Enclaves and Development: An Empirical Assessment

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Abstract In this paper we investigate empirically whether or not the notion of an enclave adds substantially to existing knowledge of the determinants of long-run economic, political, or institutional development. We discuss the prominent place of enclaves in historical accounts in the dependent development literature, particularly in the work of Cardoso and Faletto (1966, 1979) and the large difficulties of determining in practice whether or not a country was or was not an enclave. We find little evidence for a relationship between past enclave status and long-run growth, inequality, or the size of the government. However, there does seem to be some preliminary evidence that countries that were enclaves have greater state capacity than non-enclaves and have been less democratic in the post-WWII period.

Keywords Growth · Dependency theory · Comparative development

Introduction

Recent research on comparative economic development has, to use the terminology introduced by North and Thomas (1973), focused on the *fundamental* determinants of economic growth. This implies moving beyond discussion of

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the *proximate* determinants, such as the accumulation of physical and human capital and technical change, to try to understand what determines different paths of factor accumulation or total factor productivity. The main finding from the empirical work is its differences in economic institutions, which can explain the preponderance of differences in income per-capita across countries, primarily because of the way they shape incentives (Hall and Jones 1999; Acemoglu, Johnson and Robinson 2001).

The papers in this literature have developed a positive political economy approach to institutions emphasizing their growth and distributional effects and how the equilibrium nature of institutions is shaped by existing political institutions and the distribution of power in society. However, this research has focused mostly on domestic determinants of institutions and has paid relatively little attention to the types of factors emphasized by scholars from other intellectual traditions as being important in the process of development (for instance, Acemoglu, Johnson and Robinson 2005). For instance, the conceptualization of institutions follows the emphasis of North and other new-institutional economists on property rights, though it recognizes that, in fact, what is being investigated is the impact of a "cluster" of institutions since countries which tend to have established secure property rights also tend to have similar institutions in other dimensions, making it difficult to attribute economic success purely to the security of property rights. This leaves open, for instance, the extent to which institutions such as state structures and capacities are independently important for development (as argued, for example, by Evans 1995). Just as important, it ignores the role that the international system has played in moulding and influencing the institutions and development paths of societies.

In this paper, we discuss and investigate the role of other factors in the development process typically outside of the scope of the economics literature. In particular, we examine whether and how one of the key ideas of the dependency theorists might fit into the modern literature on comparative development. Dependency theory is a large and heterogeneous literature with many disputed or loosely defined notions, such as that of "unequal exchange," which do not easily lend themselves to empirical testing. We therefore focus on something which we can conceptualize and measure. In particular, we are inspired by the influential book *Dependency and Development in Latin America* by Cardoso and Faletto (1979) to examine the distinction between "enclave" and "non-enclave" economies and, more broadly, to examine how well their examples and methods of analysis influence, add to, or challenge recent approaches in comparative economic development.

According to Cardoso and Faletto, there are structural differences between Latin American countries that influence their abilities to develop. In contrast to modernization and neoclassical economics approaches prevailing at the time that emphasized markets, capital accumulation, and trade as leading to convergent development paths, in their view, "market influences by themselves neither explain development nor guarantee its continuity or direction." Rather, it is "the behavior of social groups and institutions" that are crucial

to the analysis of development (p. 21). Though the book never completely clarified the main dependent variable of interest, the introduction sets up the whole analysis by noting the generally disappointing economic development of Latin America since WWII. Cardoso and Faletto then argue that, to understand this, one must explain "why the necessary measures were not taken to ensure continued development or why the measures taken were not effective" (p. 4). Their explanation is that Latin American countries' social structures and institutions did not allow the necessary policy measures to emerge, and the roots of this lie deep in history and the path-dependent processes that were set off by the ways in which Latin American economies were incorporated into the world economy in the late nineteenth century.

Central to this argument is their basic distinction between "enclave" economies, where the main export sector is 'controlled' by foreigners, and "non-enclave" economies, where it is 'controlled' by domestic citizens. They note (p. xviii-xix, italics in the original):

> We describe two dependency situations that prevailed prior to the present system of international capitalism based on the dynamism of multi-national corporations: dependency where the productive system was nationally controlled, and dependency in enclave situations ... In enclave economies, foreign invested capital *originates in the exterior*, is incorporated into local productive processes ... and produce(s) goods ... sold in the *external markets*.

This dichotomy is spelled out in more detail in chapter 3 of their book when they describe the development of Latin American economies in the nineteenth century and, in particular, the key period "[f]rom the end of the period of 'anarchy' (1850) to the crisis of the outward-growth model (1930)" (p. 69) when (p. 102) " '[e]nclaves' were fixed into the Latin American economy between the end of the nineteenth century and the beginning of the twentieth." They note (pp. 69–70) "[l]ocal economic groups could not always ... maintain control of production ...[and thus in] certain circumstances, the economy of Latin American countries was incorporated into the world market through the output of economies controlled directly from abroad." This was important because

> Local producers were thereby largely precluded from organizing an autonomous system of authority and resource allocation. (p. 70)

Cardoso and Faletto insist that there is variation within both enclave and non-enclave economies. For instance, there are both plantation and mining types of enclaves, and enclaves were also created in different ways, for instance, either local producers were displaced, or alternatively, the economic activities of center economies expanded to Latin America. Nevertheless, the dichotomy between enclave and non-enclave economies remains fundamental

> Latin American countries in which the national sector kept control of the export system developed social movements and a political life

that differed from those countries where the enclave economy finally prevailed in the phase of outward growth (p. 75)

The picture that the book paints is that this "first wave of globalization" led to a bifurcation between enclaves and non-enclaves, and after this, these different types of societies experienced different paths of development. Though subsequently the forms of dependence might change, and the book heavily emphasizes change and dynamics, they did so in path-dependent ways so that former enclaves faced different changes and possibilities for change than non-enclaves. For example,

> Politically, "oligarchic" domination in Latin America had begun to crumble before the 1929 world depression. The way in which the sociopolitical system was reorganized at this point depended on whether the socioeconomic order was of the enclave type or of the type in which the local financial-agro-exporting bourgeoisie controlled production. (p. 76)

These different consequences stem from the fact that enclave and non-enclave economies had different political economies and different structures of interests. For instance, "[t]he existence of an important 'bourgeoisie' sector was a distinctive feature of societies where production was under national control" (p. 76) and this fundamentally shaped development since (p. 77) "[t]he existence of this capitalist entrepreneurial sector, together with its alliances ... is what determined structural possibilities in the transition period" and "[t]he development and consolidation of the Latin American national states have depended on how successful local social classes have been in participating in the production process" (p. 29). Cardoso and Faletto again recognize that there is variation within these two types of societies, yet they also reaffirm that (p. 101)

> [h]istory followed another direction in countries where economic activity was ordered by an enclave.

Such path dependence continues in the next historical stage, post WWII industrialization. Now this path dependence manifests itself importantly (p. 128) "on an economic level by policies to consolidate the domestic market and to industrialize." So

> In countries where the export economy was controlled by national groups that had succeeded in forming an important industrial sector *before* the foreign trade crisis, these policies took a more liberal cast. That is they were based on the expansion of private enterprise. In countries where exports were controlled mainly by an enclave, groups not tied directly to the import-export system had tried to create an urban-industrial base through state direction.

One consequence of this was that (p. 132) "Industrialization oriented by a 'developmentalist state,' ... appeared more often in the enclave situation."

