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COLONIAL INDEPENDENCE AND ECONOMIC BACKWARDNESS IN LATIN AMERICA*

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Abstract

This paper explores the connections between independence from Spain and Portugal and economic backwardness in Latin America. The release of the fiscal burden was offset by higher costs of self-government, while opening up to the international economy represented a handmaiden of growth. Independence had a very different impact across regions and widened regional disparities. The commitment to the colonial mercantilism conditioned the new republics' performance but, on the whole, GDP per head increased in the half a century after emancipation. It appears that inherited Iberian institutions cannot be blamed for Latin America's poor performance relative to the US, especially if the scope is widened to include the post-independence performance of former European colonies in Africa and Asia. It is suggested that before jumping to the usual negative assessment of nineteenth century Latin America, a comparison of post-independence performance in other world regions will be required.

JEL classification: N16, N46, N66

Key words: *Latin America, independence, colonial burden, backwardness.*

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Independence, that took place between 1808 and 1825, is seen as the most important event in nineteenth-century Latin American economic history[1]. This is partly due to the association established between the long-run consequences of colonial emancipation and the widening gap in living standards between Latin America and the developed countries[2]. Wars of independence led to fragmentation of political power, militarization of society, and mobilization for war of resources and men[3]. Political turmoil did not end with independence. Dispute over national borders and civil wars continued for decades[4]. The break with Spain and Portugal did not bring with it any immediate changes in the existing social and economic structures[5]. Property rights of land and labor did not experience drastic changes after independence[6]. While openness to trade and factor inflows was still restricted. Change, nevertheless, was brought by independence. The end of the *de facto* customs union, the capital flight and the collapse of the colonial fiscal system are stressed among its negative effects on growth, while the end of external trade monopoly and access to international capital markets are highlighted among its positive effects[7]. Moreover, independence was followed by a marked decline in economic activity: *per capita* income did not return to colonial levels until mid-nineteenth century[8]. In the short-run, the economic benefits of independence were small and overcome by its costs, while, in the long-run, the destruction of the colonial institutional order freeing the colonies from Spanish taxation and trade monopoly brought economic benefits including institutional modernization[9].

The purpose of this paper is to assess the empirical evidence on the main consequences of independence across Latin America, resulting from removing the colonial burden (section II), and

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[1] See, for example, Victor Bulmer-Thomas, *The Economic History of Latin America since Independence*, (Cambridge, 1994) and Stephen Haber (ed.), *How Latin America Fell Behind. Essays on the Economic Histories of Brazil and Mexico, 1800-1914* (Stanford, 1997).

[2] Bulmer-Thomas (1994), *Economic History*, 410. John H. Coatsworth, "Notes on the Comparative Economic History of Latin America and the United States", in, *Development and Underdevelopment in America: Contrasts in Economic Growth in North America and Latin America in Historical Perspective*, Walther L. Bernecker and Hans Werner Tobler, eds. (New York, 1993).

[3] Tulio Halperín Donghi, "Economy and Society", in *The Cambridge History of Latin America*, Leslie Bethell, ed., Vol. III, (Cambridge, 1985). Miguel Ángel Centeno, "Blood and Debt: War and Taxation in Nineteenth-Century Latin America", *American Journal of Sociology* 102, 6 (1997), 1572-3, shows that most countries in Latin America suffer major wars in the half a century after independence. Argentina with 10 wars leads the group followed by Brazil (6), Uruguay and Mexico (5), Chile and Peru (4) and Colombia (3).

[4] David S. Landes, *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor?*, (New York, 1998), 313.

[5] Bill Albert, *South America and the World Economy from Independence to 1930*, (London, 1983), 25.

[6] For example, slavery lasted until mid-nineteenth century and in Brazil and Cuba there were still slaves in the 1880s. The fiscal system remained in part: *mita* ended but *tributo* often returned. Debt peonage and forms of *repartimiento* persisted in some regions until the late nineteenth century.

[7] Bulmer-Thomas, *Economic History*, 28-31.

[8] Coatsworth, "Notes on the Comparative Economic History".

[9] John H. Coatsworth, "La independencia latinoamericana: hipótesis sobre los costes y beneficios", in Leandro Prados de la Escosura and Samuel Amaral (eds.), *La independencia americana: consecuencias económicas* (Madrid, 1993), 19.

opening up to the international economy (section III), as well as its aggregate impact on the economy of the new republics (section III), and to contrast them against those grand interpretations that assess post-independence Latin America in the U.S. mirror (section IV). An alternative approach will be proposed: to evaluate post-colonial performance in Latin America in the African and Asian mirrors (section V). Some concluding remarks on the connections between Latin American backwardness and the way independence occurred and suggestions for the research agenda complete the paper.

The paper's main findings can be summarized as follows:

a) Releasing Latin American countries from the fiscal burden of the Imperial system was probably offset by the higher costs of governing themselves,

b) While integrating the Latin American countries into the world economy brought net gains to their economies over the long run, although at the cost of higher internal inequality.

c) The economic conditions after independence in Latin America are more comparable to most countries in Asia in the 1950s and in Africa in the 1960s than to the US in 1776. A more appropriate yardstick for measuring Latin American performance from 1820 to 1870, therefore, is post-colonial Asia and Africa in the late 20th century.

d) On the whole, during the years 1820-70, a relative decline in Latin American GDP per head took place when compared to the U.S. and Western Europe but her relative position remained unaltered when the comparison is with the European Periphery or the Russian Empire and clearly improved to Africa and Asia.

e) In the binary comparison with the USA, only before 1870 and after 1973 Latin America has lagged behind the United States, while it is just after World War II when Latin America underperformed in comparison to other regions of the Periphery.

Assessing the consequences of independence: removing the colonial fiscal burden

The fiscal and trade burden of the empire has been emphasized in the historical literature, in particular, for the case of New Spain (Mexico). The fiscal burden consists of the taxes levied on the indigenous population to maintain the colonial system and it included the *Indies' remittances*, or surpluses of the colonial administration that were sent to Spain. In the 1790's, 5 million pesos were, on average, sent annually to the metropolis[10]. It represented more than half of all the sums sent to

[10] Carlos Marichal, "Beneficios y costes fiscales del colonialismo: las remesas americanas a España, 1760-1814", *Revista de Historia Económica* XV, 3 (1997), 483.

Spain from Latin American colonies[11]. By 1800 residents in Bourbon Mexico paid more taxes than Spaniards in the metropolis and were making, therefore, a significant contribution to the imperial administration[12]. In the only estimate available for the Spanish empire, John Coatsworth reckoned that the fiscal burden represented 4.2 percent of Mexican GDP by 1800[13].

Removing colonial rule eliminated the fiscal burden and, *ceteris paribus*, added to Latin American GDP. However, the net gain of Latin America involved an increase in the costs of administering many, not a single one political unit. Reallocating resources from a big closed economy, the colonial empire, to small and, often, open economies such as the new republics implied a non negligible cost.

The fragmentation of the initial national divisions took place soon after independence. Central America separated from Mexico by 1823, and the Central American Federation only survived until 1838 and led to the creation of five new countries in 1839 (El Salvador, Costa Rica, Honduras, Nicaragua and Guatemala). By 1830 Colombia, comprising Venezuela, Colombia, Panama and Ecuador, broke up into three countries, Venezuela, New Granada (present-day Colombia and Panama) and Ecuador. The Peru-Bolivia union (new republics in 1824 an 1825, respectively) created in 1836, collapsed in 1839. Mexico lost half its territory by 1847. The Viceroyalty of the River Plate became three separate countries: Uruguay (independent in 1828), and Paraguay, and Argentina.

If governments have some fixed costs (administrative, providing services), it is hard to provide them at minimum costs. Hence, despite its alleged inefficiency, colonial administration took advantage from the increasing returns and the economies of scale all large organizations enjoy. A single fiscal system within a monetary and customs union, such as the Spanish empire, represented significant savings compared to multiple national fiscal and monetary units created by colonial independence. Independence produced the demise of the largest monetary union and *Ancien Régime* fiscal structure in

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[11] If "Indies remittances are estimated, on average, in 178 million reales de vellón (8.9 million pesos), cf. Leandro Prados de la Escosura, "La pérdida del imperio y sus consecuencias económicas", in *La independencia americana: consecuencias económicas*, Leandro Prados de la Escosura and Samuel Amaral, eds. (Madrid, 1993), 256-9, 269-70, revised upwards following Marichal, "Beneficios y costes fiscales".

[12] Herbert Klein, "La economía de la Nueva España, 1680-1809: un análisis a partir de las cajas reales", *Historia Mexicana*, 34, 136 (1985), 561-609; Carlos Marichal, *La bancarrota del virreinato. Nueva España y las finanzas del Imperio español, 1780-1810*. (Mexico, 1999), 92. Carlos Marichal and Marcello Carmagnani, "From Colonial Fiscal Regime to Liberal Financial Order, 1750-1912", in *Transferring Wealth and Power from the Old to the New World. Monetary and Fiscal Institutions in the 17th through the 19th Centuries*, Michael D. Bordo and Roberto Cortés-Conde, eds. (Cambridge, 2001), 287. There discrepancies as regards the size of this gap and while Herbert Klein computed it as 70 percent Carlos Marichal thought the difference was 40 percent.

[13] John H. Coatsworth, "Obstacles to Economic Growth in Nineteenth-Century Mexico", *American Historical Review*, 83, 1 (1978), 84-5. A figure significantly higher than that for the Thirteen North American Colonies in the eve of independence.

existence[14]. Monetary disintegration contributed to political fragmentation and reflected in weak national administrations and increasing transaction costs. Separation brought with it clearly negative effects in terms of economic efficiency: commercial links, however weak in colonial times, among regions were no longer guaranteed, costs in defense and law enforcement had to be duplicated, and the coordination in the provision of public goods was more difficult[15].

Each new republic faced the challenge of creating a new fiscal and monetary system and a domestic financial market. Attempts were made at superimposing the United States federalist tax model upon colonial Spanish administrations but the outcomes were rigid and inefficient systems. Customs duties became the backbone of the new fiscal systems, as in post-independent United States[16]. Unlike the U.S., however, most Latin American governments suffered chronic deficits over the first half of the nineteenth century as tax revenues stagnated and military expenses increased. On top of it, fiscal policies were subordinated to military and political *caudillos* at the expense and dilution of tax administration. The fragmentation of monetary regimes and chronic public deficits constituted an obstacle to the emergence of modern financial markets throughout Latin America up to 1850. A vicious cycle emerged in which fiscal weakness led to weak government that led, in turn, to frequent challenges to the elite in power and, as a result, civil strife proliferated.

