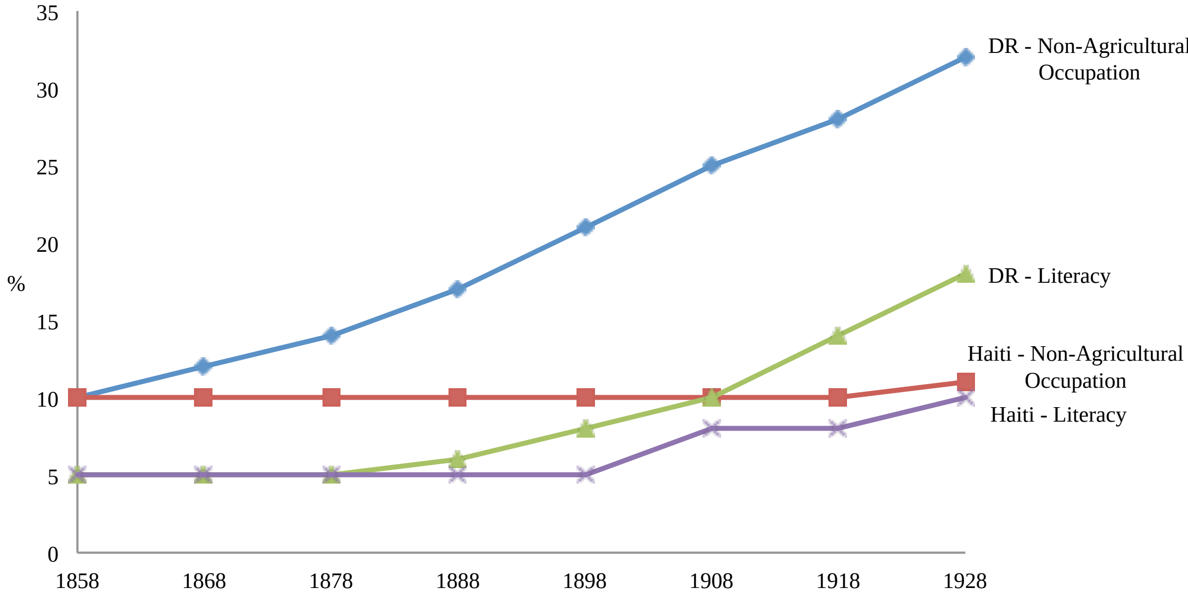
[2] Most basically, arbitrage describes the activity of deriving profit by exploiting the difference in price between two markets—in this case the difference in the price for agricultural commodities between domestic and international markets.

demand spillover effects in the areas of consumer goods retailing, cottage (artisan) manufacturing, and service provision. These occupational opportunities became the economic basis for the expansion of the middle classes on both sides of the island. During the 1920s, the middle classes emerged as a powerful sector within the Dominican political arena. For agrarian societies like Haiti that remained relatively closed to foreign investment during the liberal reform period, diminished integration into international markets constrained opportunities for the expansion of the middle classes.

Figure 2 below shows that prior to the onset of the liberal reform period, around 1858, Haiti and the Dominican Republic were comparable by two measures of social structure: the percentage of the population engaged in non-agricultural occupations and the percentage of the adult population who were literate. Over the course of the liberal reform period we observe the effect of higher and lower-intensity agro-export cultivation on the occupational diversification of the Dominican and Haitian workforces.

[FIGURE 2 ABOUT HERE]

Occupational Diversification and Literacy in Haiti and the Dominican Republic (% of total population), 1858-1928



Source: Vanhanen (1997)

Following Boix (2003), I draw upon data from Vanhanen (1997) to proxy income inequality indirectly. I argue that these measures of occupational diversification and the quality of human capital serve as proxies that I expect to correlate strongly with the (unobserved) level of middle class income distribution in these two countries.[3]

While Dominican agriculture, along with that of much of Central America and the Caribbean, was being transformed during the late 1800s from pre-capitalist feudalism into a

[3] Note that the variables from Vanhanen's dataset that I use to proxy economic inequality are different from those chosen by Boix (2003). His use of Vanhanen's variable "Family Farms (as a percentage of total cultivated area or of total area of holdings)" as a measure of economic equality assumes a land structure where family farms are contrasted with more feudalistic latifundia landholding patterns. In the Haitian case, high values on this measure due to the virtual elimination of the plantation system following the revolution would seem to imply a high level of economic equality in the country. This would be misleading, as the revenue that generated income inequality was generated not through latifundia-scale agriculture in Haiti but through state customs revenues and patrimonialism. In point of fact, there was a great deal of economic equality *among* these small-holder peasant farmers. However, for the purposes of comparing the social structures of Haiti and the Dominican Republic during the liberal reform period and predicting the level of demand for manufactured goods imports that emerges by the end of this period, the greater income opportunities provided by non-agricultural employment and the literacy required to function in such occupations provide more useful proxies for measuring economic equality.

capitalist platform for agricultural commodity exportation, Haiti's diplomatic and economic isolation at the time of independence only further reinforced a means of accumulation for the elite that relied on predatory rates of taxation by a patrimonial oligarchy; rates that undermined the incentives of peasant farmers to intensify coffee production. The relatively low intensity of agro-export production that emerged provided a more limited basis for the expansion of the middle classes, leaving behind a sharply defined two-class social structure comprised of low intensity peasant agriculture for about ninety percent of the citizens and a combination of mercantilism and state patrimonialism by the other ten percent (Figure 2, above). As a result of these differences in population and agro-export productivity, the proportion of Dominican society that could reasonably be described as middle class comprised between 25%-30% of the population depending on the estimate chosen. In Haiti, by comparison, this class represented only 10%-12% of the total population.

What was the mechanism connecting intensive agro-export production with the kinds of social transformations we observe in the Dominican Republic during the liberal reform period? In respect to the theoretical framework I advance here, variation in levels of trade integration would be expected to have important consequences for the transformation of occupational opportunities and country's overall income demographics during the liberal reform period. The influx of national income produced by the export sector, and the need for the emergence of complimentary services to support the sector and the consumption demand it generated, provided entrepreneurial opportunities that formed the material basis for the emergence of a middle class.

Contrasting the emerging tobacco export economy of the northern Cibao with that of the pre-liberal feudal system of subsistence agriculture, logging, and ranching in the Dominican south that existed prior to the arrival of the Cuban sugar plantations in the 1870s, Moya Pons

(1992) nicely illustrates how international trade integration helped generate the kinds of economic opportunities that led to the transformation of Dominican society. I quote him at length here (translated by author):

> These very different systems of productions—tobacco and wood—that developed due to diverse ecological and economic conditions, created two societies that were very unequal in their distinct modes of thinking. … [I]n the south the absence of an agricultural system contrasted with that of the northern provinces wherein agriculture was the principal economic activity of the inhabitants. The south lived off of a gatherer economy that didn't stimulate the development of job creation among the population of this region as the wood was not cut more than seasonally and [laborers] passed the rest of the time idly without anything to do. Neither did the low productivity of the land provide much enthusiasm for dedicating themselves to agriculture.
>
> The Cibao, on the other hand, with an agriculture and an industry established in the 18th century, kept all of its population occupied in the cyclical production of tobacco, putting into motion all of the energy of the region. The tobacco was both a job and an income-multiplying industry and, as such, was democratizing in its social effects. Not just the peasant growers worked in the production of tobacco, but also the women who picked and prepared it, the men that wrapped and packed it, the owners of the pack animals that transported it to the villages and later to the export ports. In the workshops there were men who worked in fermentation and packing until it was on the ships that exported it. This entire process put in motion an enormous mass of farmers and their families, pack animals, peasants, rope-makers, container manufacturers, packers, cigar rollers, tobacconists, merchants, negotiators, moneylenders, and brokers for the commercialization of the harvest. It also gave way to a dynamic economic cycle that put in circulation a large amount of cash that stimulated the importation and sale of merchandise to satisfy the demand of a numerous population that earned money regularly and consumed every class of goods. (Moya Pons 1992, 405–406)