The book is complex and nuanced with a large number of cases discussed and forces at work, and there are also cross-cutting dynamics that influence both enclaves and non-enclaves. Moreover, in writing *Dependency and Development*, Cardoso and Faletto were both trying to challenge prevailing neo-classical modernization paradigms and to criticize and establish clear distance between themselves and their description of "situations of dependency" from the far cruder and more mechanistic "dependency theories" such as that of Andre Gunder Frank, which tended to "expect permanent stagnation in underdeveloped dependent countries" as the main outcome of the process, and "socialist revolution" as the only available alternative (p. xxxiii). Thus, the book has multiple objectives.

Nevertheless, the analysis of the book is built around the distinction between enclave and non-enclave economies and the conclusion of the book states that the analysis "reveals two basic historical situations. In one case, we point to the specificity of the enclave economies; in the other, to national control of the export system (p. 173)."

> We show how the different structural possibilities of an enclave situation and of a situation in which the export system is nationally controlled affect the social, political, and economic changes that take place in the countries under consideration. (pp. 174–174)

More than five decades after the first Spanish publication of their book, Cardoso and Faletto's work remains a classic in many parts of the social sciences, particularly in the work of sociologists and political scientists writing on comparative political and economic development. The influence of their work in the field of economics appears much less clearly apparent even if their emphasis on path-dependent history and social and political conflict in shaping national policies and outcomes anticipates and finds echo within contemporary work on the role of institutions in comparative economic development. The published economics literature in fact contains relatively very few references to Cardoso and Faletto's work.[1] In a 1979 review of the English edition of Cardoso and Faletto's book, Diaz-Alejandro (1979) praises their work, noting that "[t]he questions the authors raise regarding the analysis of development are challenging ones, not usually raised by narrower approaches to economic history" (p. 804), and he highlights in particular "their distinction between export sectors under national control and those of a foreign enclave nature." He also, however, expresses his reservation that "readers trained within the mainstream of North American social sciences will find this a difficult and often exasperating work," in large part because "[t]he economic history presented is devoid of the slightest quantitative dressing; not one table and only a few numbers are offered to support or even illustrate an argument" (p. 805).

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[1]For instance, a search of JSTOR indexed economics journals reveals just two references in general economics journals (once in an article written by political scientists, and one brief mention in a survey of "radical" literature) and only a handful of other references in field journals.

In fact, the ideas presented in Cardoso and Faletto anticipate and are clearly related to some more recent strands of the current conventional wisdom on comparative development in Latin America and the developing world more generally. Both approaches emphasize political economy. For instance, writing in the mid-1960s, Cardoso and Faletto drew attention to the role of "social structures and the product of man's collective behavior" (p. x)—which the recent literature would rephrase as "institutions are collective choices," noting how "social structures can be ... continuously transformed by social movements ... and [how] consequently our approach is both structural and historical: it emphasizes not just the structural conditioning of social life, but also the historical transformation of structures by conflict, social movements and class struggles." Both approaches also foreground the importance of historical factors in shaping the development paths of societies.

The empirical work of Acemoglu, Johnson and Robinson (2001, 2002) and the more historical studies of Engerman and Sokoloff (1997, 2005) emphasize the idea that the origins of institutions and, hence, the relative development performance of Latin America lie in the colonial period. Institutional variation within the former colonies was influenced by the types of initial conditions that the European powers encountered. In colonies where there were initially large densities of indigenous peoples, where the mortality environment was unfavorable for European settlements, and which were relatively prosperous, extractive institutions designed to transfer rents to Europeans emerged. Such institutions did not create effective property rights except for small minorities, they did not generate incentives for investment, education, or innovation, and they consequently retarded long-run economic growth.

The political institutions that emerged in such societies were complementary to the extractive economic institutions; they were coercive, hierarchical, and authoritarian, aimed primarily at controlling indigenous populations, and focused on maintaining and perpetuating a fundamentally unequal order. Since institutions have a tendency to persist, the colonial economic and political institutions created in these extractive colonies were carried into the nineteenth and twentieth centuries and continued to benefit relatively small elites. These elites had a lot to lose from more inclusive democracy, not just because it would have directly taken away their formal political power, but also because the change in the distribution of power would have undermined their preferred set of economic institutions. Consequently, in these societies, elites were prepared to fight harder to stop democracy (see Acemoglu and Robinson 2006). Moreover, given that such societies were based on relatively coercive institutions, elites were better able to repress those who pushed for democracy, and subsequently, if democracy was conceded, they were better able to undermine it by mounting coups. Therefore, the development path starting with extractive institutions was nondemocratic and associated with relatively slow economic growth.

In colonies with different initial conditions, where there were few indigenous peoples, where the disease environment was relatively benign for Europeans, and which were initially poor, very different types of settlements

and economic institutions emerged. Since there were few people to exploit and little to extract from indigenous peoples, relatively non-coercive societies emerged. Such societies, best exemplified by the settler colonies in North America, Australia, and New Zealand, developed economic institutions providing significant proportions of their inhabitants with access to land, secure property rights, and equality before the law. They also developed political institutions placing effective constraints on the exercise of power. The incentives for investment, commerce, and innovation in these societies paved the way for economic growth. This situation is well illustrated by the development path of North America, where, already during the colonial period, a relatively egalitarian society emerged with representative assemblies in each state where free adult males could vote.[2] This institutional nexus provided relatively good economic incentives for the non-slave population and provided weaker incentives for the political elites to pursue strategies to block economic development or undermine democracy. Moreover, these initial institutions implied that later political elites, even when they tried, were unable to tilt the balance away from growth-promoting and democratic institutions.

The perspective of Engerman and Sokoloff and Acemoglu, Johnson, and Robinson is more focused on the comparison between Northern and Latin America and within the wider ex-colonial world, but to some extent, it can also encompass variation within Latin America. For instance, it predicts that Argentina and Uruguay, lacking large numbers of indigenous peoples, minerals, or plantation crops appropriate to intense slaving, would be more prosperous than Bolivia and Peru, and indeed they are.

Though the work of Cardoso and Faletto may have had little direct impact on this work, its conceptual approach antedates it, even if the specific claims differ. For instance, they also argue that the development path of a country is a path-dependent outcome of events at some critical juncture. However, for them, the critical juncture is not during the colonial period (though they do mention early on that "a country whose economy had been that of a colony of settlement, largely self-sufficient and using abundant labor, would differ from an exploitation colony" p. 25) but during the great wave of globalization after 1870. The factors that drive the organization of societies at these junctures also differ. For instance, they emphasize that certain exogenous characteristics of an economy will tend to lead it to have an export sector controlled by foreigners: foreign control is more likely of mines or resources like guano, than land, and it is also more probable in smaller countries. Finally, they emphasize that the key consequence of this juncture is whether not a society becomes an enclave, not whether it develops extractive or non-extractive institutions.

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[2]Though slavery was important in the South, many of the key US institutions were formed in the seventeenth century before slavery became more significant and at no time did slaves form more than 20% of the entire population. In contrast, indigenous peoples formed 80–90% of the populations of Peru, Bolivia, or Mexico, while slaves constituted more than 90% of the population in most Caribbean islands (Engerman and Sokoloff 1997).