North, Summerhill and Weingast provide a highly theoretical and persuasive, though untested, explanation for the institutional background to the fiscal and administrative problems faced by the newly independent republics. In the colonial era, political order without incentives for long-term economic growth was the pattern in Latin America. After independence, third-party enforcement of rights and exchange vanished and aggression by a given group was not costly enough to be avoided. As a result widespread turmoil, violence and political instability took place. The lack of stabilizing institutions made impossible to achieve efficient economic organization. Hence, a scramble to preserve colonial protection and privileges or to secure new powers occurred[17]. The break with the metropolis, North and his collaborators argue, destroyed many of the institutions that provided credible commitments to rights and property within the Spanish empire. Creoles gaining political

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[14] Marichal and Carmagnani, "From Colonial Fiscal Regime to Liberal Financial Order", 296. I am drawing on Marichal's part of this paper over the next paragraph.

[15] Cf. a theoretical discussion in Patrick Bolton and Gérard Roland, "The Breakup of Nations: a Political Economy Analysis", *Quarterly Journal of Economics*, 113 (1997), 1057-90.

[16] Customs revenues between 1820 and 1870 represented, on average, a high percentage of current Government revenues: Argentina (86%), Brazil and Peru (69%), Venezuela (64%), Ecuador (59%), Chile (51%), Mexico (37%), Colombia (34%) (Centeno, "Blood and Debt", 1579-81).

[17] Douglass C. North, William R. Summerhill and Barry R. Weingast, "Order, Disorder, and Economic Change: Latin America versus North America", in *Governing for Prosperity*, Bruce Bueno de Mesquita and Hilton L. Root, eds. (New Haven, 2000), 54-55.

power after independence inherited a centralized political system without inheriting critical elements of the formal and informal constraints protecting corporate groups and other elites. As a result, "state-building" failed in the new republics. Stephen Haber and Armando Razo objected, however, that in [post-1910] revolutionary Mexico there was no necessary connection between political instability and the security of property rights[18]. Stable institutions can be impediments for growth when under their rule risk taking is constrained and property rights are not enforced[19].

A detailed and overall assessment for the new independent republics is missing, but available national studies provide some tentative answers. A few testimonies from the post-independence era is as much as it can be used to put this theoretical construction to the test.

In Mexico, a profound fiscal crisis took place in the 1810s under civil war. Destruction of the complex colonial treasury system occurred due to the extraordinary rise in internal military expenditures, a growing tendency to rely on forced loans and the increasing fiscal autonomy of local treasuries[20]. As a result local credit markets became disintegrated. Meanwhile, public internal debt grew by nearly 40 percent between 1823 and 1848, as a result of growing public deficits (that reached up to 40 per cent of total government expenditure). Such a situation was totally new, as there were no deficits under colonial rule. In fact, there were transfers of surplus from one colony to another (*situados*)[21]. Independence led to the abolition of two major sources of income of the colonial administration: the Indian tribute tax (levied on all heads of households in Indian towns) and mining taxes (10 percent duty levied on all silver produced). This reduced potential income of the state by almost 30 percent[22]. Instability paralleled public debt growth leading arguably to crowding out private investment.[23].

Richard and Linda Salvucci proposed to distinguish between the short and long run effects of independence. Short run effects resulted from the civil war of the 1810s that subverted trade, destroyed property and productive assets and absorbed labor causing output to decline by 50 percent. Long run effects included militarism and political turmoil that altered government spending and the composition of

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[18] Stephen Haber and Armando Razo, "Industrial Prosperity under Political Instability: An Analysis of Revolutionary Mexico", in *Governing for Prosperity*, Bruce Bueno de Mesquita and Hilton L. Root, eds. (New Haven, 2000), 106-52.
[19] Bruce Bueno de Mesquita and Hilton L. Root, "When Bad Economics is Good Politics", in *Governing for Prosperity*, Bruce Bueno de Mesquita and Hilton L. Root, eds. (New Haven, 2000), 7.
[20] Carlos Marichal, *De colonia a nación* (México, 2001).
[21] Marichal, *La bancarrota del virreinato*, 48-52.
[22] Marichal and Carmagnani, "From Colonial Fiscal Regime to Liberal Financial Order", 298.
[23] Richard J. Salvucci and Linda K. Salvucci, "Las consecuencias económicas de la independencia mexicana", in *La independencia americana: consecuencias económicas*, Leandro Prados de la Escosura and Samuel Amaral, eds. (Madrid, 1993), 30-53.

expenditure during the 1830s-1840s, but output did not necessarily fall in the short run though it would have affected long-term growth negatively through lower investment.[24].

The other main center of Spanish empire, Peru, points into a similar direction. Independence took place under different circumstances: foreign republican armies defeated royalist elites. As in Mexico, the republican state, under chronic fiscal deficit, increased taxation on mining making its recovery difficult. War destruction of fixed capital, fiscal mismanagement (foreign debt, public expenditure) and default together with political turmoil had a negative impact on the economy. Independence, in the end, did not deliver the conditions for sustained economic growth[25]. Alfonso Quiroz poses the counterfactual proposition that had independence been delayed until 1850 the transition costs might have been lower than those actually suffered in Peru[26].

In another area of large indigenous population, Central America, political instability and war affected the economy, including the destruction of capital, obstacles to trade and transport, and increasing uncertainty for investors, while the government forced loans from merchants[27]. The prolonged transition to private property surely introduced uncertainty that delayed investment in land improvement and increased transaction costs[28].

Chile and Brazil behaved differently. These countries managed to create institutions that protected groups from aggression and expropriation, although they failed to achieve political competition and cooperation among sub-national administrative entities[29]. Colombia, in turn, was successful in improving the colonial tax regime and, by 1850, had a much more fair (head tax on Indians, taxes on public employees and *alcabalas* –a tax on all sales of domestic production- were eliminated), efficient (customs taxes mainly on imports) and neutral fiscal system[30].

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[24] Salvucci and Salvucci, "independencia mexicana", 45-7.
[25] Alfonso W. Quiroz, "Consecuencias económicas y financieras del proceso de la independencia en el Perú, 1800-1850", in *La independencia americana: consecuencias económicas*, Leandro Prados de la Escosura and Samuel Amaral, eds. (Madrid, 1993), 124-146.
[26] Quiroz, "la independencia en el Perú", .146.
[27] Héctor Lindo-Fuentes, "Consecuencias económicas de la independencia en Centroamérica", in *La independencia americana: consecuencias económicas*, Leandro Prados de la Escosura and Samuel Amaral, eds. (Madrid, 1993), 54-79.
[28] The complexity of land institutions inherited from the colonial period should be taken into account, in particular, haciendas, ejidos and communal lands with ill defined borders, and Indian communities that linked communal ownership and group identity.
[29] Marcelo de Paiva Abreu and Luiz A. Corrêa do Lago, "Property Rights and Fiscal Systems in Brazil. Colonial Heritage and the Imperial Period", in *Transferring Wealth and Power from the Old to the New World. Monetary and Fiscal Institutions in the 17th through the 19th Centuries*, Michael D. Bordo and Roberto Cortés-Conde, eds. (Cambridge, 2001), 327-377; North, Summerhill and Weingast, "Order, Disorder", 40.
[30] Jaime Jaramillo Uribe, Adolfo Meisel and Miguel Urrutia, "Continuities and Discontinuities in the Fiscal and Monetary Institutions of New Granada, 1783-1850", in *Transferring Wealth and Power from the Old to the New World. Monetary and Fiscal Institutions in the 17th through the 19th Centuries*, Michael D. Bordo and Roberto Cortés-Conde, eds. (Cambridge, 2001), 414-450.

The colonial empire provided protection (security and justice) at a cost not too high to the different parts of the Viceroyalty of River Plate. With independence, new providers of protection emerged but with lower capacity than the metropolis. After 1810, local powers provided protection within their limited resources (the disappearance of the army limited the extension of the protection service to remote areas). Rosas dictatorship restricted property and free trade, but lack of political freedom did not imply, however, total suppression of economic freedom. In the interior provinces the principles of economic freedom were not easily accepted. Only in the 1853 constitution was national organization on the basis of economic freedom widely accepted while its enforcement took another thirty years.

The experience in areas of low indigenous populations such as the River Plate was different. Buenos Aires profited more than the interior provinces from independence. The Buenos Aires economy profited from the disappearance of a fiscal system that created disincentives for productive activities. Stable political institutions that allowed contract enforcement were introduced[31]. The provinces of the Viceroyalty of River Plate failed, in turn, to devise an incentive structure to keep them voluntarily united under a single government and to take advantage of economies of scale in the provision of defense and justice, reducing transaction costs and encouraging economic development, as the separation of Uruguay and Paraguay revealed. Military threats and trade blockades had long lasting economic and political consequences on Paraguay. They led to public finance crisis and economic contraction and to the political demise of proponents of more representative governments and freer trade. They also gave rise to political absolutism and redistribution of property towards the state[32]. Economic activity in the three decades following independence fell below the levels reached in the late colonial period. In a nutshell, political stability and economic growth were accomplished in Buenos Aires and Uruguay, while stagnation and political instability prevailed in the interior.

To sum up, the colonial empire provided protection (security and justice) at a cost not too high. With independence, new providers of protection emerged but with lower capacity than the metropolis. Transaction costs increased independence as political and economic institutions went through a period of turmoil and re-definition, while continued violence between and within countries also contributed to less well defined property rights. These costs were higher for the new republics because of fragmentation and the loss of economies of scale. On the whole, it was not until the mid-

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[31] Amaral, "Del mercantilismo a la libertad", 204. I draw on Amaral on the following paragraph.

[32] Mario H. Pastore, "Crisis de la Hacienda pública, regresión institucional y contracción económica: consecuencias de la independencia en Paraguay, 1810-1840", in *La independencia americana: consecuencias económicas*, Leandro Prados de la Escosura and Samuel Amaral, eds. (Madrid, 1993), 164-200.

nineteenth century that the benefits derived from removing the fiscal burden overcame were roughly offset by the increasing costs of providing their own governments (including military expenses) that Latin American countries were forced to incur.