For the Dominican Republic, the result of gearing a large portion of its agricultural production towards servicing global markets was an increase both in the size of the national income as well as in the equality of income distribution. The improvements in income inequality that we observe are due to the different occupations made available to Dominicans as a result of the expansion of the export trade. The decentralized tobacco export network operated by the Germans in the Northern Cibao during the mid-1800s provided extensive opportunities for Dominican intermediaries to profit from the production, sale, and transportation of the export crop to the foreign merchants in the port cities. Tobacco produced by the smallholders of the Cibao valley was transported to the market city of Santiago, where it was purchased and prepared for international shipment via the port city of Puerto Plata to the north.

The amount of arbitrage captured by Dominican intermediaries only increased during the late 1800s when the collapse of the tobacco market drove the Germans out and created space for a select group of domestic entrepreneurs to step forward as the import/export merchants in the port cities. This growing class of Dominican capitalists instrumentally brokered a transition towards the cultivation of more profitable export crops like cacao and coffee, putting a greater share of the profits from arbitrage in the hands of domestic capital. The transition to cacao during the late 1800s also altered the commercial networks of the northern DR, enhancing the importance of La Vega and the nearby port of Sánchez in Samaná Bay as important centers of commercial activity (Baud 1987). At the time of the first national census in 1920, the market hubs of the Cibao valley, Santiago and La Vega, were the largest cities in the country at 72,150 and 58,466 persons, respectively (Gobierno Provisional de la República Dominicana 1920).

This process of international integration into world markets accelerated as smallholder agricultural production in the north was supplemented with the arrival of foreign sugar plantation agriculture in the south and east of the country throughout the 1870s and 80s. This dramatically increased the importance of Santo Domingo and San Pedro de Macorís as commercial hubs for the country. A 1907 privately produced national commercial directory nicely illustrates how the occupational landscape of the Dominican Republic was significantly transformed during the liberal reform period (Deschamps 1907). In the capital city of Santo Domingo, the Dominican Republic's busiest port city with a 1920 population of 45,007, politics and commerce sustained a community of 340 merchants and service providers broken down in Table 2, below.

[TABLE 2 ABOUT HERE]

Santo Domingo, Dominican Republic: Occupational Diversity *circa* 1900

Occupation	No. of firms	Occupation	No. of firms
Professionals	**115**	**Goods Fabrication**	**56**
Law offices	47	Distilleries (alcoholic beverages)	4
Notaries public	5	Lumber	3
Surveyors	11	Commercial agencies	3
Dentists	6	Cottage industries (shoemakers, pasta, soap, candles, matches)	29
Druggists	18	Shipbuilders	17
Engineers	8		
Doctors	20	**Consumer Goods Retail**	**119**
		Barbershops	13
Services	**50**	Tailors and seamstresses	11
Insurance companies	3	Pharmacies	11
Banks	5	Bookstores	4
Maritime agencies	2	Furriers	10
Gambling houses	6	Bakeries	8
Misc foreign agents	2	Funeral agencies	2
Carpenters/masons	8	Harness shops	3
Photographers and painters	4	Tobacco stores	11
Maritime shipping houses	7	Hardware dealers	4
Hotels	2	Other	42
Restaurants	4		
Metalworks (blacksmiths, brassworkers, jewelers)	7	**Total non-agricultural firms in Santo Domingo**	**340**

Source: Deschamps (1907)

Similar figures for the total number of non-agricultural firms in the Dominican Republic's other leading trade cities at the time include Santiago (345 firms), La Vega (140), Puerto Plata (128), Baní (102), and San Pedro de Macorís (82). It was thus that the social structure of the Dominican Republic began its transformation during the liberal reform period from a pre-capitalist society dominated by caudillo families from the colonial period to a social structure characterized by a heterogeneous mix of emerging capitalists and old pre-capitalists, coupled with the insertion of foreign entrepreneurs into Dominican society who brought with them many of the ideas about how to organize production (Cassá 1982b).

Class structure and adjustment to economic crisis

This difference in the relative size of the middle classes provided a decisive advantage when an exogenous international economic crisis put the material interests of the middle classes and the agro-export oligarchy into opposition in 1929, allowing the Dominican middle classes to successfully take and hold state power while the Haitian middle classes remained subordinate to the ruling oligarchy. It was not until the 1940s and 50s, after the critical juncture of the 1929 international financial crisis, that this class emerged as a dominant actor in Haitian politics.

The onset of global economic crisis in 1929 represented a rupture in the coherence of the agro-export model of development that prevailed throughout Latin America during the dramatic expansion of global trade that took place between the 1850s and 1920s. Most explanations for the onset of the global depression that ensued center around the reduction of international liquidity as American lending tightened in response to the speculative boom among investors that caused domestic stock prices to double between early 1928 and the fall of 1929 (Frieden 2006). In August of 1928 the US central bank made a critical decision to raise interest rates in order to stem the availability of speculative credit, a policy that was intended to defend the dollar's parity with gold (Eichengreen 1992).

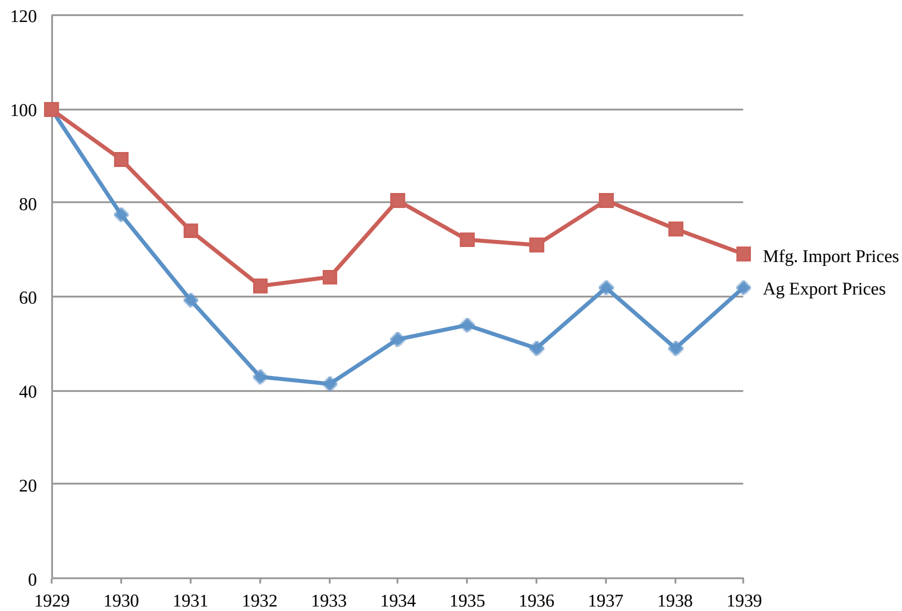
The international system of trade and payments in the late twenties represented a triangle where the United States ran a current account surplus with European and Asian countries, one that financed its purchase of primary commodities from the developing world (McMichael 1996). European countries financed their trade deficits and war debts through borrowing and through finished goods exports to primary commodity exporters. Both European countries like Germany and primary commodity exporters in Latin America depended on lending from the United States in order to sustain their current account deficits (Eichengreen 1992, 224). When the US federal reserve began to engage in monetary retrenchment in the summer of 1928, this policy had the effect of severely restricting foreign lending: prohibitive interest rates on foreign lending caused net flows to drop by 30% that year, ultimately falling negative by 1929 (226). Without US lending to prop up international demand for primary commodities, the terms of trade for these goods eroded quickly, precipitating the economic declines of agro-export countries during the second half of 1928 (222).