Although there is therefore an interesting intersection between the work of Cardoso and Faletto and modern work on comparative development, in some sense, the most important issue is whether or not the concept of an enclave adds to existing ideas. For instance, Acemoglu, Johnson, and Robinson (2001, 2002) and Acemoglu, Johnson, Robinson, and Yared (2008) show that historical conditions, such as the density of indigenous populations in 1500, or the historical disease environment faced by Europeans, predict current institutions and comparative economic and political development among former European colonies today. Could it be that a further important source of variation in institutions and long-run development outcomes such as inequality stems from the enclave/non-enclave distinction established in the late nineteenth century in part by how a country became inserted in the world market? This is a distinct possibility, but it needs to be investigated empirically, and this is the main focus of our paper.

What then is the empirical content of the distinction between enclave and non-enclave economies? Is this dichotomy empirically useful and does it predict important aspects of development? Do enclaves grow slower in the long-run? Are enclaves less democratic? Do the economic policies of enclaves differ systematically from non-enclaves? Were enclaves less or more likely to undertake import substituting industrialization? Was foreign ownership actually greater in countries that Cardoso and Faletto identify as enclaves? Does the extent of present-day state involvement in the economy depend on whether or not you were an enclave? Do enclave economies have smaller states? More corruption? Worse governance? Greater inequality? Cardoso and Faletto's book contains several suggestive hypotheses. For example, with respect to the last question, they argue (p. 71) "the enclave tends to worsen income distribution within the national economy."

Our main focus is therefore on measuring enclaves and developing a preliminary analysis of their impact on some of these long-run socioeconomic and political outcomes. Though it is possible that the concept of an enclave might be analytically useful even if it is uncorrelated with any of these variables, we believe that the case for thinking of enclaves as important determinants of development outcomes would be greatly strengthened if there was robust empirical evidence that they were associated with the main dependent variables that the literature attempts to explain.[3]

In a nutshell, our findings are as follows: We find little evidence for a relationship between past enclave status and long-run growth, inequality, or

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[3]We are aware, of course, of an existing literature that attempts to relate various measures of "dependency" to economic performance outcomes, for instance, the work of Chase-Dunn (1975) and Evans and Timberlake (1980). Aside from working with more recent datasets, one key advantage to our approach of using pre-1930 enclave status is that it can be more plausibly considered exogenous, or at least pre-determined, relative to present day outcomes compared to the more contemporaneous measures of 'dependency' or foreign capital penetration used in these other studies. Also, the book of Cardoso and Faletto makes clear that it is in the period prior to 1930 that the enclave status of a country was determined.

the size of the government. However, there does seem to be some preliminary evidence that countries that were enclaves have greater state capacity than non-enclaves and have been less democratic in the post-WWII period.

Measuring Enclaves

The most basic issue is first to distinguish between enclave and non-enclave economies. For Latin America, one can make inferences about this from the discussion in Cardoso and Faletto's book, though they never discuss the data that would allow one to decide whether or not a country is or is not an enclave. The discussion in the book suggests that the enclave economies are Mexico, Venezuela, Bolivia, Chile, Peru, and Central America. With respect to Central America, Cardoso and Faletto only explicitly mention El Salvador and Guatemala, but the thrust of their discussion suggests that they regard all the countries of Central America as enclaves, which would make Nicaragua, Honduras, Costa Rica, and Panama enclaves as well. The non-enclave economies are Argentina, Brazil, Uruguay, and Colombia. This leaves another group of countries, specifically, Paraguay, Ecuador, Dominican Republic, and Cuba, as unclassified.

   The first task is to decide if this categorization is a reasonable one. Though the specific criterion that made Cardoso and Faletto decide that Colombia was not an enclave economy while Guatemala was is not provided, the natural approach would be to examine the ownership of the export sector. Cardoso and Faletto connect enclave status with "control" of the export sector, and it is not completely clear what this means, but the discussion of the cases suggests that control actually means ownership.[4] Table 1 uses data from Bulmer-Thomas (2003) and Mitchell (2003a) and records for the countries of Latin America the proportion of exports made up by the two largest exports in 1913. We focus on this date because it is representative of the period 1850–1930 which Cardoso and Faletto argue determines whether nor not a country becomes an enclave, and it is sufficiently long ago in time to be accepted as pre-determined in any regressions on present-day outcomes. We have added two columns indicating whether or not they regard these economies as enclaves and whether we do so.

   The approach of the book, and that which we have taken in Table 1, treats enclaves as dichotomous. Either a country was or was not an enclave in 1913. Our coding in Table 1 is based on the ownership of the main export. If the main export is owned by foreigners, then the country is an enclave, otherwise, it is not. This is not the only potential way of coding this. An alternative

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[4]There seem to be many interpretations in the literature about what "control" means. Many argue that what Cardoso and Faletto "really meant" was linkages in the sense of Hirschman (1958). Yet this word is not mentioned in the book, despite the fact that Hirschman's work was well known by the time the first version was written, and we do not find the arguments in the book closely linked to the notion of linkages.

Table 1 Defining enclaves: Latin America

Country	Export commodity concentration ratios, circa 1913					
	First product	Percentage	Second product	Percentage	Cardoso & Faletto enclave	Conning & Robinson enclave
Argentina	Maize	22.5	Wheat	20.7	No	No
Bolivia	Tin	72.3	Silver	4.3	Yes	No
Brazil	Coffee	62.3	Rubber	15.9	No	No
Chile	Nitrates	71.3	Copper	7.0	Yes	Yes
Colombia	Coffee	37.2	Gold	20.4	No	No
Costa Rica	Bananas	50.9	Coffee	35.2	Yes	Yes
Dominican Republic	Cacao	39.2	Sugar	34.8	?	No
Ecuador	Cacao	64.1	Coffee	5.4	?	No
El Salvador	Coffee	79.6	Precious metals	15.9	Yes	No
Guatemala	Coffee	84.8	Bananas	5.7	Yes	No
Haiti	Coffee	64.0	Cacao	6.8	?	No
Honduras	Bananas	50.1	Precious metals	25.9	Yes	Yes
Mexico	Silver	30.3	Copper	10.3	Yes	Yes
Nicaragua	Coffee	64.9	Precious metals	13.8	Yes	No
Panama	Bananas	65.0	Coconuts	7.0	Yes	Yes
Paraguay	Yerba mate	32.1	Tobacco	15.8	?	No
Peru	Copper	22.0	Sugar	15.4	Yes	Yes
Uruguay	Wool	42.0	Meat	24.0	No	No
Venezuela	Coffee	52.0	Cacao	21.4	Yes	No

would be to code the economy as an enclave if foreigners owned 50% or more of exports. For Latin America this coding would more or less coincide with the initial one. More interesting would be to code a more continuous measure of "enclaveness" which would be the proportion of exports controlled by foreigners. Unfortunately, at the moment we do not have the data necessary for this.

There are a number of disagreements between our classification and theirs. Consider Bolivia. This is clearly discussed as an enclave economy in the book (pp. 109–110) during a period when exports were dominated by tin. Yet the tin mines were not owned by foreigners but were, in fact, dominated by three large Bolivian entrepreneurs. The most important was Simon Patiño. He began his investments in tin in 1894 in Oruro, and by 1905, his La Salvadora mine was the richest in Bolivia. Though by the 1920s he lived mostly abroad, it seems most reasonable to think of Patiño as a Bolivian, not a foreigner. The other two dominant groups were the old silver mining Aramayo family and Mauricio Hochschild, a European Jew who nevertheless became a resident in Bolivia; indeed, Klein (1991, p. 166) comments

> Thus by the 1930s, the big three miners who dominated tin production ... were based primarily in Bolivia, or, like the Patiño companies, wholly owned by Bolivian nationals ... such national control was truly an unusual development in the history of Latin American mining.