Assessing the consequences of independence: opening up to the international economy

The release of the trade burden imposed by the colonial system allowed the new Latin American countries to have access to expanding world commodity and factor markets. In the only available estimate for the empire, Coatsworth reckoned that the trade burden represented up to 3 percent of GDP in New Spain, again a significantly higher figure than the one estimated for the Thirteen North American Colonies,[33]. Independence allowed direct trade between the Latin American republics and Europe and North America and it represented a reduction in transportation and commercialization costs that, *ceteris paribus*, increased the volume traded. However, in the decades following independence warfare and political instability made the adjustment to the new international trade regime difficult. Bulmer-Thomas stresses that, over the nineteenth century, the export sector was not large enough to pull along domestic economies in which non-tradeables represented a large proportion of output and its productivity was very low[34].

The role of trade in Latin America's economic performance has been revisited by each new school of thought. Neoclassical trade theory predicts that trade liberalization after independence would allow Latin American countries to specialize along the lines of comparative advantage. In land abundant countries, as most of Latin American republics were at the time, specialization in primary produce would be expected. A consequence of getting rid of the trade burden was to open up a new 'frontier' in which land expanded at a rising cost in terms of other resources[35]. Heckscher-Ohlin model predicts natural resources, as the abundant factor, to be intensively used and, as a result, an increase of its relative price in terms of labor. This implies, in the Stolper-Samuelson extension of Heckscher-Ohlin model, that in so far land, the abundant factor, is more unequally distributed than labor, inequality would raise within national borders.

Dependentists, in turn, saw trade as a cause of increasing inequality across and within countries. Well-known views by Raúl Prebisch stress the role of declining terms of trade in the persistent

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[33] Coatsworth, "Obstacles to Economic Growth", 84.
[34] Bulmer-Thomas, *Economic History*, chapter 5.
[35] Ronald Findlay, "International Trade and Factor Mobility with an Endogenous Land Frontier. Some General Equilibrium Implications of Christopher Colombus", in *Theory, Policy and Dynamics in International Trade*, Elhanan Helpman and J. Peter Neary, eds. (Cambridge, 1993), 47.

retardation of Latin America[36]. Hans Singer ascribed negative implications to a hypothetical improvement in the terms of trade as it would lead to committing resources to primary production with the implicit opportunity cost of not allocating them to the domestic sector where factor returns were higher as a consequence of increasing returns and economies of scale[37]. New economic geography provides another hypothesis about the role of trade in Latin American development. Paul Krugman and Anthony Venables posit that under gradually falling transportation costs, as was the case during the 1820-1870 period, growing inequality would take place: "when transport costs fall below a critical value, a core-periphery pattern spontaneously forms, and nations that find themselves in the periphery suffer a decline in real income"[38]. Then, they argue, as transport costs continue to decline, a second stage of convergence in real incomes arrive eventually, and peripheral countries gain relative to the Core.

Thus, trade theories suggest a series of testable hypotheses for early nineteenth-century Latin America. We expect a expansion of trade and, through a better resource allocation, an increase in output (and, if underemployment of resources exist, trade would provide a vent for surplus). Terms of trade, according to the Prebisch school, might decline, but the opposite would occur in the light of Classical economists as Latin America exported primary goods and imported manufactured produce[39]. At the same time, changes in income distribution should take place, with a tendency for within-countries inequality to rise as the reward to land, the abundant and less equally distributed factor, improves relative to labor. Lastly, a worsening of Latin American position in the world economy is predicted.

Location and economies of scale are stressed by the new economic geography. Location mattered much in the nineteenth century as the tyranny of distance was a determinant factor of trade -in particular, prior to the construction of railways (only in a large scale after 1870)-, despite the sharp reduction in ocean freight and insurance rates. Relative rather than absolute transport costs from alternative locations were what really mattered. Freights rates from Antwerp to Rio de Janeiro in 1850 were only 40 percent of those prevailing in 1820, but freight rates from Antwerp to New York fell

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[36] Raúl Prebisch, *The Economic Development of Latin America and its Principal Problems* (New York, 1950).
[37] Hans W. Singer, "The Distribution of Gains between Investing and Borrowing Countries", *American Economic Review. Papers and Proceedings*, 11, 2 (1950), 473-485. The Prebisch-Singer view has been recently re-stated by Y.S. Hadass and J.G. Williamson, "Terms of Trade Shocks and Economic Performance, 1870-1940: Prebisch and Singer Revisited", *Economic Development and Cultural Change* 51, 3 (2003), 629-56.
[38] Paul Krugman and Anthony J. Venables, "Globalization and the Inequality of Nations", *Quarterly Journal of Economics*, 110, 4 (1995), 859.
[39] Leandro Prados de la Escosura, "Terms of Trade and Backwardness: Testing the Prebisch Doctrine for Spain and Britain during Industrialization", Universidad Carlos III Working Papers Series 94/46 (1994) .

even more, to one-fourth. Meanwhile, insurance rates were cut to one-half and to one-third for trips from Rio and Buenos Aires, respectively, to Antwerp[40]. Transport costs from Antwerp to Buenos Aires and Rio remained relatively stable over 1850-70 but those to Valparaiso, on the Pacific Rim, fell by 40 percent, as a consequence of the convergence of transport costs to the Pacific with those to the Atlantic façade of Latin America's Southern Cone[41].

Geographic constraints imply different outcomes of exposition to international trade across regions. Coastal regions, densely populated and with temperate climate would be at advantage to landlocked hinterlands in tropical areas, as migration and infrastructure development become more difficult and incentives exist for coastal economies to impose costs on them[42]. Landlocked economies such as Bolivia and Paraguay, the interior regions of Mexico, Colombia, Brazil and Argentina, and Andean countries such Ecuador and Peru were clearly at disadvantage relative to coastal regions. In addition, countries on the Pacific Rim had a transport cost disadvantage over those on the Atlantic façade. Table 1 provides some insights about the overall transport costs that emphasize the importance of internal costs of transportation.

INSERT TABLE 1

We expect wide regional discrepancies in Latin American integration into the international economy. In Mexico, independence ended laws restricting immigration and capital inflows and brought an increase in openness (trade grew from 8.1% of GDP to 12.3% by 1845, according to Coatsworth), but arguably not when compared to the late colonial period[43]. Meanwhile in Peru, mercantilist policies remained in place. After an episode of trade expansion up to the mid-1820s, fixed prices, taxation, and protectionism remained an obstacle to economic activity for decades. Only three decades later the stimulus of the international demand (the guano boom) opened the country up[44]. Qualitative evidence on Central America suggests stagnation, but current imports from Britain almost doubled (while its prices were practically halving) between two peaks (1826 and 1839) to decline afterwards[45]. There were limited incentives to trade as physical barriers implied high transport costs. Independence brought a break of colonial commercial networks and procedures. Links between

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[40] Paul Schöller, "L'evolution séculaire des taux de fret et d'assurance maritimes 1819-1940", *Bulletin de l'Institute de Recherches Économiques et Sociales*, 17, 5 (1951), 523, 540.
[41] Schöller, "L'evolution séculaire des taux de fret", 543. Freights to Buenos Aires and Valparaiso became equal by 1868 when, by 1850, transports costs to Chile were, at least, one-third higher than to Buenos Aires.
[42] Gallup, John Luke, Jeffrey D. Sachs and Andrew D. Mellinger, "Geography and Economic Development", *International Regional Science Review*, 22, 2 (1999), 179-232.
[43] John H. Coatsworth, "The Decline of the Mexican Economy, 1800-1860", in *América Latina en la época de Simón Bolívar. La formación de las economías nacionales y los intereses económicos europeos 1800-1850*, Reinhard Liehr, ed. (Berlin, 1989), 38.
[44] Quiroz, "la independencia en el Perú", 134-6.
[45] Lindo-Fuentes, "la independencia en Centroamérica", 60.

regions of the Federation weakened as export orientation increased. Together with political instability it led to the creation of five new countries in 1839. An exogenous shock occurred as a consequence of US assimilation of California: new maritime routes through Panama isthmus, together with the Panama railroad (1855), led to a sharp decline in transport costs increasing trade and finance[46]. In contrast to Spanish America, independence in Brazil did not involved a shift in the direction of trade[47]. The Buenos Aires economy profited from the disappearance of colonial regulation that forced it to trade through the metropolis. From re-exporting silver from Alto Peru Buenos Aires became an economy exporting livestock products. The main consequence of independence was adding new lands to cultivation and opening up to foreign trade[48].

The hypothesis of an uneven distribution of post-independence trade in Latin America for different points in time can be tested with evidence on deflated values of exports normalized by population (Table 2)[49]. As predicted, location conditioned the importance of trade with the Southern Cone and the Caribbean ahead of the rest. The relative dispersion of per capita exports declined, however, over the whole considered period. Evidence on capital inflows per head from Britain, the main investing country in Latin America, though exhibiting a different country pattern, confirms the uneven integration of Latin American countries in international commodity and factor markets[50].

INSERT TABLE 2

To what he extent the integration of Latin America into the international economy took place?. Over forty years, the purchasing power per Latin American inhabitant of both exports (1830-70) and British investment (1825-65) increased noticeably, at an average annual rate of growth of 1.5 and 2.1 percent, respectively (Table 2). Exports accelerated after 1850 and its *per capita* rate of growth moved from 1.2 in 1830-50 up to 1.8 over 1850-70 but British investment per head only took off after 1865, reaching a yearly rate of 9.1 percent during 1865-75, a phenomenon linked to government loans

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[46] Lindo-Fuentes, "la independencia en Centroamérica", 65-6.
[47] Stephen H. Haber and Herbert S. Klein, "Consecuencias económicas de la independencia brasileña", in *La independencia americana: consecuencias económicas*, Leandro Prados de la Escosura and Samuel Amaral, eds. (Madrid, 1993), 153-8.
[48] Amaral, "Del mercantilismo a la libertad", 208.
[49] The price index of the United Kingdom's exports, has been used to deflate current exports and investment. In the latter's case because those investments were used, at least, in part, to purchasing capital goods from Britain. Deflating current exports by the price of British exports provides a measure of the purchasing power of Latin American exports as the U.K. was the main trading partner of the new republics.
[50] British investment amounted to more than three times French investments and more than four times U.S. investments in Latin America by 1913 (computed from figures in Carlos Marichal, ed. *Las inversiones extranjeras en América Latina, 1850-1930. Nuevos debates y problemas en historia económica comparada*. (México, 1995), Appendix) The importance of British investment relative to those from other countries being higher in earlier decades.

and, to a less extent, associated to the shift of foreign investment toward railroads construction and public utilities[51]. On average, deflated British investment per head grew at 3.5 percent over 1825-75.