For those agrarian states that had undertaken extensive reforms towards commercial export agriculture during this period, foreign exchange reserves quickly dried up and national income plummeted during the 1930s as the price of agricultural commodities in international markets fell below the cost of production. Already, by the beginning of 1929, the value of Dominican exports had been falling sharply for over a year due to US retrenchment. Such an outcome threatened both the livelihoods of peasant cash-croppers and middle class merchants and professionals, as well as the savings of wealthy import-export brokers and landholders. Similarly, the organs of the state and the economic interests of the political class were compromised as the tax base, the lion's share of which were derived from customs duties and tariffs of international trade, was decimated.

While the global depression affected the price of virtually all traded goods during the 1930s, the price that agricultural commodity exports commanded on international markets deflated more rapidly than the price of manufactured goods imported from the industrialized world. As Figure 3 illustrates, the terms of trade for agricultural exports remained approximately 20-30% lower than manufactured goods imports between 1932 and 1938 as compared to the 1929 baseline.

[FIGURE 3 ABOUT HERE]

Price Index of Dominican Agricultural Commodity Exports
and Manufactured Goods Imports, 1929-1939 (1929=100)



Source: Direccion General de Estadistica (1941)

This depression had a disastrous effect on the Dominican economy, the fiscal health of the state, and political support for the incumbent government of President Horacio Vasquez (1924-30). Taking office after having received the blessings of the US government at the close of their military occupation in 1924, his government was viewed as an *entreguista* appeaser of Yankee imperialism, compliant with ongoing restrictions on Dominican sovereignty and accepting of the increasing dominance of US investors over the Dominican sugar industry (Cassá 2004, 200). The political coalition of *Horacistas* underpinning the Vasquez government drew more predominantly from the dominant class than other coalitions at the time, representing a class fundamentally committed to the *dependista* agro-export model of national development that was inherited from the liberal reform period (199).

The economic crisis that ensued in 1928 undermined the coherence of this model, cutting sharply into the national income and eroding government revenues. Predictably, political dissent for the current government began to foment throughout the course of 1929 as the crisis deepened, culminating in the emergence of a middle class revolt led by a professor and landowner from the northern *Cibao* region by the name of Rafael Estrella Ureña (Cassá 1982a).[4] Led by a cohort of petit-bourgeois merchants and intellectuals, Estrella Ureña's movement reached out to the head of the Dominican armed forces and asked him to support a coup. (Turits 2003, 80–81). A general who was himself of middle-class origins, Rafael Leonidas Trujillo used the opposition movements of Estrella Ureña, another important and predominantly middle class political faction from the northern Cibao valley called *Jimenistas*, and other smaller political forces representing the petit-bourgeoisie, as a pseudo-popular cover for his successful military coup (Cassá 2004).

The government that emerged from the bargaining that took place between Trujillo and the coalition of opposition movements that carried him to power was comprised by this middle class of merchants and intellectuals who shared this nationalist commitment to modernization (Turits 2003, 81). And despite the coercive means by which Trujillo stole the election of 1930 that officially installed him as head of state, he nevertheless maintained the support of the petit bourgeoisie and their intellectual representatives who, "imbued with a profound sense of opportunism, saw a brilliant career beneath the wings of the new Cesar that had begun to protect them" (Cassá 2004, 251). In the end, Trujillo's grip of state power would not be loosened until his assassination in 1961.

Populist intellectuals like Rafael César Tolentino, a leading proponent of the coup against Vasquez and secretary of agriculture under Trujillo, were crucial architects of the economic reforms of the 1930s (Turits 2003, 88). The origins of the nationalist-populist ideology adopted by this governing coalition was in part an anti-imperialist backlash against the earlier US military

[4] It is not surprising that Estrella Ureña's movement emerged out of the northern Cibao region. As demonstrated in Chapter 3, this was precisely the region where trade integration and the consequent expansion of the middle class took place during the liberal reform period.

occupation (1916-1924), ongoing infringement of Dominican economic sovereignty via the customs receivership, and the devastating consequences of dependency on the existing agro-export model for the material interests of the middle classes (Cassá 2004).

In the context of a deepening economic crisis, this opportunity to reshape the development trajectory of the country took the form of national self-sufficiency. Foremost, it involved state-coordinated domestic production of those goods that the Dominican Republic could no longer afford to import from the industrialized world. Initial efforts to develop import substitutes were not focused on industrial goods like textiles and machinery, however. While the industrial stage of import substitution would not fully begin until the 1940s, other efforts by the Trujillo regime to transform the Dominican state into an entrepreneurial actor within the national economy succeeded dramatically. The strategy adopted by the regime to adjust to the terms of trade crisis of the 1930s was to free up foreign exchange for the continued importation of manufactured goods by developing domestic substitutes for commodities like rice and beans, as well as processed goods like butter, cheese, soap, and beer, that had previously been imported but whose production challenges were relatively modest compared to more complex manufactured goods. Beginning with a successful set of populist land policies designed to upgrade the growing capacity of Dominican rural peasants through land titling and investments in rural infrastructure and public services (Turits 2003), the gradual build-up of a state-owned food processing sector during the late 1930s and 1940s created a national economy that was largely food self-sufficient (Moya Pons 1987, 23).

Under the condition of import scarcity, land reforms were designed to restore the consumptive capacity of urban dwellers by compelling peasants to trade their subsistence farming practices under the condition of uncertain land use for commercial agriculture and the economic security of titled land. As Turits concludes, it was through the transformation of the political economy from one favoring landed elites to one favoring the popular sectors that the regime established its legitimacy.

> Had Trujillo structured his political base upon a landed elite, property claims based on peso titles, troches, and private surveys would have prevailed over squatters' rights and land 'distributions.' In sum, Trujillo was a dictator whose policies impeded more than they favored the consolidation and expansion of a pre-existing landed elite. These material foundations lent credibility to Trujillo's paternalist and populist claims. Although the regime helped eliminate many of peasants' traditional practices, it also proclaimed an important role for them as small farmers in an incipient commercial economy and modernizing nation. When peasants were approached by the state on these terms, and when they faced alternative prospects of dispossession and nonviable agriculture without state support, they embraced their incorporation by the national state and specifically by the Trujillo regime. The vision of nationalist intellectuals who prior to Trujillo's seizure of power had come to idealize a small farmer mode of modernization began to be realized. (2003, 114)

The rural reforms of the Trujillo regime reached their peak between 1935 and 1940, during which time the total area of national cropland increased by 47 percent (Turits 2003, 97). By liberating peasants from various forms of usurious land/labor relations with large landholders, the regime consolidated popular support in both rural and urban areas. Besides improving the economic security of peasant farmers, the increased cultivation of crops increased the supply of key agricultural commodities to the urban areas, whose demand had gone increasingly unmet do to the disruption in international trade during the 1930s.