Klein at least associates ownership with control. Based on this information, for our empirical work, we do not code Bolivia as an enclave. We also disagree on Venezuela. Though it is probable that Cardoso and Faletto have the oil industry in mind when they code Venezuela as an enclave, in fact, oil was marginal in national output and exports until the 1930s. In 1922, it represented only 8% of exports, rising to 80% by the end of the decade. However, if one expands the determination of the enclave economy to be the period 1850 to 1930, as the book suggests, then it seems more likely that it was other parts of the export sector that determined the nature of Venezuelan society. In fact, as Table 1 records, coffee was by far the largest export in this period and coffee farms were owned by Venezuelans, not foreigners (Roseberry 1983; Yarrington 1997).

Perhaps one could argue that the arrival of foreign-owned oil as the dominant export commodity changed Venezuela from non-enclave to enclave status. But if this is the case, then the whole distinction seems highly problematic. For example, if this is true, then why cannot the nationalization of the Mexican oil industry in 1938 de-enclave Mexico? It seems that the usefulness of the concept of enclave is that once a society has formed as an enclave, then this has subsequent implications such that, even if ownership patterns change later on, this would not have the same implications as if ownership patterns had been different initially. This is the whole point of path-dependent analysis. We therefore think it is more in the spirit of the analysis to code Venezuela as not being an enclave.

A final area of disagreement is Central America. The two countries which are discussed in more depth are Guatemala and El Salvador. Yet, as Table 1 shows, in fact, exports were dominated by coffee in this early period. In 1913, bananas, grown and exported by the United Fruit Company, comprised only 5% of Guatemalan exports. It seems incorrect then to label Guatemala as an enclave, and indeed, not withstanding the role played by United Fruit in the infamous coup in 1954 against the Arbenz government, the literature on Guatemalan politics and development points to the pivotal role of the coffee elite, not foreign interests (Williams 1994; Paige 1997). The case of El Salvador is even clearer. Thus, we code these countries as non-enclaves. It is interesting that even though we follow our rule of coding Costa Rica as an enclave, the literature on Costa Rican development similarly emphasizes the organization of coffee production and the coffee elite, not the United Fruit Company (see for example Winson 1989, or Paige 1997).

Other Latin American countries which are not clearly discussed in Cardoso and Faletto, such as Paraguay and Ecuador, are easily coded as non-enclaves. For instance, though subsequently bananas became important in Ecuador, cacao and coffee dominated the 1850–1930 period and were grown by Ecuadoreans.

Though the concept of an enclave economy was developed in the Latin American context, there seems to be no reason why it should be limited to that continent. Indeed, the whole idea seems to be quite generally applicable to developing countries, and notions of dependency have been widely applied

elsewhere, for example, in Africa by Rodney (1974). We therefore extend our definition of an enclave economy to encompass all of the countries which were former European colonies and which were included in the database of Acemoglu, Johnson and Robinson (2001). This means that we exclude countries such as Japan, Korea, Thailand, and Liberia, which were not colonies, and there are others for which we do not have data. Table 2 presents the analogous information to Table 1 for a sample of these other countries for two periods of time. The first is 1900–1913, which is the period on which we focused for Latin America. Nevertheless, since most of the countries in the rest of our sample were still colonies during this period, one might imagine that the creation of an enclave-like situation in a colony would have different implications. Indeed, Cardoso and Faletto explicitly say they do not deal with colonies (p. xxiv) because these would be qualitatively different situations. In consequence, we also examine the major exports in the first 10 years after independence. Thus, we can define enclave status in two periods based on the ownership of the dominant export.

It is useful to discuss the coding lying behind Table 2. We code Algeria as an enclave both in 1900–1913 and after independence. During the first period, Algeria was a French colony and the main exports were wine and vine products (must) primarily produced on French owned estates. The presence of settlers in Algeria illustrates a difficulty with coding enclaves. Most of these French people of course left Algeria during the Civil War in the 1950s or afterwards. However, they also thought of themselves as Algerians, just as most of the British settlers in Rhodesia thought of themselves as Rhodesians, and subsequently Zimbabweans. We code Algeria 1900–1913 as an enclave because these French settlers were evicted subsequently. But why not then treat settlement in the USA as creating an enclave? The main difference at some level is that the indigenous peoples of the USA died or were eliminated while those in Algeria or Zimbabwe were not. This suggests that there may be problems with omitted variables in coding enclaves in this way. After independence, oil dominated Algerian exports; these were nationalized in 1971, but since the oilfields were foreign-owned for the first decade of independence, we code Algeria as still being an enclave after independence.

It is interesting to compare Algeria to Angola. Both were enclaves in the colonial period, with the majority of Angolan exports being agricultural products grown on Portuguese plantations (Clarence-Smith 1979). Again, the caveat applies that many of these Portuguese descendants who left Angola after independence might have stayed on in different circumstances. However, Angola nationalized its oil industry much earlier than Algeria did; hence, we code Angola as not being an enclave after independence.

Another complicated case is Ghana. Mitchell's (2003b) data for Ghana are highly incomplete, but Szereszewski (1965) provides a detailed breakdown of exports for 1901 and 1911. This is a period of transition from exports being dominated by gold, a British controlled sector to cocoa, an indigenously controlled sector (Hill 1963). In 1901, Ghana was an enclave, and in 1911, it was not. We coded it as not an enclave, but perhaps with reservations. This

Table 2 Defining enclaves: other former European colonies

Country	Export commodity concentration ratios, average 1900–1913					Export commodity concentration ratios, average 10 years after independence				
	First product	Percentage	Second product	Percentage	Conning & Robinson enclave	First product	Percentage	Second product	Percentage	Conning & Robinson enclave
Algeria	Must & Wine	33.0			Yes	Petroleum & Products	67.9	Must & Wine	12.6	Yes
Angola	Rubber	20.0	Coffee	14.8	Yes	Petroleum & Products	63.4	Coffee	11.2	No
Australia	Wool	45.6	Wheat	10.0	No					No
Egypt	Cotton	80.1			No	Cotton	81.3			No
Ethiopia	Animal hides	31.0	Honey	25.2	No					
Ghana	Cocoa	46.0	Gold	30.3	No	Cocoa	62.2			No
India	Cotton and Manufactures	19.9	Jute and Manufactures	17.6	No	Jute and Manufactures	21.8	Tea	16.5	No
Indonesia	Sugar	29.7	Tobacco	12.9	Yes	Rubber	33.4	Tin	9.2	No
Kenya	Cotton	23.4	Coffee	1.5	Yes	Coffee	18.4	Tea	10.0	No
Malaysia	Tin	74.8	Rubber	10.9	Yes	Rubber	53.0	Tin	21.0	Yes
Niger	Groundnuts	75.0			No	Uranium	80.0			Yes
South Africa	Gold	43.4	Diamonds	21.7	No					
Trinidad and Tobago	Bananas	50.0	Sugar	16.9	Yes	Petroleum & Products	75.1	Sugar	5.6	Yes
Zaire	Rubber	78.6	Ivory	12.9	Yes	Copper	61.0	Coffee	4.6	Yes

case, and others like it with peasant-dominated crops, brings up an issue with the use of the word "control." Though the cocoa farmers of Ghana were very entrepreneurial and actually raised their own money to build bridges and roads to transport their crops to Accra and markets, ultimately the crops were sold to British intermediaries, eventually brought together into the infamous cocoa marketing board. If Africans grew the export crops but the British were monopoly purchasers of the crop was the export "controlled"? This is an issue which severely needs to be clarified if the notion of an enclave is to be more generally applicable.[5] Even in the Latin American context, given the extent to the "informal empire" in the 19th century and the large involvement of European, particularly British (e.g., Platt 1977), and US intermediaries in international trade networks, much more precision in the concept would be desirable. We decided to follow our rule to code a country as not an enclave if production was controlled by domestic citizens. Thus, Niger, which primarily exported groundnuts during the colonial period, was not an enclave in 1900–1913. After independence, however, its economy became dominated by Uranium, which was dominated by French interests (Baier 1980). Hence, after independence, Niger became an enclave.