National estimates of countries' purchasing power of exports in terms of imports, also known as income terms of trade, confirm our findings. Cuba's income terms of trade improved substantially (277 by 1867, 1826=100) due to supply increases in sugar exports[52]. In Mexico, no trend was exhibit over 1828-1851 but, then, a sharp improvement took place up to the 1880s[53]. In Colombia, real exports *per capita* doubled between the late 1830s and 1880, while income terms of trade trebled between the 1830's and the 1860's[54]. In Brazil, real exports *per capita* multiply by three between the 1820s and the 1850s and by four between the 1820s and 1870s. Leff shows a substantial improvement for Brazilian income terms of trade: at an annual trend rate of 4.2 percent over 1822-1849 (2.8 percent in *per capita* terms)[55]. Argentina also experienced a remarkable increase in the quantity and the purchasing power of her exports[56]. Chilean real *per capita* exports, in turn, multiplied by 7 between independence and 1870[57].

The net barter terms of trade, the ratio of export to import prices that provide a measure of the purchasing power per unit of exports, have been depicted as a "productivity index" of trade. Recent research provides estimates of net barter terms of trade major Latin American countries (Table 3). In Mexico the net barter terms of trade experienced a moderate improvement between 1828 and 1881 (at 1.4% per year) and probably added 3% to GDP by 1860[58]. Venezuela's terms of trade followed the Mexican pattern of stability over 1830-50, to deteriorate in the early fifties and to recover in the seventies[59]. Brazilian purchasing power per unit of exports improved by three-fourths between 1826-30 and 1876-80[60]. Colombian net barter terms of trade improved as much as Brazil between the late 1830s and 1880[61]. Linda and Richard Salvucci, on the basis of Gootenberg's data were able to establish that the net barter terms of trade of Peru were 47 percent higher in the early 1850s than in

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[51] Irving Stone, "British Direct and Portfolio Investment in Latin America before 1914", *Journal of Economic History*, 37, 3 (1977), 694.
[52] Linda K. Salvucci and Richard J. Salvucci, "Cuba and the Latin American Terms of Trade: Old Theories, New Evidence", *Journal of Interdisciplinary History*, 31, 2 (2000), 197-222.
[53] Richard J. Salvucci, "The Mexican Terms of Trade, 1825-1883: Calculations and Consequences" (1993) (mimeo).
[54] José Antonio Ocampo, *Colombia y la economía mundial 1830-1910*, (Bogotá, 1984), 89, 98.
[55] Leff, *Underdevelopment and Development*, 83.
[56] Carlos Newland, "Exports and Terms of Trade in Argentina, 1811-1870", *Bulletin of Latin American Research*, 17, 3 (1998), 409-416.
[57] Díaz, José, Rolf Lüders and Gert Wagner, "Economía chilena 1810-1995: evolución cuantitativa del producto total y sectorial". Pontificia Universidad Católica de Chile, Instituto de Economía, Documento de Trabajo nº 186 (1998).
[58] Salvucci, "The Mexican Terms of Trade".
[59] Asdrúbal Baptista, *Bases cuantitativas de la economía venezolana 1830-1995* (Caracas, 1997), 86-90.
[60] Leff, *Underdevelopment and Development*, 82.
[61] Ocampo, *Colombia y la economía mundial*, 93.

the 1830s[62]. Argentina's terms of trade show an improvement that peaked in the late 1850s[63]. The demand for exports increased due to international trade expansion and European industrialization while the growth of inputs used by the pastoral economy and a rise in productivity are behind the supply expansion. Cuba provides the exception as her net terms of trade deteriorated between 1826 and 1866 (by 50 percent), and when adjusted for productivity changes in the export sector (the so called single factorial terms of trade) no trend appears between 1826 and 1846 to experiment, then, a decline up to 1862 (by 61 percent)[64].

INSERT TABLE 3

Evidence tends, therefore, to reject the old view of deteriorating terms of trade that hindered Latin American growth precisely at the time (1820s-1870s) when large international disparities in per capitaincome began to emerge. Actually, it can be suggested that the domestic terms of trade, that is, those perceived by the Latin American population, should have improved more dramatically than the international terms of trade as independence allowed to trade directly in world markets, colonial tariffs were repealed and the new republics' tariffs were often lower[65]. Transport costs and the increase in the scale of trade also helped to reduce margins in international trade. On the combined evidence provided by the evolution of the relative price of exports (Table 3) and the purchasing power of total exports (Table 2) the idea of immiserizing growth can be rejected for most of Spanish America and for Brazil[66].

On the whole, it seems warranted to say that the release of the colonial trade burden had net gains for the economies of Latin America as the evolution of quantities and prices of exported goods suggests. Although trade did not have the strength to pull along the economy as a whole, in a classical episode of export-led growth, it can be argued that, when it was not hindered by geographic and institutional barriers, it facilitated economic growth[67]. Trade in Nineteenth Century Latin America, seems to have been, in most national cases, a handmaiden of growth[68].

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[62] Linda Salvucci and Richard Salvucci, "Cuba and the Latin American Terms of Trade", 216. Paul Gootenberg, *Between Silver and Guano. Commercial Policy and the State in Post-Independence Peru*, (Princeton, 1989).
[63] Newland, "Exports and Terms of Trade in Argentina", 412.
[64] Linda Salvucci and Richard Salvucci, "Cuba and the Latin American Terms of Trade", 204-7.
[65] This Newland's "Exports and Terms of Trade in Argentina" argument for Argentina.
[66] That is, when an increase in production depresses the price of exports relative to imports so much that the gains in output are swamped by the loss of purchasing power for imports. Cf. Jadish Bahgwati,"Immiserizing Growth: A Geometric Note", *Review of Economic Studies*, 25, 3 (1957-58), 201-205, for a theoretical discussion of the concept.
[67] The export-led growth approach has been rejected by Leff and Catao for Brazil and Mexico (Leff, *Development and Underdevelopment*; Luis Catao, "The Failure of Export-Led Growth in Brazil and Mexico c. 1870-1930". University of London Institute of Latin American Studies Research Papers No. 31 (1992)).
[68] Cf. Irving B. Kravis, "Trade as a Handmaiden of Growth: Similarities between the Nineteenth and Twentieth Centuries", *Economic Journal*, LXXX (1970), 850-872.

The opening up to the international economy has been associated to a widening of income differences within national boundaries and across countries. No evidence is available on the former for the pre-1870 period with the exception of Argentina for which Carlos Newland and Javier Ortiz have shown that the expansion in the pastoral sector resulting from improved terms of trade increased the reward of capital and land, the most intensively used factors, while the farming sector contracted and the returns of its intensive factor, labor, declined, as confirmed by the drop in nominal wages[69]. A redistribution of income in favor of owners of capital and land (*estancieros*) at the expense of workers took place. Williamson's findings for 1870-1914 also suggest an increase of inequality within-countries in Latin America, which confirm empirically Stolper-Samuelson theoretical predictions[70]. Thus, as natural resources were the abundant productive factor in Latin America, they were more intensively used in the production of exportable commodities. As a result, returns to land grew relatively to labor's. Since the ownership of natural resources is more concentrated than that of labor, income distribution tended to be skewed towards landowners and inequality rose over the decades prior to World War I.

To sum up, although opening up trade could have caused *immiserating* growth, examination of trade patterns and terms of trade suggests that this did not happen and trade was a handmaiden of growth. There was some increase in inequality, as the Stopler-Samuelson effects predict, but incomes did not fall because of trade effects.

Assessing the consequences of independence: Aggregate impact on the economy

Evidence on aggregate economic performance across countries shows a wide variance. In the main centers of the former Spanish empire, Mexico and Peru, war destruction of fixed capital, financial capital flight, mining depression, together with fiscal mismanagement and political turmoil, all contributed negatively to growth. Public debt, it has been suggested, crowded investment.

A widely accepted perception is that Mexican economic decline lasted until the 1860's. According to Coatsworth's estimates, output per head fell at a yearly rate of nearly –0.6 percent between 1800 and 1860[71]. Richard and Linda Salvucci suggested, alternatively, that, in real terms, output grew by 30 percent

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[69] Carlos Newland and Javier Ortiz, "The Economic Consequences of Argentine Independence", *Cuadernos de Economía*, 115 (2001), 275-290.

[70] Jeffrey G. Williamson, "Real Wages Inequality and Globalization in Latin America before 1940", *Revista de Historia Económica*, XVII (special issue) (1999), 101-42.

[71] Coatsworth, "Decline of Mexican Economy", computed from page 41, Table 2. The decline between 100 and 1877 would have taken place at an annual rate of –0.2 percent, according to Coatsworth's figures. Angus Maddison, *The World Economy. A Millennial Perspective* (Paris, 2001), 191, assumed a smaller drop than Coatsworth for 1820-70. This view is shared

over 1800-1840 while population did it by 9 percent, implying that output per head increased by 21 percent or 0,5 percent annually[72]. This revisionist picture has been rejected later by Richard Salvucci who points that prolonged stagnation or, even, decline of *per capita* income are better depictions of Mexican economic performance over 1800-1840[73].

The causes of the long depression of the Mexican economy are the subject of an intense historical debate[74]. Among the reasons pointed for sluggish growth the decline in silver production, that did not recover until the 1860s, is the main one. The fall in silver output led to a drop in employment and expenditure and to a contraction of the money supply. Abandonment and flooding of mines and the high price of mercury, used to refine silver, lie behind the collapse of mining. Rafael Dobado and Gustavo Marrero have argued that the slow recovery of silver output, both a consequence of the economic policies followed in post-independence Mexico and of the changes in the international market for mercury, hindered severely Mexican economic growth[75]. According to Dobado and Marrero, Spain, a major world supplier, did no longer supply Mexican mining at prices below those prevailing internationally. Mexico had to purchase mercury in the international market while prices kept raising during the early nineteenth century. A competing hypothesis by Carlos Ponzio suggests political instability as the main cause of the decline in per capita income during the half a century after independence[76].