Although industrialization wouldn't take off until after the war, when capital machinery from the industrialized world became available for importation, there was an expansion of small scale Dominican manufacturing during the 1930s related to the food and beverage sector, converting basic goods like tobacco, cacao and grain into finished products like cigars/cigarettes, chocolate, liquor, beer, and flour. For example, in current dollars the importation of butter and cheese fell from $62,676 and $91,398 in 1930, to $7,142 and $7,099 in 1935, respectively

(Monteagudo 1936). Additionally, it included the substitution of commodities like pasta, rice, and beans. Overall, the importation of manufactured goods as a proportion of total imports actually increased over this period from 57% to 76%, meanwhile the importation of various foodstuffs declined from 29% of total imports to 13% (Dirección General de Estadística 1941).

This transformation of the Dominican food economy was not simply the result of firms responding to new market signals—namely the protection of domestic producers from competing imports afforded by the terms of trade crisis of the 1930s (Figure 3, above) and the accompanying foreign exchange shortfalls. Rather, the rapid mobilization of the Dominican economy to develop substitutes for imported goods was the result of a deliberate constellation of policies adopted by the Trujillo regime beginning in 1934. The first of these policies was the adoption of the "Law of Industrial Franchises" (ley No. 672), that intended to alleviate the foreign exchange crisis through a set of tax incentives designed to encourage the formation of domestic industries that would be capable of directly transforming Dominican commodities into finished goods (Moya Pons 1987, 24).[5] In 1940, Trujillo set up protectionist tariffs to more directly support domestic demand for non-imported goods. After 1945, with Trujillo flush with savings from positive balance of payments during WWII, the state was able and willing to deepen its investments in the existing "easy" industries of the 1930s. This sector grew much faster between 1936 and 1960 than the sugar industry (Cassá 1982a).

The Dominican experience was not unique in either the magnitude of crisis of the 1930s or the political pressure for a policy response. This rupture in the international terms of trade for commodities led to a wave of political crises across the region, with the governments of fourteen Latin American states falling between 1930 and 1934 as commodity-exporting societies

[5] Up until the conclusion of the Trujillo-Hull treaty in 1940, the Dominican Republic could not set its own tariff rates and thus could only attempt to protect domestic industry through manipulation of internal taxes (Cassá 1982a).

struggled to formulate a political response to the economic crisis (Wiarda 1998, 38). Yet for Haiti, the economic and political fallout from the international economic crisis of the 1930s was more muted. The structure of the Haitian economy, and the class structure that accompanied it, failed to generate the same impulse for political and economic adjustment that occurred in the DR and throughout much of Latin America.

In contrast with El Salvador, where peasants that had been forced from subsistence farmers into wage laborers during the liberal reform period soon found themselves without either wages or means of subsistence following the collapse of commodity prices export markets during the early 1930s (Paige 1997, 107), the collapse of the plantation system following the revolution, as well as the disincentives for Haitian peasants to participate in markets due to the predatory nature of the state, led to lower intensity cash cropping and continued reliance on subsistence agriculture. In Haiti's urban areas, the oligarchy were able to weather the economic storm and maintain some measure of their capacity to consume by drawing upon saved assets rather than resorting import substitution. For the political class, state revenue shortfalls due to the declining volume of their principal export commodities, namely coffee, were compensated for by increased rates of taxation on the remaining volume. Average export duties during this period were increased from 19 to 28 percent of total value (Trouillot 1990, 103). As a result, while the net value of Haitian trade fell by more than 68 percent between 1927[6] and 1934, the customs revenue accruing to the state (accounting for 90 percent of all state revenues during the period) fell by just under 47 percent (Service de la Population n.d., 11).

Widespread Haitian protests of the US occupation erupted in 1929 as the economy began to falter. The crisis deepened over the course of 1929 as coffee prices plummeted, government taxes increased, and the US occupation attempted to delay legislative

[6] Just prior to US retrenchment in August of 1928.

elections scheduled for 1930, leading to intensified popular sentiments of nationalism and anti-imperialism (Schmidt 1971). The escalating tension culminated in a violent confrontation between occupying Marines and Haitian protesters called the “Les Cayes massacre” in December of 1929, resulting in US President Herbert Hoover (1929-1933)’s decision to dispatch a fact-finding mission to Haiti led by William Cameron Forbes. The Forbes Commission provided a sobering assessment of the poor state-building accomplishments of the 15 year-old US occupation and its rapidly deteriorating legitimacy among the Haitian people. Among the recommendations of the commission were the immediate convening of free and fair elections, the transfer of virtually all government ministries back to the Haitian government, and the accelerated preparation for a withdrawal of the occupying forces (Shannon 1996, 94). Hoover approved Forbes’ report and set about implementing its recommendations (95). On October 14, 1930, Sténio Vincent, a mulatto nationalist outspoken in his opposition to US occupation and his demand for withdrawal, was elected president. US disengagement began in earnest under Hoover. By the end of 1931 his administration had transferred control over most government ministries besides those controlling the collection of customs revenue to Haitian control (Trouillot 1990, 107–108).

This period of economic shock coincided with the growing power of the black middle class through the rise of the ethno-political *negritude* movement and a new generation of political leaders like Presidents Dumarsais Estimé (1946-1950) and Francois Duvalier (1957-1971).[7] However, the range of economic reforms that were possible in Haiti during this period was constrained by the relative power of different social classes and particularly the pervasive hegemony of the mulatto oligarchy. The populist/developmentalist candidate in Haiti’s 1930

[7] Several Haiti scholars, most prominently Nicholls (1996, 163) and Castor (1988), have pointed to the emergence of a Black middle class, as well as the buttressing of Mulatto political hegemony, as the two most important legacies of the US military occupation of Haiti (1915-1934).

election, prominent black intellectual Jean Price-Mars, was defeated in part because his rhetoric regarding Haiti's class structure alienated him from financial support by the economic elite (Shannon 1996). A moderate, progressive nationalist, Price-Mars advocated total American withdrawal combined with a set of developmentalist reforms that would lead to "a viable Haitian state." He sidestepped questions of race, instead choosing to frame Haiti's problems (namely pervasive illiteracy and poor health) as problems of class, not race. "In essence, it stemmed from the fact that a small but powerful group, composed of both blacks and mulattos, dominated and directed the 'immense majority of job workers, non-specialized workers, unemployed workers of any color, and especially the great mass of rural workers, the innumerable multitude of peasants" (Shannon 1996, 98).

Following the transfer of government ministries to Haitian control in 1931, President Vincent (1930-1941) set about assembling a durable political coalition comprised of elite Haitian business interests and a critical mass of the "small black urban middle class, which began at this time to play an important role in political affairs" (Nicholls 1996, 10). The form that middle class incorporation took under Vincent was not, however, comparable to the more transformation in governing ideology and composition of political elites that occurred under Trujillo.