Finally, we note that some of the countries in Table 2 only have one entry, for, instance, Ethiopia, which exported a variety of products 1900–1913 (Pankhurst 1968, Chapter 9). Though Ethiopia was subsequently colonized by the Italians, this had little impact on the structure of exports, and we abstracted from this. We also only used one number for South Africa and Australia.

Other Data

We use a variety of other data. Most important are the dependent variables, which we use to compare the long-run differences between enclave and non-enclave economies. The most important dependent variable is GDP per-capita in 2000, taken from the Heston and Summer dataset version 6.1, which we use to measure long-run development (Heston, Summers and Aten 2002). We also examine inequality as measured by the Gini coefficient. The basic source of much internationally comparable data on income distribution is the World Bank's Deininger and Squire dataset. We use the more up-to-date WIDER inequality database version 2.0, which builds on the high-quality measures taken from Deininger and Squire, updating it and extending the number of countries included. WIDER codes the quality of the data as ranging from 1, the high quality generating the most comparable results, to 4, worst quality

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[5]See Hojman (1983) for a further and more critical exposition of the theoretical and empirical difficulties of defining and measuring enclave status.

of dubious use in comparing across countries.[6] We take the most recent observation from this database, which is either 1 or 2.[7]

Though political outcomes do not feature very heavily in Cardoso and Faletto, it seems very natural to investigate whether or not the political development of enclaves differs from that of non-enclaves. With this in mind, we use the Polity IV index averaged over the period 1960–2000 normalized to be between 0 and 1 (from Acemoglu, Johnson, Robinson and Yared 2008). Finally, we look at the size of the government measured by total government expenditures as a percent of GDP over the period 1981 to 2000. These data come from the International Monetary Fund's Government Financial Statistics database.

We also use a variety of other institutional and outcome variables. On the institutional front, an explicit claim in Cardoso and Faletto is that enclave economies were more likely to end up with developmental states. We can test this hypothesis if we can measure the extent to which the state is developmental. One strategy is to use the data collected by Evans and Rauch (1999, 2000), who conducted a survey of experts to collect information of the structure of the bureaucracy in 35 countries. This project was an attempt to measure the extent to which the bureaucracy was "meritocratic." The variable was constructed by averaging the replies to the following two questions: (Evans and Rauch 2000, pp. 55–56) "Approximately what proportion of the higher officials in these agencies enter the civil service via a formal examination system?" and "Of those that do not enter via examinations, what proportion have university or post-graduate degrees?" They also constructed an index of how "Weberian" the state is by using information from 10 different questions.

An alternative is to use some of the measures of "governance" that have been collected by the World Bank. For the past decade or so, the World Bank has been collecting information on many institutional variables that are closely related to different notions of governance. These are (1) voice and accountability, (2) political stability and absence of violence, (3) government effectiveness, (4) regulatory quality, (5) rule of law, and (6) control of corruption. For instance, the World Bank defines government effectiveness as "the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to

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[6]The quality grades are determined as follows. One for observations (a) where the underlying concepts are known and (b) where the quality of the income concept and the survey can be judged as sufficient according to the criteria described above. Two for observations where the quality of either the income concept or the survey is problematic or unknown or we have not been able to verify the estimates (the sources were not available to us); the country information. For further details, see http://62.237.131.23/wiid/WIID2c.pdf.

[7]For a couple of countries in Sub-Saharan Africa, there is no observation that is rated either 1 or 2. In this case, we took the most recent observation available. The results we report are robust to dropping these observations.

such policies." Regulatory quality is defined as "the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development." Rule of law is defined as "the extent to which agents have confidence in and abide by the rules of society, and in particular of contract enforcement, the policy, and the courts, as well as the likelihood of crime and violence." Finally, control of corruption is "the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the state by elites and private interests" (World Bank 2006, pp. 2–3). These indices are constructed by unobserved components from 31 different datasets collected by 25 different entities (see World Bank 2006, p. 17). Some of these datasets are surveys, while some of them represent the perceptions of experts in different areas.

Empirical Results

We now examine the empirical evidence. Table 3 presents some basic comparisons between enclave and non-enclave economies. Here, the idea is to compare the means of different outcome variables and see if they differ significantly between enclaves and non-enclaves. We do this with two basic samples. The first is the entire sample of former European colonies from Acemoglu, Johnson and Robinson (2001, 2002). The use of this sample as our base sample is motivated by our desire to examine the extent to which the enclave distinction adds explanatory power to existing accounts of comparative development. The empirical strategy of Acemoglu, Johnson, and Robinson is an attractive jumping-off point for this exercise. We also just examine Latin American countries, since it was the study of Latin America that first gave rise to this distinction. The first two sets of columns are differentiated by the coding of enclave. In the first three columns, we determine whether or not a country is an enclave by just using information for the period 1900–1913 and ignoring whether or not the country was independent. In the next three columns, however, we instead change the coding of countries that were colonies in this earlier period and instead determine their enclave status by whether or not they were an enclave in the first 10 years after independence.

Several things stand out from Table 3. First, no matter how you cut it, there do not seem to be significant differences in income per-capita, inequality, or the size of government between enclaves and non-enclaves. There are some interesting differences, however. In particular, using the first definition, enclaves seem to be significantly less democratic than non-enclaves. We examine this in more detail in Fig. 1, where we plot the annual data for these two sets of countries between 1950 and 2000. This clearly shows that enclaves are less democratic according to this definition. Nevertheless, this finding is actually, if anything, reversed with the second coding for enclave. In columns 4–6, we now find that enclaves are more democratic, although the difference is not statistically significant. Finally, there is no significant difference within

Table 3 Comparison means whole sample

	First definition of enclave economy			Second definition of enclave economy			Latin America		
	Enclave	Non-enclave	t-test	Enclave	Non-enclave	t-test	Enclave	Non-enclave	t-test
Income per-capita 2000	7.97	8.3	1.19	8.28	8.09	-0.66	8.6	8.5	-0.34
Inequality	46.12	44.12	-0.86	47.55	44.25	-1.21	50.88	51.34	0.21
Democracy	0.41	0.54	1.88	0.53	0.46	-0.89	0.63	0.6	-0.26
Government expenditures as % of GDP	0.26	0.26	-0.09	0.24	0.27	1.12	0.22	0.25	0.91
Government effectiveness for 1998	-0.22	-0.09	0.55	-0.12	-0.17	-0.17	0.35	-0.29	-2.04
Regulatory quality for 1998	0.03	0.21	0.92	0.11	0.13	0.05	0.79	0.47	-1.96
Rule of law for 1998	-0.38	-0.18	0.89	-0.27	-0.28	-0.02	0.02	-0.47	-1.15
Control of corruption for 1998	-0.37	-0.17	0.87	-0.23	-0.28	-0.21	0.05	-0.52	-1.49
Webscale (Evans and Rauch)	7.27	6.37	-0.7	8.69	6.01	-2.04	6.88	4.77	-1.49
Merit (Evans and Rauch)	0.58	0.42	-1.71	0.6	0.46	-1.3	0.48	0.37	-1.56