In Peru, as in Mexico, the republican state, under chronic fiscal deficit, increased taxation on mining. Silver mining also declined until the 1840s. High mercury prices and interest rates, obsolete technology, and Government taxes all contributed to difficult the recovery of mining[77]. In short, independence at the core of the colonial empire did not deliver the conditions for sustained economic growth. The fact that the centers of empire became the less successful regions in post-independence

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by Enrique Cárdenas, "A Macroeconomic Interpretation of Nineteenth-Century Mexico", in *How Latin America Fell Behind. Essays on the Economic Histories of Brazil and Mexico, 1800-1914*, Stephen Haber, ed. (Stanford, 1997), 65-92.

[72] Richard and Linda Salvucci, "Las consecuencias económicas de la independencia mexicana", 41.

[73] Richard J. Salvucci, "Mexican National Income in the Era of Independence, 1800-1840", in *How Latin America Fell Behind. Essays on the Economic Histories of Brazil and Mexico, 1800-1914*, Stephen Haber, ed. (Stanford, 1997), 234-5.

[74] Cárdenas, "A Macroeconomic Interpretation of Nineteenth-Century Mexico"; Coatsworth, "Decline of Mexican Economy". More recently, Rafael Dobado and Gustavo Marrero, "Minería, crecimiento y costes de la independencia en México", *Revista de Historia Económica*, XIX, 3 (2001), 573-611.

[75] Dobado and Marrero, "Minería, crecimiento y costes de la independencia en México", 598-607. The reduction of backward linkages and in labor productivity are among the negative effects of silver mining decline on aggregate performance, according to these authors.

[76] Carlos Ponzio, "Political Instability and Economic Growth in Post-Independence Mexico", Harvard University 2004, unpublished manuscript.

[77] Quiroz, "la independencia en el Perú", 129-33, 143.

Latin America evidences the colonial legacy and, has been argued, is associated to the density of indigenous population and to the weakness of liberal elites[78].

Slavery economies offer a distinct and different behavior. They did not undergo a deep political and institutional transformation. Cuba remained loyal to Spain and experienced sustained progress until 1860[79]. Brazil's economy was characterized by low rates of growth, free trade and limited structural change while remaining politically stable. According to Leff, *per capita* income rose at a moderate pace during the nineteenth century[80]. Meanwhile, Venezuela experienced a rise in output per head up to mid-nineteenth century, that stagnated during its central decades[81]. Economies in the Southern Cone show, in turn, sustain economic progress after independence. Chilean GDP per head grew at 0.9 percent per year over 1810-60, though most of the improvement in *per capita* income took place after 1830[82]. Available economic indicators suggest fast growth in the Buenos Aires region that could have translated in an improvement in Argentina's per capita incomes. Increases in population and labor force, urbanization, and a significant rise of total factor productivity in livestock production are among the distinctive features of post-independence River Plate[83].

Do these results suggest that retardation can be related to the way independence occurred in Latin America?. Comparative assessments of post-colonial Latin American performance may prove useful to provide an answer and are explored in the next section.

Interpreting post-independence performance: Latin America in the U.S. mirror

Why did British America and Latin America develop so differently after independence?. Failure to achieve sustained and balanced growth over the nineteenth-century, contended Stanley and

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[78] James Mahoney, "Long-Run Development and the Legacy of Colonialism in Spanish America", *American Journal of Sociology* 109, 1 (2003), 50-106.

[79] Pedro Fraile, Richard J. Salvucci, and Linda K. Salvucci, "El caso cubano: exportaciones e independencia", in *La independencia americana: consecuencias económicas*, Leandro Prados de la Escosura and Samuel Amaral, eds. (Madrid, 1993), 80-101.

[80] Leff, *Underdevelopment and Development*, I, 33. Angus Maddison, *Monitoring the World Economy 1820-1992* (Paris, 1995), 143, for per capita income growth in 1820-50 assumed to be at the same rate as 1850-1913, derived from Raymond Goldsmith, *Desenvolvimento financeiro sob um seculo do inflaçao* (Sao Paulo, 1986).

[81] Baptista, *Bases cuantitativas*, 28, 58. Output per head grew at yearly rate of 2.2 percent between 1830 and 1850, that falls to 0.9 when it is computed between 1830 and 1870.

[82] Díaz, Lüders and Wagner, "Economía chilena 1810-1995".

[83] Carlos Newland, "Economic Development and Population Change: Argentina, 1810-1870", in *Latin America and the World Economy Since 1800*, John H. Coatsworth and Alan M. Taylor, eds. (Cambridge, MA, 1998), 207-222.; Newland, "Exports and Terms of Trade"; Carlos Newland and Barry Poulson, "Purely Animal: Pastoral Production and Early Argentine Economic Growth 1825-1865", *Explorations in Economic History*, 35, 3 (1998), 325-45.

Barbara Stein, resulted from the persistent colonial heritage[84]. The colonial economic background (with the large estate as its key element) was reinforced by local conditions (lack of political unity, conflict of economic interests, highly concentrated income and poverty) and, in particular, by British informal imperialism[85].

Christopher Platt argued, in turn, that changes had very limited impact in post-colonial Latin America, and only after 1860 the lagged effect of independence was noticeable. The break with Spain, far from confirming the integration of Latin America as a dependent partner in the world economy, "reintroduced an unwelcome half century of 'independence' from foreign trade and finance" [86]. Independence, although brought a redirection of trade from Iberia to Northern Europe and the United States, did not make Latin America into a major primary produce exporter nor into a large market for foreign industrial goods. Nineteenth-century Latin America was, hence, "shaped by domestic circumstances", and economic growth was constrained by lack of human and physical capital, shortage of industrial fuels, and small markets[87].

The differences between British North American and Iberian American colonies and its long-run effects on growth have been also stressed by the new institutional economic historians, as their radically different evolution reflected the imposition of distinct metropolitan institutions on each colony[88]. Douglass North's main proposition is that different initial conditions, in particular, the religious and political diversity in the English colonies as opposed to uniform religion and bureaucratic administration of the existing agricultural society in the Spanish colonies (Mexico and Alto Peru, in particular) are behind differences in performance over time.

Why should institutions be taken as exogenous?. Initial inequality of wealth, human capital and political power conditioned, according to Stanley Engerman and Kenneth Sokoloff, institutional design and, hence, performance in Spanish America[89]. Large scale estates, built on pre-conquest social organization and extensive supply of native labor, established the initial levels of inequality. Elites designed institutions protecting their privileges. Government policies and institutions restricted

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84 Stanley and Barbara Stein, *The Colonial Heritage of Latin America: Essays on Economic Dependence in Perspective* (New York, 1970).

85 Stanley J. Stein and Barbara H. Stein, "D.C.M. Platt: The Anatomy of 'Autonomy'", *Latin American Research Review*, 15 (1980), 134.

86 D.C.M. Platt, "Dependency in Nineteenth-Century Latin America: An Historian Objects", *Latin American Research Review*, 15 (1980), 130.

87 D.C.M. Platt, "Dependency in Nineteenth-Century Latin America: An Historian Objects", *Latin American Research Review*, 15 (1980), 130.

88 Douglass C. North, *Institutions, Institutional Change and Economic Performance*, (Cambridge, 1990), 102.

89 Stanley L. Engerman and Kenneth L. Sokoloff, "Factor Endowments, Institutions, and Differential Paths of Growth Among New World Economies", in *How Latin America Fell Behind. Essays on the Economic Histories of Brazil and Mexico, 1800-1914*, Stephen Haber, ed.. (Stanford, 1997), 260-304.

competition and offered opportunities to select groups[90]. For example, in Mexico and Peru, a large native population and Spain's acceptance of pre-existing native practices of awarding claims on labor and natural resources to the elite fostered highly concentrated landholdings and, consequently, inequality[91]. All in sharp contrast with white populations' predominance, evenly distributed wealth and high endowment of human capital per head in British North America[92].

John Coatsworth and Gabriel Tortella reject the connections between Iberian institutions transferred to America and the initial unequal distribution of income and wealth, stressing that the caste system deliberately weakened the grip of local elites on indigenous population and limited the growth of wealth inequality by recognizing indigenous property rights and guaranteeing indigenous population access to land[93].

Factor endowments, though the driving force of European colonization, do not provide, according to North, Summerhill and Weingast, sufficient explanation of post-independence behavior[94]. They stress the sharp institutional contrast between independent United States (with a constitution and well specified and enforced economic and political rights) and post-colonial Latin America (under warfare). In their view, the absence of institutional arrangements capable of establishing cooperation between rival groups led to destructive conflict that diverted capital and labor from production and consigned the new republics to poor performance relative to the U.S.A..

The literature surveyed so far uses the United States as the yardstick to measure Latin American achievements over the nineteenth century. The income gap between colonial British and Latin Americas widened in the half century after independence. The U.S. doubled Latin American product per head in 1820 and more than trebled it by 1870[95]. Is this approach adequate to unravel the causes of Latin America's poor performance?. Focusing on the contrast with North America inevitably leads to a negative assessment of Latin America's economic and political behavior both

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90 Kenneth Sokoloff and Stanley L. Engerman, "Institutions, Factor Endowments, and Paths of Development in the New World", *Journal of Economic Perspectives*, 14, 3 (2000), 217-32.

91 Stanley L. Engerman, Stephen H. Haber and Kenneth L. Sokoloff, "Inequality, Institutions, and Differential Paths of Growth among New World Economies", in *Institutions, Contracts, and Organizations*, Claude Menard, ed. (Cheltenham, 2000), 108-34.

92 It should be noted that inequality in Latin America was probably comparable to that in the slave states of North America where per capita income was, however, surely much higher.

93 John H. Coatsworth and Gabriel Tortella, "Institutions and Long-Run Economic Performance in Mexico and Spain, 1800-2000", paper presented at the conference on *Desarrollo comparado: España y México*, Mexico City, July 4-6, 2001 (mimeo)

94 North, Summerhill and Weingast, "Order, Disorder", 19.

95 Maddison, Angus, *The World Economy. A Millennial Perspective* (Paris, 2001), 264. However, conjectural estimates show that U.S. *per capita* income stagnated in the quarter of century after independence and grew below 0.3 percent yearly in the opening decades of the nineteenth century. Cf. Peter C. Mancall and Thomas Weiss, "Was Economic Growth Likely in Colonial British North America?", *Journal of Economic History* 59, (1999), 17-40.

before and after independence. In fact, *per capita* income divergence between rich (core) and poor (periphery) countries is the dominant feature of the nineteenth century[96]. Moreover, the comparison conflates the initial conditions in the new republics with their post-independence performance. And, even more crucially, it diverts attention from the real issue: the extent to which Latin America under-performed in terms of its own potential. That the new republics fell behind the U.S. or north western European nations does not necessarily imply that development opportunities were missed. Differences in geography, public policies and political institutions all mattered in shaping Latin American countries' long-run economic performance. On the basis of predictable large differences in human (and physical) capital to labor ratios it could be hypothesized that different steady states probably prevailed in British and Latin Americas.