> President Vincent committed himself publicly to a new era of reformism akin to Roosevelt's New Deal, and sought to deepen ties with the United States and Haiti's powerful eastern neighbor, the Dominican Republic. There were, however, few changes in the economic and social structures. The elites continued to dominate the financial sector, and by virtue of this power were able to indirectly control the government. These developments favored the interests of urban elites and offered little benefits for the peasantry or urban workers. (Smith 2009, 13–14)

Whereas the nationalist coalition that swept the middle-class Trujillo to power was populist in character, Vincent (a member of the mulatto elite from the south) secured the election through nationalist rhetoric matched with the extensive financial backing of Haiti's banking sector (Smith 2009, 95).

The narrow size of the Haitian middle class meant that the consumptive capacity of a minimum winning coalition of blacks could continue to be bought through existing networks of state patronage rather than resorting to a strategy of import substitution. For the wealthiest mulatto and foreign oligarchs who controlled the import-export houses, reductions in income due to the declining trade in coffee exports could be offset, even during a prolonged economic crisis, by dipping into their saved assets. Thus, while the US occupation and control of Haitian customs engendered the same nationalist backlash in Haiti as the wave that brought Trujillo to power in the DR, the economic policies that resulted from the nationalist government of Vincent lacked the populist, anti-*dependista* character of the Trujillo-Estrella Ureña government.

Ultimately, the small size of the urban middle classes and the amount of wealth and political power held by the mulatto oligarchy, coupled with greater reliance on subsistence living in Haiti's rural areas, alleviated domestic pressure on the regime to adjust to the international economic crisis via import substitution. In the DR, by comparison, popular backlash against the failing economic policies of the incumbent *Horacista* elites between 1928 and 1929—manifested as the middle class coup of Estrella Ureña and the *Jimenistas*—allowed general Trujillo to seize power and directly shaped the policies he adopted in response to the crisis.

Import substitution, investment, and economic growth

The global economic depression of the 1930s had a profound impact on the economic institutions regulating the relationship between state and markets and the subsequent trajectory of Dominican development. The rapid decline in the terms of trade for Dominican agricultural exports had an immediate and devastating effect on the material interests of the urban middle class. This crisis undermined not only the coherence of the agro-export model, but also the political and economic institutions underneath it. The impetus for dramatic institutional changes in the relationship between state and markets came from the middle class political revolt emanating from the a coalition of movements that provided a popular basis for the military coup and subsequent stolen election of Trujillo. Yet the popular basis for Trujillo's rise to power did not deteriorate into classic patrimonialism once the dictator was installed. Rather, the middle class coalition underpinning the new regime set about a series of national developmentalist economic reforms in order to adjust to the ongoing economic crisis. Beginning with rural land reforms in 1934 intended to restore food security to the urban areas and make the Dominican Republic self-sufficient, the Dominican state quickly transformed into an entrepreneurial investor that actively intervened in markets to coordinate the development of the forward and backward linkages required to develop domestic substitutes for those goods that the country could no longer afford to import.

During the 1940s, international wartime economies reinforced the adjustment policies pursued by the Dominican state. Its role as provider of capital and market coordination deepened as booming prices for primary commodities and continuing import scarcities due to war rationing in the industrialized world left the government flush with capital and domestic producers of manufactured goods sheltered from international competition. Although Trujillo's regime would come to a swift and violent end in 1961, the legacy left behind by this institutional transformation was a foundation of state capacity, infrastructure, physical and human capital. In no small part as a result of this foundation inherited by the political coalition of domestic capitalists and industrialists that Trujillo left behind, the Dominican Republic went on to become the fastest growing economy in Latin America during the second half of the 20th century (World Bank 2009).

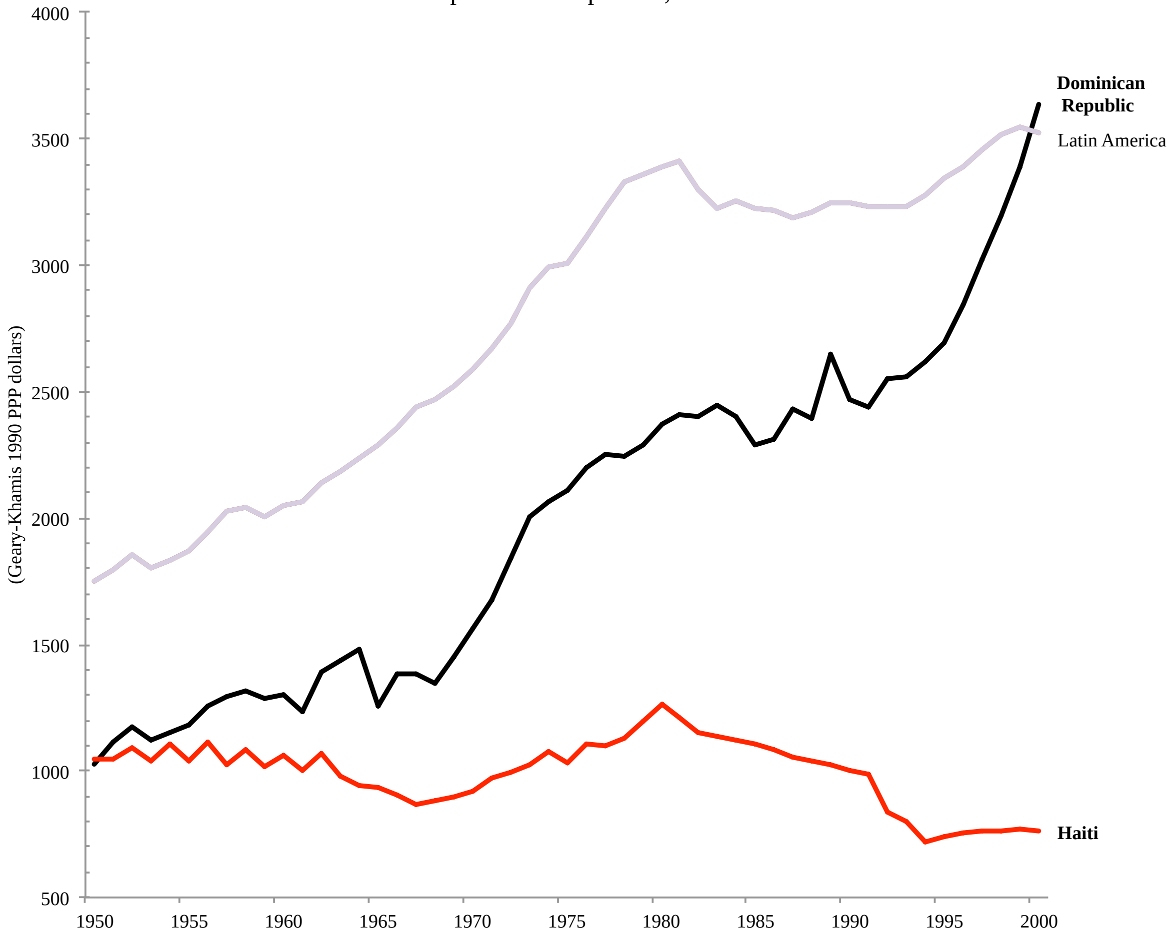
If the legacy of the trade shocks of the 1930s-50s were ones of transformative institutional change for the Dominican Republic, for Haiti the period is marked by a continuation of the institutions and modes of accumulation that have defined its national political economy virtually since its 1804 independence. The smaller and politically weaker middle class was unable to wrest political power from the mulatto oligarchy during the critical juncture of the 1930s, and as a result the Vincent regime was able to weather the economic storm by increasing the rate of extraction of peasant surplus and coopting a minimum winning coalition of middle-class elites through state patronage and clientelism.