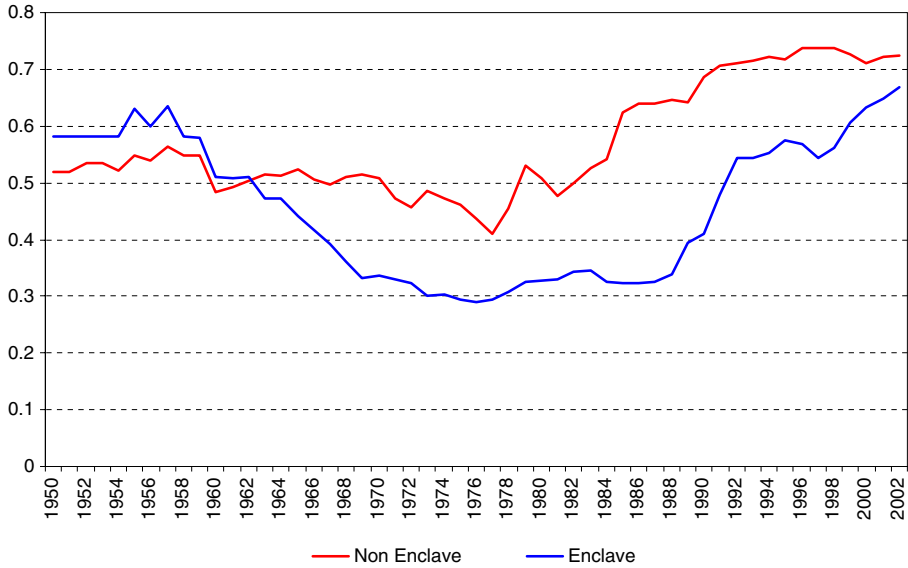**Fig. 1** Enclaves and democracy (normalized Polity score—full sample first definition of enclave)

Latin America, something which is evident from Fig. 2, which plots the Latin American data over the same period.

The final thing that stands out in Table 3 is that, particularly within Latin America, enclaves had better governance than non-enclaves. There is also
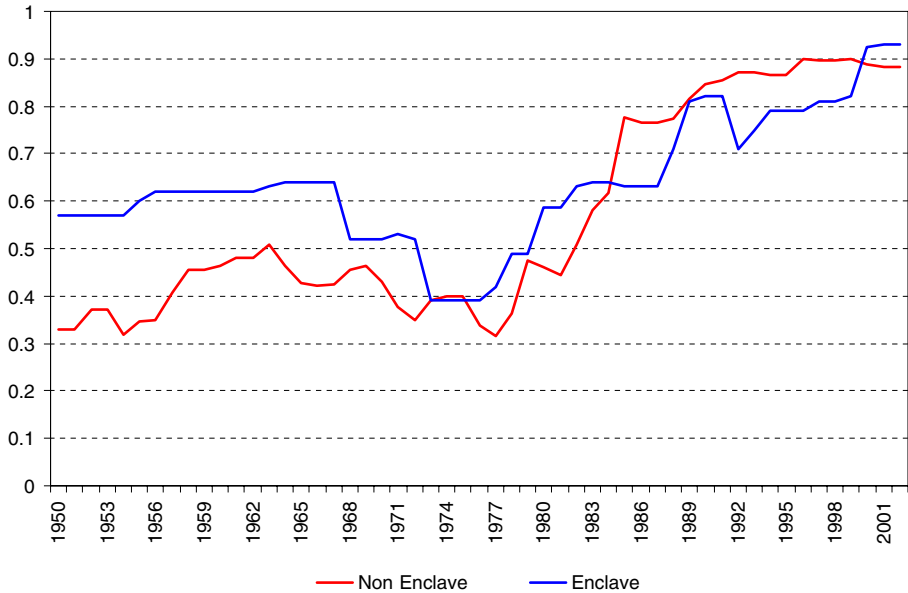

Fig. 2 Enclaves and democracy (polity score) in Latin America

more general evidence that, using the measures of Evans and Rauch, enclaves have greater state capacity, which is in fact directly consistent with the claims made in Cardoso and Faletto's book.

We now move to examine the impact of enclave status using a linear regression framework. The basic model, which is adopted from Acemoglu, Johnson and Robinson (2001), is a two-stage least squares model using only cross-sectional variation. The first stage of the model is of the form:

$$I_i = \beta_1 D_i + \gamma M_i + \mathbf{x}_i'\theta_1 + \epsilon_i \qquad (1)$$

In Eq. 1, I_i is a measure of economic institutions in country i, specifically a proxy for the security of property rights, which, following Acemoglu, Johnson and Robinson (2001), we measure as the average of the absence of expropriation risk over the period 1985–1995. D_i is a dummy variable that indicates the enclave status of country i, $D_i = 1$ if country i is an enclave, and $D_i = 0$ otherwise. Here, the coefficient β_1 captures the impact of enclave status on the economic institutions of country i, and thus, we can ask directly if enclaves are an important source of variation in institutions. M_i is the logarithm of historical settler mortality from Acemoglu, Johnson and Robinson (2001) and is being used as an instrument for the protection of property rights. The vector $\mathbf{x}_i'$ contains other covariates and control variables and includes a constant and ϵ_i is an error term that is assumed to have the usual properties. It should be emphasized that we treat D_i as econometrically exogenous in estimating Eq. 1.[8]

The second stage equation has the form

$$y_i = \beta_2 D_i + \alpha \hat{I}_i + \mathbf{x}_i'\theta_2 + \upsilon_i, \qquad (2)$$

where y_i is the dependent variable of interest, which could be income per-capita in 2000, inequality, some measure of democracy, or the size of the government. Now, $\hat{I}_i$ is that component of institutions predicted by historical settler mortality and α is the causal effect of institutions on dependent variable y_i. Now, the coefficient β_2 captures the direct effect of enclave status on y_i (β_1 captures the indirect effect working through institutions). As before, $\mathbf{x}_i'$ is the

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[8]It is not ideal to treat enclave status as exogenous since there may be omitted variables that influence whether or not a country becomes an enclave and are correlated with institutions. If this is so, then the estimated coefficient on the enclave variable will be biased. Ideally, we would also like to have an instrument for D_i and estimate a model with two first stages along the lines of Acemoglu and Johnson (2005). There are several potential candidates for such an instrument. Though Cardoso and Faletto do not dwell on why a country is or is not an enclave, their discussion suggests that the presence of a mining sector made a country more likely to be an enclave, and also, small countries were more likely to be enclaves, other things equal. Unfortunately, the presence of mines is not a satisfactory instrument for enclaves since it would not be excludable from the second stage. We did experiment with country size, which is negatively correlated with the propensity to be an enclave. Unfortunately, however, we did not find robust results using this strategy and, thus, do not report results using it here.

vector of covariates and υ_i is the error term. Here, the key exclusion restriction is that historical settler mortality does not determine income per-capita except via its impact on institutions.