The relevant task is, then, to identify the feasible counterfactual scenarios that might have led to higher paths of growth[97]. These hypothetical alternatives should be clearly specified before we jump to the conclusion that Latin America failed because she followed a different and less successful path to the twentieth century than the United States. As Leff put it, "the study of history can spare later observers depressing reflections that have no basis in the realm of the possible"[98].

Interpreting post-independence performance: Latin America in the African and Asian mirrors

Since modeling counterfactual growth scenarios is problematic an alternative line of research is to compare Latin America with other former European colonies. A substantial number of Asia, African and Eastern European countries shared, at the time of their independence, some of the initial conditions of the new Latin American republics: demographic patterns (a delayed demographic transition and persistent high fertility until late in the twentieth-century, low population density (except in Asia), a high share of adult population employed in agriculture, low social and human capital, poor contract enforcement, and a weak government yielding to interest groups. On top of

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[96] This way of reasoning has recently been applied to the study of the USSR development by Robert Allen, *Farm to Factory: A Reinterpretation of the Soviet Industrial Revolution*, (Princeton, 2003).

[97] Nathaniel H. Leff, "Economic Development in Brazil, 1822-1913", in *How Latin America Fell Behind. Essays on the Economic Histories of Brazil and Mexico, 1800-1914*, Stephen Haber, ed. (Stanford,1997), 58-9, explores alternative scenarios of rising productivity in the domestic sector relative to the external sector, of higher investment on social overhead capital and of immigration restrictions, to reject all of them as unrealistic.

[98] Leff, "Economic Development of Brazil", p. 59. A more complete discussion of counterfactual propositions and its potential effects on Brazilian long-run growth is exposed in Nathaniel H. Leff, *Underdevelopment and Development in Brazil*, (London, 1982), 2 vols.

that, levels of GDP *per capita* at the time of independence are comparable[99]. Former colonies have been ranked according to their GDP per head at the time of emancipation in Table 4[100]. In a sample of nearly sixty countries, those Latin American countries for which rough income estimates are available come out in the third, fourth and fifth quintiles while the US belongs to the first quintile. It appears that at the time of independence Latin American republics had levels of income more similar to most countries in Asia and in Africa than to the US. Perhaps, then, a more appropriate approach is to compare the post-colonial performance in Latin America to those of other parts of the Periphery (Asia and Africa) during the late twentieth century[101].

INSERT TABLE 4

Models linking economic geography and institutions that allow for diverse colonial patterns place the experience of independent Latin America into a more realistic context. Differences in economic prosperity across countries are connected to geographic, climatic or ecological factors[102]. Daron Acemoglu, Simon Johnson, and James Robinson point to the disease environment at the time of Europeans arrival as a determinant of the patterns of European settlement and the subsequent institutional development of the former colonies. In densely populated areas, diseases (malaria and yellow fever) to which Europeans were vulnerable prevented them from settling in large numbers[103].

Acemoglu, Johnson and Robinson also stress the differential impact of colonialism: societies where colonialism led to the establishment of "institutions of private property", that allow a broad sector of the society to receive the returns of their investments, prospered relative to those where colonialism imposed "extractive institutions", under which most of the population risks expropriation at the hands of the ruling elite or the government[104]. European colonialism led paradoxically to the development of relative better institutions in previously poor areas, while introduced extractive

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[99] The comparison is subjected to the usual caveats about the index numbers problem involved in backward projections from a remote benchmark and, therefore, its results should be read as explicit hypotheses or conjectures. Cf. Prados de la Escosura (2000).

[100] Gabon, Mauritius, Seychelles, South Africa, and Singapore have been excluded from the sample as they represent exceptional cases with per capita income levels ranging between 2,700 and 4,200 1990 international dollars.

[101] This alternative approach has also been suggested recently by Jonathan C. Brown in his review of "Jeremy Adelman, *Republic of Capital. Buenos Aires and the Legal Transformation of the Atlantic World* (Stanford, 1999)", *Hispanic American Historical Review* 81, 3-4 (2001), 765-71.

[102] Jared Diamond, *Guns, Germs and Steel. The Fate of Human Societies*, (New York, 1997); Jeffrey D. Sachs, "Tropical Underdevelopment", NBER Working Paper Series no. 8119 (2001). Also, cf. McArthur, John W. and Jeffrey D. Sachs, "Institutions and Geography: Comment on Acemoglu, Johnson and Robinson (2000)", NBER Working Paper Series 8114 (2001) for a typology of the approaches.

[103] Daron Acemoglu, Simon Johnson and James A. Robinson, "The Colonial Origins of Comparative Development: An Empirical Investigation", *American Economic Review*, 91, 5 (2001), 1369-1401. Note however that a disease environment not always coincided with high population density (Sub-Saharan Africa would be a case in point).

[104] Daron Acemoglu, Simon Johnson and James A. Robinson, "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution", *Quarterly Journal of Economics*, 117, 4 (2002), 1231-1294.

institutions or reinforced bad institutions in previously prosperous places. The reason is that poor areas were less densely populated, enabling Europeans to settle in large numbers and to develop their own institutions that encouraged investment and growth. Conversely, where abundant population showed relative affluence, establishing "extractive institutions" (forced labor and tributes, often existing already in the pre-colonial era, over the locals) with political power concentrated in the hands of an elite, represented the most efficient choice for European colonizers, despite its negative effects on long-term growth.

Were Spanish colonization of Meso-America and the Andes, French dominated South-East Asia, British India, and regions of Africa under French or British dominance examples of colonial "extractive institutions"?. In the case of the viceroyalties of Mexico and Peru, the exploitation of silver deposits centered economic activity on those locations where the deposits were found and conditioned population settlement, the location of urban centers, and fiscal policies[105].

There are interesting connections between Acemoglu, Johnson and Robinson's interpretation of different colonial patterns and Stanley and Barbara Stein's counterfactual, "had the Englishmen found a dense and highly organized Amerindian population, the history of what is called the United States would record the development of a stratified, bi-racial, very different society". The Steins contend, "the existence of a huge, under-populated virgin land of extraordinary resource endowment directly facing Europe and enjoying a climate comparable to that of Europe represented a potentiality for development which existed nowhere else in the New World"[106].

Both distinctive institutional and geographical features suggest significantly different outcomes for British North America and Latin America before and after independence. On these dimensions Latin America is more comparable with Asia and Africa. Table 5 presents evidence on exogenous geographic factors such as climate, latitude, and distance to the sea coast, together with levels of Europeans' mortality, and population density and urbanization at the time of European expansion. The Table's content supports the view that conditions were more similar between most Latin American countries and the European colonies in Asia and Africa than between Latin America and British North America, with the exception of the analogies between the Southern Cone and Australia and New Zealand. It could be added that in empty lands more efficient institutional settings went

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[105] Cf. Roberto Cortés Conde and George T. McCandless, "Argentina: From Colony to Nation. Fiscal and Monetary Experiences from the Eighteenth and Nineteenth Centuries", in *Transferring Wealth and Power from the Old to the New World. Monetary and Fiscal Institutions in the 17th through the 19th Centuries*, Michael D. Bordo and Roberto Cortés-Conde, eds. (Cambridge, 2001), 379.

[106] Stanley and Barbara Stein, *Colonial Heritage of Latin America*, 128.

hand by hand with better factor endowment (higher human capital/labor and physical capital/labor ratios).

INSERT TABLE 5

The similarities between Latin America and other colonial experiences suggest that the subsequent performance should be comparable[107]. We can see this by contrasting assessments of post-independence performance as well as GDP levels and growth rates in Sub-Saharan African and Latin American countries. The striking degree of coincidence of rather different appraisals: those by present-time development economists, in the case of Sub-Saharan Africa, and those by economic historians, in that of Latin America, suggest that post-independence Africa (and, presumably, Asia) is a more appropriate benchmark of comparison for Latin America than the U.S. exception. Nonetheless, the different timing of independence in Latin America (prior to the first wave of globalization) and in Africa and Asia (during the first stages of the second globalization) surely had an distinctive impact on economic growth.

Assessments of different aspects of post-independence Africa and Latin America are illuminating:

<u>The shock of political independence</u>.

[In Latin America, there was a] "complete lack of experience in autonomous decision making and government: state-building required creating institutions from scratch in an environment of change and uncertainty. In its absence, warfare was the norm"[108].

"In most [African] countries, neither the state, operating at national scale, nor private domestic capital .. existed in a meaningful sense at the time of independence"[109].

<u>The number and size of countries after independence</u>

[The new Latin American republics did] lack self-enforcing institutions that constrained predatory action. In the face of widespread violence, political organization disintegrated into smaller units (around a caudillo for protection)[110]

Because of colonial heritage, Africa has smaller countries in terms of population than other regions. Many states combined it with low levels of income[111].

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[107] The connection between colonial past and differential economic performance has been suggested for Sub-Saharan Africa and Latin America by G. Bertocchi and F. Canova, "Did Colonization Matter for Growth? An Empirical Exploration into the Historical Causes of Africa's Underdevelopment", *European Economic Review* 46 (2002), 1868.
[108] North, Summerhill and Weingast, "Order, Disorder", 45.
[109] Benno N. Ndulu and Stephen A. O'Connell, "Governance and Growth in Sub-Saharan Africa", *Journal of Economic Perspectives*, 13, 3 (1999), 63.
[110] North, Summerhill and Weingast, "Order, Disorder", 44-5.

Indirect Governance

[In Latin America,] "the caste system of the New World deliberately weakened the grip of local conquerors and magnates on the underlying indigenous population and .. recognized indigenous property rights .. guaranteeing the majority of the indigenous population access to land independent of the colonial elite"[112].

[The] French administrated their [African] territories federally while the British tradition of indirect colonial governance was less centralizing. They acted to reinforce ethnic identities. It was the existence of national borders that gave rise to a political management problem (local scale of economic and political activity)[113].