The decision of Haitian rulers to continue with the existing agro-export model through the 1930s was equally reinforced by the second wave of trade shocks of the 1940s, where the high prices for agricultural commodities in world markets enabled elites to replenish their depleted savings and continue importing manufactured goods throughout the period of import scarcity. When the emerging black middle class successfully wrested power away from the oligarchy in 1946 with the election of Estimé, the oligarchy succeeded in blocking his populist economic reforms in the legislature. As Estimé became more radicalized by the political stalemate, moving against key members of the oligarchy and attempting to re-write the constitution, they were able to successfully exploit divisions within his coalition and finance a coup that restored mulatto rule. When the middle class finally retook power on the coattails of the Duvaliers (1957-1986), the character of the regime that emerged was not one of economic transformation but rather a tenuous political pact between a narrow ruling coalition of middle-class blacks who profited from state resources and a complacent mulatto oligarchy that resigned itself to middle class rule so long as their economic interests did not come under direct threat.

Over time, differences in institutional continuity and change in Haiti and the Dominican Republic that trace back to the adjustment strategies pursued by each respective regime in the face of the economic crisis of the 1930s exerted path-dependent effects on subsequent trajectories of economic growth during the second half of the twentieth century. In 1950 per-capita gross domestic product (GDP) across the island of Hispaniola was nearly identical (Maddison 2003). By the narrowest of margins the Dominican Republic eclipsed Haiti as the poorest country in the Western Hemisphere, with a per capita income of $1,027 in constant 1990 dollars at purchasing power parity (PPP). (See Figure 4 below)

[FIGURE 4 ABOUT HERE]

Figure: GDP per capita of Haiti and the Dominican Republic
in Comparative Perspective, 1950-2000



Source: Maddison (2003)

Yet over the second half of the 20th century the Dominican economy entered into a period of economic dynamism, growing an economy approximately five times as large as Haiti's in per capita terms and catching up with average per capita income in the region. Between 1950 and 2011 the DR maintained the fastest average economic growth rates in Latin America (World Bank 2009). Over the same period Haiti traded places with the DR as the poorest country in the region, ending the century with collapsing political institutions and dismal levels of literacy and life expectancy—undermining, and undermined by, an economy that could no longer provide for the basic needs of its population. Why did the society inhabiting one side of Hispaniola achieve such impressive gains in economic growth and development during the second half of the 20th century while the other side deteriorated into a failing state?

The different development outcomes that exist across Hispaniola today are due neither to the minor differences in geographic endowments that separate these two countries, nor are they the direct result of historical differences in the institutions inherited from French and Spanish colonial rule; institutions that might have simply reproduced themselves over time. Rather, the development trajectories of Haiti and the Dominican Republic diverged because they were governed differently. When confronted with identical terms of trade crises during the 1930s, these governments made different choices about how to adjust. The adjustment policies that followed decided whether state resources—drawn primarily from customs revenues tied to the agro-export sector—were invested in the infrastructure, physical and human capital required for a strategy of import substitution, or whether these resources were simply siphoned off by a narrow group of elites and squandered through private consumption.

In order to understand how development outcomes were shaped by variation in adjustment to crisis more generally, and the different institutional legacies of the import substitution and agro-export dependency models more specifically, it is first useful to identify the more proximate determinants of economic growth. Contemporary economic theory accounts for growth using equations that consider the combined effect of increasing factor inputs (things like raw materials or labor), and increasing economic output per unit of input (productivity). Increases in productivity are driven primarily through investments in physical and human capital.[8]

[8] Note that, over the long run, economic models specify that growth takes place through changes in technology and innovation that are either taken as exogenous (Solow 1956) or endogenous to the choices that market actors make about whether to invest in innovation (P. M. Romer 1986). For the purposes of this discussion, however, the countries in question are by and large "technology takers" rather than "technology makers."

As Table 3 illustrates, despite having near-identical levels of per capita national wealth in 1950 (Figure 4, above), important differences in the determinants of productivity and growth had already emerged across the island of Hispaniola by the middle of the 20th century.

[TABLE 3 ABOUT HERE]

Table: Determinants of Productivity: Estimates of investment in infrastructure, physical and human capital in Haiti and the Dominican Republic in 1950

	Haiti	Dominican Republic
Infrastructure and Physical Capital		
Electrification (GwH per capita)	3.0	35.3
Agriculture, Forestry and Fishing (as a % of GDP)[1]	51	33
Manufacturing (as a % of GDP)	8.2	12.5
Factory Employment (as % of total population)[2]	0.4	0.9
Annual Growth Rate in Factory Employment, 1925-1950 (%)[2]	4.3	6.5
Gross Fixed Capital Formation (as a % of GDP), 1963	7.3	13.8
Human Capital		
Urbanization (%)	12.2	23.9
Life Expectancy, 1960 (years)[3]	42.2	51.8
Hospital beds, 1960 (per 1,000 persons)[3]	0.6	2.3
Primary School Enrollment (per 1,000 persons)	35.1	102.7
Literacy (% of total adult population)[4]	10	32

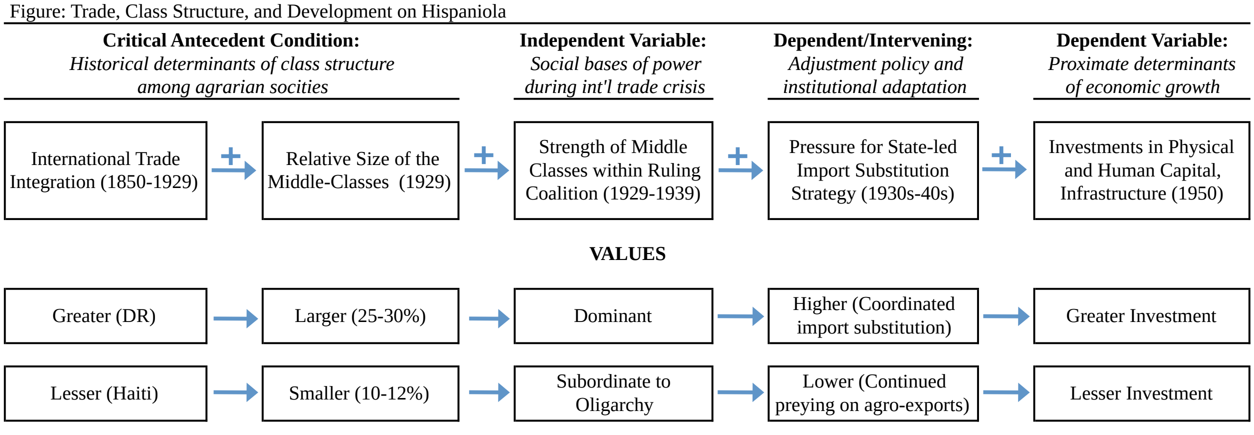
Source (unless footnoted): Astorga, P., A. R Bergés, and E. V.K FitzGerald. 2003. “The Oxford Latin American Economic History Database (OxLAD).” The Latin American Centre, Oxford University. Accessed online, April 2009.
[1]Mitchell 2007
[2]ECLA 1966, "Process of Industrialization in Latin America", p17
[3]World Bank, World Development Indicators
[4]Vanhanen 1997 (data are for 1948)

At the beginning of its economic takeoff in 1950 the Dominican Republic was already qualitatively more developed than Haiti in terms of most major predictors of growth. The availability and quality of human capital, according to these estimates of urbanization, health, and education, was two-to-three times greater in the DR than in Haiti. Measures of physical capital and infrastructure, including electrification and gross fixed capital formation, exhibited similar differences. While the level of factory employment on either side of the island was still modest in 1950, changes in the share of GDP comprised of manufacturing and the rate of expansion of factory employment show that the Dominican Republic was already on a much steeper trajectory of economic diversification than Haiti by the end of the 1940s. Over time, these investments in infrastructure, physical and human capital reduced the costs of transactions between market actors, encourage (re)investment and, in doing so, alter the development trajectories of these two societies.