Table 4 reports some basic estimations of Eqs. 1 and 2, where the explanatory variable is long-run growth or income per-capita in 2000. The table is again divided into three sets of columns, as was Table 3. The first three columns use our first definition of enclave, ignoring colonial status in 1900–1913, the second three columns use our second definition, and the last three look only at Latin America. Panel B of the table shows the first-stage regressions (Eq. 1), while panel A shows estimations of Eq. 2.

Panel B column 1 is the most parsimonious version of Eq. 1, where we control for the logarithm of settler mortality, population density in 1500, and the enclave dummy. This regression shows that greater historical settler mortality is associated with significantly lower security of property rights, as is population density. However, the enclave variable is completely insignificant, suggesting that, conditional on settler mortality and population density, being an enclave does not have a significant impact on long-run property rights. Looking across the rows here, one can see that this is a robust message of all of the different specifications of the first stage. Panel A column 1 then looks at the impact of institutions on GDP per-capita in 2000, where institutions are instrumented by settler mortality. We reproduce here the basic result of Acemoglu, Johnson and Robinson (2001) that greater security of property rights is significantly associated with greater income per-capita, but with the first definition of enclave, there is no significant direct effect of enclave status on long-run growth.

Columns 2 and 3 then add a variety of different covariates. In column 2, we add continent dummies so as to only examine variation within continents. We also add latitude. The qualitative results stay the same, though the significance of settler mortality in the first stage is reduced, as are institutions in the second stage. Column 3 then adds dummies for the identity of the colonizing power ("colonial origins") and also ethnolinguistic fragmentation. The basic results are again quite similar, and there is no evidence that being an enclave has a significant effect either on economic institutions or on income per-capita in 2000.

Columns 4–6 then re-estimate the same regressions using the second definition of an enclave. The results are very similar to those in the first three columns except that there is now some evidence that the enclave variable has some explanatory power in the second stage. For example, enclave is statistically significant in column 4. Nevertheless, it enters with a positive sign, suggesting that, other things equal, enclaves have higher income per-capita than non-enclaves. The enclave dummy now does have a negative sign in the first stage, but it is never close to being statistically significant.

Finally, we look at the Latin American data. There is relatively little variation in settler mortality within Latin America, and with only 17 data points, it is not surprising that significance levels fall. The enclave variable is insignificant in both the first and second stages.

Table 4 IV regression of income per-capita 2000

	First definition of enclave economy			Second definition of enclave economy			Latin America		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Two-stage least square									
Institutions	1.072	1.298	1.047	1.037	1.202	1.049	0.890	1.323	0.691
	(0.329)	(0.855)	(0.425)	(0.301)	(0.763)	(0.424)	(0.783)	(1.352)	(0.449)
Enclave dummy	0.119	0.106	0.015	0.566	0.491	0.323	−0.273	−0.894	−0.091
	(0.324)	(0.380)	(0.269)	(0.277)	(0.346)	(0.264)	(0.871)	(1.608)	(0.531)
Population density in 1500	0.015	0.148	0.074	0.000	0.122	0.069	0.105	0.564	−0.013
	(0.128)	(0.244)	(0.172)	(0.122)	(0.219)	(0.170)	(0.537)	(1.031)	(0.333)
Latitude		−0.849			−0.300			3.906	
		(2.533)			(2.169)			(4.248)	
Ethnolinguistic fragmentation			−0.456			−0.375			0.342
			(0.529)			(0.555)			(0.686)
Continental dummies	No	Yes	No	No	Yes	No			
Colonial origins	No	No	Yes	No	No	Yes			
Panel B: First stage for institutions									
Settler mortality	−0.505	−0.348	−0.432	−0.504	−0.357	−0.426	−0.659	−0.526	−1.456
	(0.140)	(0.203)	(0.166)	(0.135)	(0.203)	(0.165)	(1.053)	(1.093)	(1.125)
Enclave dummy	0.043	0.087	0.101	−0.353	−0.205	−0.193	0.653	0.811	0.337
	(0.338)	(0.344)	(0.344)	(0.357)	(0.377)	(0.356)	(0.562)	(0.618)	(0.572)
Population density in 1500	−0.207	−0.219	−0.284	−0.197	−0.214	−0.276	−0.450	−0.573	−0.279
	(0.105)	(0.135)	(0.108)	(0.103)	(0.135)	(0.107)	(0.255)	(0.317)	(0.267)
Latitude		1.447			1.206			−1.825	
		(1.445)			(1.475)			(2.665)	
Ethnolinguistic fragmentation			−0.151			−0.207			−2.066
			(0.656)			(0.660)			(1.337)
Continental dummies	No	Yes	No	No	Yes	No			
Colonial origins	No	No	Yes	No	No	Yes			
Number of observations	52	52	52	52	52	52	17	17	17
R squared	0.348	0.399	0.478	0.361	0.403	0.480	0.301	0.328	0.417

Table 5 IV regressions of inequality

	First definition of enclave economy			Second definition of enclave economy			Latin America		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Two-stage least square									
Institutions	−1.890	5.525	−1.581	−2.187	5.444	−1.808	3.248	2.529	2.023
	(2.071)	(4.266)	(2.670)	(2.064)	(4.313)	(2.669)	(5.128)	(6.165)	(2.407)
Enclave dummy	0.049	0.129	3.101	2.870	0.759	2.530	−3.763	−2.730	−2.641
	(1.848)	(2.824)	(1.964)	(1.949)	(3.145)	(1.985)	(5.304)	(7.401)	(3.332)
Population density in 1500	−1.957	0.436	−1.154	−2.003	0.392	−1.194	2.515	1.752	1.791
	(0.875)	(1.289)	(1.036)	(0.847)	(1.300)	(1.044)	(2.811)	(4.361)	(1.596)
Latitude		−41.424			−40.848			−6.492	
		(14.352)			(14.616)			(19.112)	
Ethnolinguistic fragmentation			3.978			4.329			2.099
			(4.619)			(4.624)			(4.887)
Panel B: First stage for institutions									
Settler mortality	−0.537	−0.428	−0.469	−0.535	−0.426	−0.460	−0.658	−0.526	−1.453
	(0.135)	(0.202)	(0.165)	(0.131)	(0.202)	(0.164)	(1.053)	(1.093)	(1.125)
Enclave dummy	0.007	0.129	0.048	−0.232	−0.101	−0.105	0.653	0.811	0.337
	(0.330)	(0.342)	(0.329)	(0.369)	(0.384)	(0.368)	(0.562)	(0.618)	(0.572)
Population density in 1500	−0.164	−0.235	−0.210	−0.159	−0.228	−0.207	−0.449	−0.573	−0.279
	(0.097)	(0.137)	(0.100)	(0.096)	(0.137)	(0.100)	(0.255)	(0.317)	(0.267)
Latitude		1.310			1.200			−1.825	
		(1.499)			(1.519)			(2.665)	
Ethnolinguistic fragmentation			0.023			−0.004			−2.066
			(0.656)			(0.661)			(1.337)
Number of observations	52	52	52	52	52	52	17	17	17
R squared	0.337	0.418	0.455	0.342	0.417	0.456	0.301	0.328	0.417