Inherited Institutions of the Metropolis

"[T]he struggle was imbued with ideological overtones that stemmed from the American and French revolutions. Independence [in Latin America] brought United States inspired constitutions, but with radically different consequences"[114].

The inability to limit political power [in Latin America] led to the development of an authoritarian system and rent-seeking[115].

Political constitutions at the time of [African] independence were modeled on their European counterparts: British colonies, parliamentary systems; French colonies, republican ones with strong executive positions. On paper, these institutions built in substantial pluralism and political liberties. But they were not to last. By 1975, nearly all African political regimes had cast off the trappings of pluralism and replace it with authoritarian structures[116].

Institutions, infrastructure, underdevelopment

Latin America stagnated because economic institutions distorted incentives and constrained development (political risk associated with unpredictable policies and inefficient property rights and tax and regulatory systems) and high transport costs prevented exploitation of natural resources[117].

Lack of social capital and subsequent high incidence of corruption, heavily regulated financial markets with bank lending directly to the government, poor infrastructure and poor contract

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[111] Paul Collier and Jan Willem Gunning, "Why Has Africa Grown Slowly?", *Journal of Economic Perspectives*, 13, 3 (1999), 9.
[112] Coatsworth and Tortella, "Institutions".
[113] Ndulu and O'Connell, "Governance and Growth", 46-9. The argument that indirect ruling favored the emergence of a local ruling class with beneficial impact on post-colonial political stability, as expressed by Bertocchi and Canova, "Did Colonization Matter", 1860, is far from clear on the the available evidence for Latin America and Sub-Saharan Africa.
[114] Douglass C. North, "Institutions and Economic Growth: An Historical Introduction", *World Development*, 17, 9 (1989), 1329.
[115] North, Summerhill and Weingast, "Order, Disorder", 48.
[116] Ndulu and O'Connell, "Governance and Growth", 47.
[117] Coatsworth, "Economic and Institutional Trajectories", 23-4.

enforcement (with high marginal return for capital and low rate of investment as its consequences) are obstacles to development in post-colonial Africa[118].

If we now turn to the evolution of levels of GDP per capita over time, how does Latin America compare to other countries, especially to former European colonies in Asia and Africa? Did Latin America, as it is stressed in the literature, fall behind before 1870?.

Maddison's international set of real GDP per head estimates provides the opportunity to place Latin America into a wider comparative framework in which countries levels are expressed relative to the world average[119]. Relative levels of population weighted income are offered for alternative country samples in Latin America, with national and time coverage inversely related. The results are robust for alternative samples including six or more countries. However, this is not the case for the early nineteenth century when there is evidence only for a reduced and biased country sample (Brazil, Chile, Mexico and Venezuela). The fact that it does not coincide with the robust view of Latin America's relative performance obtained from larger country render the results for 1820-70 questionable. For this reason population weighted and unweighted per capita income averages are provided.

INSERT TABLE 6

A first glance at the evolution of *per capita* income levels throughout the nineteenth and twentieth centuries suggests that, for example, in comparison to the United States, three distinctive phases appear: a first one of relative decline up to 1870, followed by relative stability from 1870 to 1973, for the main Latin American countries for which information exists, and, then, a decline again till the present. Thus, in the binary comparison with the USA, only the pre-1870 and the post-1973 periods can be deemed responsible for today's Latin American retardation.

If a country by country analysis is preferred for the nineteenth century, then, the scant estimates available suggests that while Mexico, Venezuela and Brazil fell behind the U.S.A. over 1820-70, this was not the case of Chile[120]. Between 1870 and 1913, Latin American national experiences

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[118] Paul Collier and Jan Willem Gunning, "Explaining African Economic Performance", *Journal of Economic Literature*, 37, 1 (1999), 65-75.

[119] Alternative and comprehensive estimates are provided for Latin America by Pablo Astorga and Valpy Fitzgerald, "Statistical Appendix", in Rosemary Thorp, *Progress, Poverty and Exclusion. An Economic History of Latin America in the 20th Century* (Washington, 1998), but do not include other parts of the world. Maddison's estimates have a wider country coverage and have been preferred here in spite of its conjectural nature for many developing countries in the past and the index number problem derived from using a fixed 1990 benchmark for space and time comparisons (Cf. Prados de la Escosura, "International Comparisons").

[120] Estimates are based on guesses such as Angus Maddison's *Monitoring the World Economy, 1820-1992*. (Paris, 1995), 143, on Brazil, or are obtained indirectly from export and fiscal data as in the case of Chile (Díaz, Lüders and Wagner, "Economía chilena 1810-1995").

varied widely, with Mexico and the Southern Cone economies (except Uruguay) catching up, while slave economies, Brazil and Cuba, were falling behind[121].

The assessment of Latin American performance has been carried out, so far, using the U.S. as the relevant benchmark. The fact that, over the nineteenth century, most countries, including those of Western Europe, fell behind when measured by American standards renders the U.S. yardstick questionable.

When, instead, Latin America's performance is confronted to that of other regions of the world, the picture changes dramatically. Firstly, over 1820-70, the decline relative to the U.S. for the four countries for which some reliable information exists is deeper than in the case of Western Europe but similar to that of the Russian Empire and much milder than in Africa and Asia. So even though her position worsened to the U.S. and Western Europe, it remained unaltered in comparison to Eastern Europe and improved to the rest of today's Third World. Then, the first phase of globalization, 1870-1913, witnessed Latin America as the single major world region that did not worsen her position relative to the U.S.A., hence, improving vis-à-vis the rest of the world. A third phase, the early twentieth century shows again Latin America, now accompanied by the Soviet Union, as the world regions that did not yield to U.S. economic advance. The late twentieth century inverted the picture. Not catching up to the U.S. during the Golden Age (1950-73) was shared by Latin America only with India and Africa. The post-1973 era, allowing for substantial income differentials, placed Latin America along Eastern Europe, the USSR (and its former members) and Sub-Saharan Africa, all of them worsening their relative position to the U.S. while Asian countries improved their own significantly.

To sum up, over the nineteenth century Latin American performance was no worse, but better, than in other parts of today's Third World. Conversely, the fact that her position relative to the U.S. during the Golden Age was unaltered is at odds with the catching up experience in large areas of the Periphery (Southern and Eastern Europe, Southeast Asia) where the gap with the U.S. in terms of income per head was significantly reduced and, again, Latin America under-performed relative to Asia after 1973. In other words, blaming Latin America retardation on falling behind the US over the nineteenth century is a short-sighted conclusion that tends to transpose the widely accepted view of today's Latin America under-achievement to the past.

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[121] Fraile, Salvucci, and Salvucci, "El caso cubano", 83, 91, 101, suggest that Cuban GDP per head stagnated in the late nineteenth century after experiencing growth over 1800-1850.

Concluding Remarks

Disorder after independence increased transaction costs as political and economic institutions were redefined throughout a lengthy and painful process. Though qualitative evidence varies from country to country, for Latin America as a whole it is far from clear that the gains from releasing the fiscal burden more than offset the tax increase to cover expanding governmental expenses that accompanied independence during the first half a century of its existence. The collapse of Spanish empire showed that its institutions, while inefficient, helped reduce transaction costs. The promising line of research initiated on Colombia by Jaramillo Uribe, Meisel and Urrutia, when extended to other Latin American countries, may render a more optimistic assessment of the welfare consequences of establishing new fiscal institutions after independence[122].

The favorable evolution of quantities and relative prices of goods exported suggests that removing the trade burden represented net gains for the economies of Latin America. Trade did not have the strength to pull from the economy, as in the export-led growth model but, whenever geographic and institutional barriers did not impede it, represented a handmaiden of growth.

The path to independence was quite different between regions: the way it was won and the previous degree of commitment to the colonial mercantilism conditioned the new republics' performance. Independence did not level off regional disparities. On the contrary, it might have exacerbated them.

No evidence is available on within-countries income distribution for the pre-1870 period with the exception of Argentina where the expansion in the pastoral sector resulting from improved terms of trade increased the reward of the intensively used factors (capital and land), while the farming sector contracted and the returns of its intensive factor (labor) declined. A redistribution of income in favor of owners of capital and land took place. The increase of inequality within Latin American countries is confirmed by Williamson's findings for the four decades prior to World War I.

In the half century after independence, Latin American real product per head grew at 0.5 percent per year, a rate similar to the world average[123]. And her decline relative to the United States was comparable to that of the Russian Empire, and much milder than in the cases of Africa and Asia.

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[122] Jaramillo Uribe, Meisel and Urrutia, "Continuities and Discontinuities".

[123] Computed from sources provided in Table 6 as the mean of the unweighted and the population weighted average of the four countries, Brazil, Chile, Mexico, and Venezuela for which estimates of real income per head are available.

Later, in the first episode of globalization (1870-1913), Latin American GDP per head grew at 1.7 percent yearly and was the only world region that did not worsen her position relative to the USA[124].

The inheritance of Spanish *Ancien Régime* institutions in Latin America as opposed to non-absolutist (post-1688) institutions in British America does not seem to be a solid argument to explain different performances, especially if the scope is widened to include the post-independence performance of British (and French) former colonies in Africa and Asia. British North America appears as an exceptional example of success that cannot be used as a yardstick to measure Latin American success.

Before we jump to the usual negative conclusion about Latin America's performance in the nineteenth century a systematic comparison to other post-colonial development experiences elsewhere, especially in Africa, will help assess Latin America's achievements and shortcomings after independence.

An agenda for comparative research on post-colonial experiences in Africa, Asia and Latin America emerge from the discussion. The consensus is that the contemporary African political map was largely determined by the nineteenth century "scramble for Africa" but the same fragmentation occurred in Latin America after independence. Is there a better endogenous explanation?.

Why the British and Spanish often used indirect governance in their African and Asian and Latin American colonies, respectively?. What was its effect on long-run growth?.

A move towards authoritarian regimes took place in Latin America and African and Asian ex-colonies after a democratic start immediately after independence. Was it because of the necessity for strong leadership when institutions are initially weak and latent conflicts strong?.

Did independence cause de-globalization in Latin America and Africa during the following half century?.

[124] Computed from the sources provided in Table 6 for the average of the six Latin American countries for which estimates of real income per head are available.