In sum, the theory that emerges from a comparative historical analysis of these two agrarian societies is that the relative size of the middle class conditions the effect of exogenous trade shocks on trajectories of institutional and economic development by reshaping the incentives rulers faced about how to use state resources. For Haiti and the Dominican Republic, the relative size of the middle class was determined by those antecedent historical conditions that constrained or facilitated economic integration into expanding global markets for agricultural commodities during the late 1800s and early 1900s. This causal process, and the values of the causal variables for the cases of Haiti and the DR, is summarized in Figure 5 below:

[FIGURE 5 ABOUT HERE]

Figure: Trade, Class Structure, and Development on Hispaniola



CONCLUSION:

Greater exposure to international trade during Latin America's liberal reform period had important consequences for the way that agrarian societies adjusted to international trade shocks during the first half of the 20th century. The theory that emerges from the Hispaniola puzzle reveals how class structure and coalitional politics interact in ways that shape and reshape the relationship between institutions and markets, illustrating how a protracted economic crisis can create a critical juncture where the continuity of existing institutions becomes contested. During such junctures, I show how the relative power of different class coalitions vying for their respective material interests can play a decisive role in determining whether historically inherited institutions change or persist. As existing theories would expect, state institutions that promote investment in the determinants of labor productivity—especially infrastructure, physical, and human capital—translate into faster economic growth over the long run.

The interplay between outward-oriented trade integration and inward-oriented import substitution that drove Dominican growth and development has important implications for the literature on trade and development. Foremost, it suggests that we should reconsider the development consequences of the ISI model for future growth in the neoliberal era. The impressive growth rates sustained by the Dominican Republic following the collapse of the ISI model and the neoliberal reform period of the 1990s suggests that the investments in infrastructure, physical, and human capital that enabled Latin American economies to pursue ISI may also be helping to drive their growth rates under more liberal development models. Relatedly, the ability of a small island country like the Dominican Republic to successfully pursue ISI suggests that, at least at the early stages of non-durable consumer goods substitution, the size of the internal market has a much smaller effect on the prospects for the industrialization of agrarian states than existing scholarship (Hirschman 1968; Murphy, Shleifer, and Vishny 1989) would expect.

The positive impact of trade integration on institutional development and long-run growth in agrarian societies is conditional on whether the gains from trade are distributed in such a way as to create economic opportunities for the expansion of the middle classes. Future research should seek to refine further the scope conditions of this theory. Whereas the smallholder agricultural models in both Haiti and the DR were permissive of the rise of a middle class, in agrarian economies where the income from trade is concentrated in the hands of a narrow few—as is often the case in plantation economies like those of El Salvador—the effects of trade integration on the expansion of the middle classes may be more modest.

BIBLIOGRAPHY

Acemoglu, Daron, Simon Johnson, and James Robinson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *The American Economic Review* 91(5): 1369–1401.

———. 2005. "The Rise of Europe: Atlantic Trade, Institutional Change, and Economic Growth." *The American Economic Review* 95(3): 546–579.

Acemoglu, Daron, and James Robinson. 2006. "Economic Backwardness in Political Perspective." *American Political Science Review* 100(01): 115–131.

———. 2012. *Why Nations Fail: The origins of power, prosperity, and poverty*. New York: Crown Publishers.

Alpert, Leo. 1941. "The Areal Distribution of Mean Annual Rainfall over the Island of Hispaniola." *Monthly Weather Review* 69(7).

Astorga, P., A. R Bergés, and E. V.K Fitzgerald. 2003. "The Oxford Latin American Economic History Database (OxLAD)." *The Latin American Centre, Oxford University.* http://oxlad. qeh. ox. ac. uk.

Baud, Michiel. 1987. "The Origins of Capitalist Agriculture in the Dominican Republic." *Latin American Research Review* 22(2): 135–153.

Ben-David, Dan. 1993. "Equalizing Exchange: Trade Liberalization and Income Convergence." *The Quarterly Journal of Economics* 108(3): 653–679.

Bhattacharyya, Sambit, Steve Dowrick, and Jane Golley. 2009. "Institutions and Trade: Competitors or Complements in Economic Development?*." *Economic Record* 85(270): 318–330.

Board of Governors of the Federal Reserve System. 2013. "Historical Data: Selected Interest Rates (Daily) - H.15." http://www.federalreserve.gov/releases/h15/data.htm (Accessed March 10, 2013).

Boix, Carles. 2003. *Democracy and Redistribution*. Cambridge UK; New York: Cambridge University Press.

Cassá, Roberto. 1982a. *Capitalismo Y Dictadura*. 1a ed. Santo Domingo, República Dominicana: Editora de la Universidad Autónoma de Santo Domingo.

———. 1982b. "Reflexiones Sobre la Estructura de Clases entre 1900 y 1930." In *La Sociedad dominicana durante la Segunda República*, ed. Tirso Mejía-Ricart G. Santo Domingo República Dominicana: Editora de la Universidad Autónoma de Santo Domingo, p. 43–63.

Cassá, Roberto. 2004. *Historia Social y Económica de la República Dominicana*. 16th ed. Santo Domingo R.D.: Alfa & Omega.

Castor, Suzy. 1988. *L'occupation américaine d'Haïti*. [Port-au-Prince Haïti]: Société haïtienne d'histoire.

Deschamps, Enrique. 1907. *La República Dominicana: Directorio y guía general*. 3. ed., facsimilar. [Santo Domingo Dominican Republic]: Sociedad Dominicana de Bibliófilos.

Diamond, Jared. 2005. *Collapse : how societies choose to fail or succeed*. New York: Viking.

———. 2010. "Intra-Island and Inter-Island Comparisons." In *Natural Experiments of History*, Belknap Press of Harvard University Press.

Dirección General de Estadística. 1941. "Estudios Estadísticos del Comercio Exterior de la República Dominicana (1920-1939)."

Dollar, David. 1992. "Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDCs, 1976-1985." *Economic Development and Cultural Change* 40(3): 523–544.

Dollar, David, and Aart Kraay. 2003. "Institutions, trade, and growth." *Journal of Monetary Economics* 50(1): 133–162.

Dupuy, Alex. 1989. *Haiti in the World Economy: Class, race, and underdevelopment since 1700*. Boulder Colo.: Westview Press.

Easterly, William. 2007. "Inequality does cause underdevelopment: Insights from a new instrument." *Journal of Development Economics* 84(2): 755–776.

———. 2001. "The Middle Class Consensus and Economic Development." *Journal of Economic Growth* 6: 317–335.

Easterly, William, Jozef Ritzen, and Michael Woolcock. 2006. "Social Cohesion, Institutions, and Growth." *Economics & Politics* 18(2): 103–120.