Table 6 IV regressions of democracy

	First definition of enclave economy			Second definition of enclave economy			Latin America		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Two-stage least square									
Institutions	0.190 (0.064)	0.108 (0.107)	0.048 (0.058)	0.216 (0.066)	0.102 (0.117)	0.053 (0.060)	0.243 (0.191)	0.154 (0.313)	0.279 (0.147)
Enclave dummy	−0.121 (0.073)	−0.058 (0.076)	−0.026 (0.058)	0.065 (0.099)	0.068 (0.075)	0.038 (0.065)	−0.157 (0.227)	−0.029 (0.339)	−0.190 (0.207)
Population density in 1500	0.005 (0.031)	0.018 (0.043)	−0.034 (0.029)	0.009 (0.032)	0.018 (0.045)	−0.033 (0.029)	0.120 (0.131)	0.026 (0.253)	0.141 (0.116)
Latitude		−0.092 (0.284)			0.036 (0.290)			−0.801 (1.199)	
Ethnolinguistic fragmentation			−0.203 (0.106)			−0.203 (0.099)			−0.063 (0.287)
Continental dummies	No	Yes	No	No	Yes	No			
Colonial origins	No	No	Yes	No	No	Yes			
Panel B: First stage for institutions									
Settler mortality	−0.520 (0.144)	−0.406 (0.200)	−0.449 (0.178)	−0.489 (0.141)	−0.384 (0.204)	−0.434 (0.178)	−0.659 (1.053)	−0.526 (1.093)	−1.453 (1.125)
Enclave dummy	0.297 (0.331)	0.349 (0.343)	0.315 (0.335)	0.024 (0.365)	0.093 (0.381)	0.130 (0.367)	0.653 (0.562)	0.811 (0.618)	0.337 (0.572)
Population density in 1500	−0.235 (0.103)	−0.327 (0.123)	−0.294 (0.107)	−0.232 (0.104)	−0.336 (0.124)	−0.291 (0.108)	−0.450 (0.255)	−0.573 (0.317)	−0.279 (0.267)
Latitude		1.009 (1.437)			0.872 (1.500)			−1.825 (2.665)	
Ethnolinguistic fragmentation	(0.664)		0.227	(0.669)		0.265	(1.337)		−2.066
Continental dummies	No	Yes	No	No	Yes	No			
Colonial origins	No	No	Yes	No	No	Yes			
Number of observations	61	60	61	61	60	61	17	17	17
R squared	0.320	0.405	0.410	0.311	0.394	0.401	0.301	0.328	0.417

Table 7 IV regressions of government expenditure as % of GDP

	First definition of enclave economy			Second definition of enclave economy			Latin America		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Two-stage least square									
Institutions	0.043	0.047	0.018	0.040	0.046	0.009	−0.026	−0.051	−0.007
	(0.018)	(0.028)	(0.018)	(0.016)	(0.029)	(0.019)	(0.067)	(0.089)	(0.050)
Enclave dummy	0.012	−0.002	0.024	−0.016	0.011	−0.025	0.014	0.056	−0.007
	(0.029)	(0.022)	(0.027)	(0.023)	(0.021)	(0.023)	(0.073)	(0.130)	(0.049)
Population density in 1500	0.008	0.013	0.004	0.008	0.013	0.001	−0.027	−0.052	−0.017
	(0.009)	(0.011)	(0.011)	(0.010)	(0.012)	(0.012)	(0.034)	(0.068)	(0.023)
Latitude		0.030			0.045			−0.208	
		(0.093)			(0.087)			(0.370)	
Ethnolinguistic fragmentation			−0.040			−0.045			−0.053
			(0.043)			(0.044)			(0.134)
Continental dummies	No	Yes	No	No	Yes	No			
Colonial origins	No	No	Yes	No	No	Yes			
Panel B: First stage for institutions									
Settler mortality	−0.064	−0.047	−0.450	−0.570	−0.378	−0.420	0.780	−0.694	−1.505
	(0.143)	(0.207)	(0.187)	(0.137)	(0.208)	(0.186)	(0.578)	(1.057)	(1.020)
Enclave dummy	0.277	0.367	0.256	−0.063	−0.005	−0.074	0.780	0.977	0.577
	(0.348)	(0.371)	(0.351)	(0.393)	(0.422)	(0.400)	(0.578)	(0.655)	(0.557)
Population density in 1500	−0.194	−0.273	−0.242	−0.193	−0.283	−0.243	−0.356	−0.489	−0.229
	(0.099)	(0.127)	(0.104)	(0.100)	(0.128)	(0.105)	(0.247)	(0.316)	(0.245)
Latitude		1.465			1.224			−1.753	
		(1.488)			(1.560)			(2.497)	
Ethnolinguistic fragmentation			−0.097			−0.098			−1.972
			(0.704)			(0.712)			(1.244)
Continental dummies	No	Yes	No	No	Yes	No			
Colonial origins	No	No	Yes	No	No	Yes			
Number of observations	56	54	56	56	54	56	15	15	15
R squared	0.359	0.441	0.444	0.352	0.429	0.438	0.367	0.397	0.494

   Overall, the results in Table 4 are not consistent with the view that the distinction between enclave and non-enclave has explanatory power either with respect to economic institutions or long-run economic growth.

   Table 5 now reproduces the regressions of Table 4, exactly with the only change being that the dependent variable is now inequality as measured by the Gini coefficient. Except for the fact that the sample sizes change because of data availability, the first stages are identical to those in the previous table. Thus, the main interest is in the effect of enclaves on inequality in the second stage. There is basically no evidence here that enclaves have significantly different levels of inequality than non-enclaves.

   In Table 6, we examine the impact of enclaves on democracy. Though the specification for these regressions is somewhat unlike standard models that try to explain democracy, it is motivated by the findings of Acemoglu, Johnson, Robinson and Yared (2007, 2008) that historical variables are a highly significant predictor of democracy (indeed, conditioning on these historical variables, there is no explanatory power for income per-capita). The first three columns of Table 6 illustrate the simple findings from above, which emerged from the descriptive statistics. There is some evidence here that, other things equal, enclaves are less democratic over the period 1960–2000, and this effect is statistically significant in column 1. In columns 4–6, however, this effect changes sign, though none of the coefficients are significant. Within Latin America, the estimated effects are again negative, but they are not significant.

   Finally, Table 7 shows government spending as a percent of GDP. There is no evidence here that the relative size of the government differs between enclaves and non-enclaves.

Conclusions

In this paper, we have taken some hesitant steps towards incorporating one of the main ideas of dependency theory, the distinction between an enclave and a non-enclave, into the recent economic literature on the determinants of comparative development. There are many intersections between the work of Cardoso and Faletto (1979) and this recent work, and all of it is inspired by a fundamentally political economy perspective that emphasizes institutions as collective choices and the outcome of political conflict. Our focus in this paper, however, was on trying to test empirically whether or not the concept of an enclave can add any explanatory power to the existing empirical work on comparative development. We emphasized that, in practice, there are severe difficulties in determining whether or not a country is an enclave, with the questions of timing and colonial status being particularly crucial. This being the case, we motivated and constructed two different definitions of an enclave and investigated whether or not enclaves seemed to experience different long-run development outcomes. We found several things. First, there seems to be little long-run evidence that enclaves experience different levels of economic growth or inequality or relative size of the government. However, we did show

that there is some evidence that enclaves seem to have greater state capacity, particularly in Latin America, and also that there is some indication that enclaves have been less democratic, though this is not robust to the definition of an enclave. It is possible that the evidence about state capacity explains why enclaves did not grow slower, despite the fact that they might have had disadvantages such as smaller domestic markets or less developed middle classes. The adverse effects of this could have been offset by the different development of the state. Nevertheless, this seems to have come at the cost of less democracy. Still, one should certainly not over-interpret any of this. Our results are very tentative and need much more investigation.

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