Table 1
Transport Costs in Latin America c. 1842
[Sterling per Ton]

	Average Freight From England	Internal Transport Cost From Port to Capital
Peru	4	1.1
Mexico	2.5	15.4
Uruguay	2	0
New Granada	2.5	50.4
Bolivia	4.5	21.6
Ecuador	4.5	16.8
Chile	3.75	2.7
Argentina	2	0
Venezuela	3	4.8

Source: Celia W. Brading, "Un análisis comparativo del costo de la vida en diversas capitales de Hispanoamérica (1842)", *Boletín Histórico de la Fundación John Boulton*, 20 (1969), 229-266.

Table 2
Per Capita Purchasing Power of Exports and British Investment per Head
[1880 Pounds Sterling]

	Exports			Investment		
	1830	**1850**	**1870**	**1825**	**1865**	**1875**
Argentina	0.26	2.10	2.87	0.90	1.29	8.83
Bolivia		1.11	1.50			0.93
Brazil	0.57	1.01	1.48	0.48	1.66	2.41
Chile	0.58	1.60	2.47	0.48	1.31	4.01
Colombia	0.32	0.38	1.14	2.79	2.04	1.18
Costa Rica		2.32	3.67			20.10
Cuba	2.30	4.53	7.97		1.60	0.88
Domican Republic		0.70	0.86			3.20
Ecuador		0.40	0.71		1.34	1.50
El Salvador		0.66	1.26			
Guatemala		0.34	0.43		0.07	0.42
Honduras		1.00	0.62			16.98
Mexico	0.23	0.65	0.41	0.61	2.16	2.57
Nicaragua		0.75	0.61		0.10	0.30
Paraguay		0.26	1.24			5.77
Peru	0.09	0.76	1.75	0.72	1.16	11.18
Uruguay		11.20	8.09		3.66	18.18
Venezuela	0.40	0.67	0.90		2.06	3.46
TOTAL	**0.84**	**1.07**	**1.55**	**0.56**	**1.45**	**3.50**

Sources: Current values deflated with the British export price index in Brian R. Mitchell, *British Historical Statistics* (Cambridge, 1988). Exports, Paul Bairoch and Bouda Etemad, *Structure par produits des exportations du Tiers-Monde 1830-1937* (Genéve, 1985), for 1830; Victor Bulmer-Thomas, *The Economic History of Latin America since Independence* (Cambridge, 1994), for 1850 and 1870; Irving Stone, "British Direct and Portfolio Investment in Latin America before 1914", *Journal of Economic History* 37, 3 (1977), 690-722.

Table 3

Net Barter Terms of Trade in Latin American Countries, 1810-1880

[1836/40 = 100]

	Cuba	Mexico	Venezuela	Colombia	Brazil	Argentina
1811/15						61
1816/20						76
1821/25						115
1826/30	108	84			94	127
1831/35	100	95	105		107	125
1836/40	100	100	100	100	100	100
1841/45	102	98	105	124	97	108
1846/50	86	101	102		109	104
1851/55	69	106	74		120	123
1856/60	62	100	80	157	115	165
1861/65	53	79	76		120	127
1866/70	56	94	71	127	89	105
1871/75	57	104	108	139	147	
1876/80	57	116	112	178	173	

Sources: Cuba, Linda K. and Richard J. Salvucci, "Cuba and the Latin American Terms of Trade: Old Theories, New Evidence", *Journal of Interdisciplinary History*, 31, 2 (2000), 197-222; Mexico, Richard J. Salvucci, "The Mexican Terms of Trade, 1825-1883: Calculations and Consequences" (1993) (mimeo); Venezuela, Asdrúbal Baptista, *Bases cuantitativas de la economía venezolana, venezolana 1830-1995* (Caracas, 1997); Colombia, José Antonio Ocampo, *Colombia y la economía mundial 1830-1910* (Bogotá, 1984); Brazil, Nathaniel H. Leff , *Underdevelopment and Development in Brazil* (London, 1982); Argentina, Carlos Newland, "Exports and Terms of Trade in Argentina, 1811-1870", *Bulletin of Latin American Research*, 17, 3 (1998), 409-416.

Table 4
Per Capita GDP at Colonial Independence
(1990 International Geary-Khamis Dollars)

Country	Year of independence	Metropolis	GDP per head	GDP per head Ranking
Swaziland	1968	UK	1588	1
Congo	1960	France	1523	2
Malaysia	1957	UK	1455	3
Morocco	1956	France	1451	4
Senegal	1959	France	1448	5
Algeria	1962	France	1433	6
Mozambique	1975	Portugal	1404	7
Somalia	1960	Italy	1277	8
Còte d'Ivoire	1960	France	1256	9
Ghana	1957	UK	1241	10
Tunisia	1956	France	1223	11
U.S.A.	**1776**	**UK**	**1166**	**12**
Sri Lanka	1948	UK	1159	13
Madagascar	1960	France	1125	14
Angola	1975	Portugal	1074	15
Zambia	1964	UK	996	16
Zimbabwe	1965	UK	984	17
Benin	1960	France	978	18
Sudan	1956	UK	976	19
Niger	1960	France	940	20
Central African R.	1960	France	925	21
Guinea-Bissau	1975	Portugal	925	22
Egypt	1922	UK	902	23
Sierra Leone	1961	UK	858	24
Nigeria	1960	UK	854	25
Gambia	1965	UK	846	26
Cameroon	1960	France	832	27
Indonesia	1949	Netherlands	797	28
Congo Dem. Rep.	1960	Belgium	755	29
Vietnam	1954	France	732	30
Mexico	**1810**	**Spain**	**721**	**31**
Kenya	1963	UK	714	32
Togo	1960	France	698	33
Rwanda	1962	Belgium	695	34
Uganda	1962	UK	694	35
Brazil	1825	**Portugal**	**675**	**36**
Philippines	1946	USA	646	37
Pakistan	1947	UK	*643*	38
Laos	1954	France	642	39
Mauritania	1960	France	625	40
India	1947	UK	618	41
Burkina Faso	1960	France	609	42
Chile	**1817**	**Spain**	**607**	**43**
Cambodia	1954	France	582	44
Lesotho	1966	UK	577	45
Chad	1960	France	569	46
Bangladesh	1947	UK	540	47
Mali	1959	France	530	48
Cape Verde	1975	Portugal	525	49
Tanzania	1964	UK	494	50
Botswana	1966	UK	473	51
Venezuela	**1819**	**Spain**	**437**	**52**
Burundi	1962	Belgium	398	53
Burma	1948	UK	*396*	54
Guinea	1958	France	368	55
Malawi	1964	UK	359	56

Table 5
Comparative Geography and Historical Demography

	Mean annual temperature ºC	% Land area within 100 km of sea coast	Absolute value of latitude	Europeans' Adult Mortality rates in early 19th century (per thousand)	Urbanization Rate in 1500 (%)	Population density in 1500
Mexico	19,0	0,373	0,256	71,0	14,8	2,62
Central America & Caribbean	25,1	0,818	0,150	108,8	8,3	1,53
South America						
(excl. Brazil & Southern Cone)	21,9	0,158	0,152	73,4	6,6	1,08
Brazil	23,7	0,093	0,111	71,0	0,0	0,12
Southern Cone	16,3	0,366	0,359	69,6	0,0	0,30
Latin America	22,1	0,457	0,189	86,3	6,3	1,16
Canada & USA	5,5	0,066	0,544	15,6	0,0	0,06
Non-Spanish West Indies	26,6	1,000	0,206	130,0	3,0	2,97
Australia & New Zealand	16,9	0,579	0,378	8,6	1,5	0,20
Northern Africa	20,0	0,283	0,336	71,8	14,7	32,06
Sub-Saharan Africa	25,6	0,170	0,112	567,5		
Asia	26,1	0,554	0,160	74,2	6,9	10,17

Sources: John W. McArthur and Jeffrey D. Sachs , "Institutions and Geography: Comment on Acemoglu, Johnson and Robinson (2000)", NBER Working Paper Series 8114 (2001); Daron Acemoglu, Simon Johnson and James A. Robinson , "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution", *Quarterly Journal of Economics* 17, 4 (2002), 1231-94.

Table 6
Comparative Levels of GDP per Head, 1820-1998 [World = 100]
(1990 International Geary-Khamis Dollars)

	1820	1870	1913	1950	1973	1998
Argentina		122	255	236	194	161
Brazil	101	97	54	79	95	96
Chile	91	149	195	174	121	171
Colombia			82	102	85	93
Cuba			242	160	79	38
Ecuador			63	90	78	73
Mexico	108	78	115	112	118	117
Peru			69	107	96	64
Uruguay		231	219	220	121	146
Venezuela	65	72	73	353	259	157
Latin America (4) (unweighted)	**91**	**99**	**109**	**180**	**148**	**135**
LA4*	**102**	**92**	**86**	**110**	**114**	**110**
LA6*		**96**	**113**	**131**	**124**	**116**
La10*			**111**	**128**	**116**	**108**
LA*				**121**	**110**	**102**
Africa (4 countries)			64	69	51	43
Northern Africa			*51*	55	44	51
Asia	87	64	45	34	42	62
Asia (excl Japan)	86	69	56	44	52	116
China	90	61	37	21	20	55
India	80	61	45	29	21	31
Other Asia	87	73	59	48	58	130
Japan	100	85	92	91	279	358
Eastern Europe			101	100	121	96
Former USSR	103	109	99	134	148	68
United States	188	282	351	452	407	479
Western Europe	185	228	230	217	281	314
Per Capita GDP Level (1990 $)						
World	667	867	1510	2114	4104	5709

***** LA4, LA6, LA10 and LA, population weighted averages of four, six, ten and all Latin American countries.

Source: Angus Maddison, *The World Economy, A Millennial View* (Paris, 2001) except for Cuba and Ecuador for 1913, derived from Astorga and Fitzgerald, "Statistical Appendix"; Chile, 1820-1990, from José Díaz, Rolf Lüders and Gert Wagner, "Economía chilena 1810-1995: evolución cuantitativa del producto total y sectorial". Pontificia Universidad Católica, Instituto de Economía, Documento de Trabajo nº 186 (1998);and Argentina prior to 1950, from Roberto Cortés-Conde, *La economía argentina en el largo plazo* (Buenos Aires, 1997), that have been spliced to Maddison's levels. For Venezuela, I assumed GDP per head in 1820 and 1830 was identical and took the pre-1913 figures from Asdrubal Baptista, *Bases cuantitativas*, all of them have been spliced to Maddison's estimates.

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