Edwards, Sebastian. 1993. "Openness, Trade Liberalization, and Growth in Developing Countries." *Journal of Economic Literature* 31(3): 1358–1393.

Eichengreen, Barry. 1992. *Golden Fetters: The Gold Standard and the Great Depression, 1919-1939*. Oxford University Press.

Engerman, Stanley L., and Kenneth L. Sokoloff. 1997. "Factor Endowments, Institutions, and Different Paths of Growth Among New World Economies: A View from Economic Historians of the United States." In *How Latin America fell behind: essays on the economic histories of Brazil and Mexico, 1800-1914*, ed. Stephen Haber. Stanford: Stanford University Press.

Frankel, Jeffrey A., and David Romer. 1999. “Does Trade Cause Growth?” *The American Economic Review* 89(3): 379–399.

Frieden, J. A. 2006. *Global capitalism: its fall and rise in the twentieth century*. WW Norton.

Gerschenkron, Alexander. 1962. *Economic backwardness in historical perspective, a book of essays.* Cambridge: Belknap Press of Harvard University Press.

Gobierno Provisional de la República Dominicana. 1920. *Primer Censo Nacional de La República Dominicana*. Santo Domingo, República Dominicana: Editoria de la Universidad Autonoma de Santo Domingo.

Gonzalez, Johnhenry. 2012. “The War on Sugar: Forced labor, commodity production and the origins of the Haitian peasantry, 1791-1843.” University of Chicago.

HDR. 2011. *Human Development Report 2011 - Sustainability and Equity: A Better Future for All*. New York.

Hirschman, Albert O. 1968. “The Political Economy of Import-Substituting Industrialization in Latin America.” *The Quarterly Journal of Economics* 82(1): 1–32.

Jaramillo, Laura, and Cemile Sancak. 2009. “Why Has the Grass Been Greener on One Side of Hispaniola? A Comparative Growth Analysis of the Dominican Republic and Haiti.” *IMF Staff Papers* 56(2): 323–349.

Lange, Mathew, James Mahoney, and Matthias vom Hau. 2006. “Colonialism and Development: A Comparative Analysis of Spanish and British Colonies.” *American Journal of Sociology* 111(5): 1412–1462.

Maddison, Angus. 2003. *The World Economy: Historical statistics*. Paris: Development Centre of the Organisation for Economic Co-operation and Development.

Mahoney, James. 2010. *Colonialism and Postcolonial Development: Spanish America in comparative perspective*. Cambridge; New York: Cambridge University Press.

———. 2001. *The Legacies of Liberalism: Path Dependence and Political Regimes in Central America*. Baltimore: Johns Hopkins University Press.

McMichael, Philip. 1996. *Development and Social Change: A Global Perspective*. Thousand Oaks, Calif: Pine Forge Press.

Monteagudo, Antonio M. 1936. “Album de Oro de la Republica Dominicana.”

Moya Pons, Frank. 1987. “Industrial incentives in the Dominican Republic 1880-1983.” PhD. Diss. Columbia University.

———. 1992. *Manual de Historia Dominicana*. 9th ed. Santo Domingo: Caribbean Publishers.

Murphy, Kevin M., Andrei Shleifer, and Robert W. Vishny. 1989. “Industrialization and the Big Push.” *Journal of Political Economy* 97(5): 1003.

Nicholls, David. 1996. *From Dessalines to Duvalier: Race, colour and national independence in Haiti*. 3rd ed. London; Basingstoke: Macmillan Caribbean.

North, Douglass. 1990. *Institutions, Institutional Change, and Economic Performance*. Cambridge: Cambridge University Press.

———. 1981. *Structure and Change in Economic History*. 1st ed. New York: Norton.

North, Douglass, William Summerhill, and Barry Weingast. 1998. “Order, Disorder and Economic Change: Latin America vs North America.” *Unpublished Manuscript, Hoover Institution, Stanford University*.

North, Douglass, and Robert Paul Thomas. 1973. *The Rise of the Western World; a New Economic History*. Cambridge [Eng.]: University Press.

Olson, Mancur. 1993. “Dictatorship, Democracy, and Development.” *The American Political Science Review* 87(3): 567–576.

Paige, Jeffery. 1997. *Coffee and power : revolution and the rise of democracy in Central America*. Cambridge Mass.: Harvard University Press.

Rodríguez, Francisco, and Dani Rodrik. 2000. “Trade Policy and Economic Growth: A Skeptics Guide to Cross-National Evidence.” In *NBER Macroeconomics Annual 2000*, eds. Ben S. Bernanke and Kenneth Rogoff. MIT Press, p. 261–338.

Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi. 2004. “Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development.” *Journal of Economic Growth* 9(2): 131–165.

Romer, Paul M. 1986. “Increasing Returns and Long-Run Growth.” *The Journal of Political Economy* 94(5): 1002–1037.

Rostow, W. W. 1960. *The stages of economic growth, a non-Communist manifesto.* Cambridge, UK: Cambridge University Press.

Sachs, Jeffrey D. 1985. “External Debt and Macroeconomic Performance in Latin America and East Asia.” *Brookings Papers on Economic Activity* 1985(2): 523–573.

Sachs, Jeffrey D., and Andrew Warner. 1995. “Economic Reform and the Process of Global Integration.” *Brookings Papers on Economic Activity* 1995(1): 1–118.

Schmidt, Hans. 1971. *The United States Occupation of Haiti, 1915-1934*. New Brunswick, N.J: Rutgers University Press.

Service de la Population. *Etudes Demographiques, Economiques et Sociologiques: Les Fluctuations Cycliques de L'Economie Haitienne*.

Shannon, Magdaline. 1996. *Jean Price-Mars, the Haitian elite and the American occupation, 1915-1935*. New York: St. Martin's Press.

Slater, Dan, and Erica Simmons. 2010. "Informative Regress: Critical Antecedents in Comparative Politics." *Comparative Political Studies* 43(7): 886–917.

Smith, M.J. 2009. *Red & black in Haiti: radicalism, conflict, and political change, 1934-1957*. The University of North Carolina Press.

Sokoloff, Kenneth L., and Stanley L. Engerman. 2000. "History Lessons: Institutions, Factors Endowments, and Paths of Development in the New World." *The Journal of Economic Perspectives* 14(3): 217–232.

Solow, Robert M. 1956. "A Contribution to the Theory of Economic Growth." *The Quarterly Journal of Economics* 70(1): 65 –94.

Trouillot, Michel-Rolph. 1990. *Haiti, state against nation : the origins and legacy of Duvalierism*. New York: Monthly Review Press.

Turits, R. L. 2003. *Foundations of despotism: peasants, the Trujillo regime, and modernity in Dominican history*. Stanford University Press.

Vanhanen, Tatu. 1997. *Prospects of Democracy: A Study of 172 Countries*. London; New York: Routledge.

Wiarda, Howard J. 1998. "Historical Determinants of the Latin American State." In *The changing role of the state in Latin America*, ed. Menno Vellinga. Boulder Colo.: Westview Press.

World Bank. 2007. *Haiti: Strategy to Alleviate the Pressure of Fuel Demand on National Woodfuel Resources*. Washington, DC: Energy Sector Management Assistance Program. ESMAP Technical Paper.

———. 2009. *World Development Indicators*. Online.

Wydick, Bruce. 2008. *Games in Economic Development*. Cambridge; New York: Cambridge University Press.