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MACROECONOMIC ASPECTS OF SPANISH AMERICAN INDEPENDENCE.
The effects of Fiscal and Currency Fragmentation, 1800s-1860s*

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Abstract

Economic historians explaining the divergent economic path in North and South America over time focus on the post-independence period in the former British or Spanish colonies. Their institutional explanation for Latin American economic backwardness is anchored in the political disorder that occurred in the postcolonial period, which did not provide the right conditions for economic growth. Yet, more important than political aspects, fiscal and monetary fragmentation of the Spanish Empire were major factors in hindering the economic growth later in the 19th century. This paper argues that economic struggle over resources determined political outcomes rather than the other way round. By assessing the macroeconomic effects of Independence on the contemporary and further economic and political development it shows that comparisons with North America are ill conceived. The study focuses on the disintegration of colonial fiscal and monetary regimes, that had organised the economy around silver mining and the export of silver currency as fiscal revenues, and the subsequent transformation into export-led economies, specialised in producing raw materials and foodstuff. .

Keywords: macroeconomic determinants of institutional change, fiscal and monetary history, political and economic transitions, macroeconomic policy.
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The usual interpretation of Spanish American Independence is a political one: a crisis of legitimacy following the imprisonment of the King and Napoleon's take-over of Spain in 1808. These events set off political resistance in Spain and in the colonies. Given the incapacity of the new authorities to hold the empire together, the most remote and least populated regions of the colonies broke free. Social unrest began in the 1780s, increasing in size and extent until the revolution finally ignited in the River Plate in the 1810s. Unlike previous revolts in Upper Peru or New Granada, this time a revolutionary movement emerged from within the Spanish and Creole elite and soon spread to the neighbouring areas. Meanwhile, in northern parts of the empire, a rebellion of non-elites was also taking off. Emancipation was complete in 1825, when the last Spanish post fell in Upper Peru, present day Bolivia. In the same year Britain recognised the diplomatic status of the new republics and signed commercial treaties with most of them. Distance from the metropolis and the costs of suppressing the rebellion can explain why the poorest colonies left first. Instead Spain reaction focused on the explosive political and social reactions occurring in the wealthier and less peripheral regions of the empire, such as Mexico and Peru. Reasons for resistance were various but similar. The Bourbon reforms of the 1760s-1780s had led to major redistribution of wealth and importance within the empire. They also altered the tax burden across the empire and between classes within the colonies. The costly involvement of Spain in European wars accelerated and distorted these disparities further.

Neo-institutional interpretations of Independence depict a region absorbed by political divisions, endemic civil wars, despotic rule and disorder, which together wasted the growth potential of these economies. Political historians emphasise the territorial fragmentation, the long civil warfare that prevailed after the end of Spanish rule and the resulting political instability as a corollary of Independence. In fact, explanations for Latin America's economic performance in the nineteenth century owe greatly to these political accounts of the revolution. Independence is seen as exogenous to the economic analysis following the birth of the modern republics. It is not surprising that institutional explanations are the most developed and commonly used to address the stagnation of Latin America economies. However, there are no explorations of probable economic causes for the long civil warfare, disorder and weak institutionality, that preceded Independence in Latin America. The eventual political constitution that succeeded the present day republics has been taken for granted. Two obvious questions arise from this framework, but the literature has barely considered: What was the warfare or the political strife about? Were the national boundaries of these countries in the 1860s-80s predetermined?

This essay will address these questions by inverting the terms for reasoning: it will show how macroeconomic aspects are crucial to an understanding of the political and economic outcomes of the Spanish American Independence. The approach differs from Acemoglu, Johnson & Robinson (2002). These authors revise the causal effects of macroeconomic policies on economic outcomes and find that countries pursuing poor macroeconomic policies have weak institutions. They suggest that distortionary macroeconomic policies are more likely to be the effects of underlying institutional problems rather than main causes of economic volatility.[1] Yet how did these economic aspects, namely fiscal and monetary events, affect the extent, duration, and contents of civil war, and thus political instability? Ultimately there were political-economic path dependencies in the design of the Latin American political map of the nineteenth century, as well as in the subsequent transformation of some economies into raw material and foodstuff exporters and in the

[1] See also (Fishlow 1990) on the virtues of and reasons for an effective macroeconomic policy in Latin America in the 1990s. In a review of a recent collection of essays by D. Rodrik, the importance of macroeconomic stability to foster economic growth was highlighted. LR Pomfet, (2003). "What emerges surprisingly clearly is the importance of macroeconomic stability"

decline of the mining economies. This interaction affected resource allocation given factor endowments and relative transport costs, and thus shaped the path of development of these economies thereafter.

Hence, a path dependence analysis of the macroeconomic effects of the intertemporal budget constraint in the transition from colonies to independent nations seems more accurate thn the NIE for explaining the dynamics of the growth process. This research follows a dynamic approach based on the `transversality condition´ (the time consistency problem between fiscal policy and fiscal policy as the handmaiden of monetary policy) derived from Sargent & Wallace, (1981), Sargent (1987, 1997, 1999), Sargent & Ljungqvist (2000), Alesina y Perotti, (1995), Barro (1997a & 1997b).[2] By studying the intertemporal budget constraint, the fiscal and monetary dilemma can be modelled: How to fund any set of institutions and rules of the game, economic and political, irrespective of the government's utility function? Any governing body (of any scale or scope, irrespective of its success at effectively controlling a territorial jurisdiction) faces a dilemma when it seeks the means to finance its rule over time (further taxes, borrowing, seigniorage or inflationary tax), but is limited by the existing fiscal and financial position. So causality goes in both directions. Based on this approach this paper seeks to disentangle: a) changes in relative prices (distribution of income); b) the real effects on exchanges rates (terms of trade); and c) the influence on the economic decision making of individuals (incentives). These elements are crucial to assess the scope of capital markets, the integration of markets, and the benefits (or losses) expected from trade. This essay is a forward looking assessment of the macroeconomic results of fiscal and monetary arrangements in the former Spanish American colonies.

The paper is divided in five sections. The first comprehensively reviews the available literature in order to set the argument in context. The second presents a consideration of the alleged political instability as the roots of the Latin American economic failure. Section three focuses on the macroeconomic aspects of the Independence, with particular emphasis on fiscal and monetary issues. The fourth section assesses some economic consequences of the fiscal fragmentation and the resulting diversity of monies that occurred along with the political disintegration of the Empire. It addresses how the regions performed during the age of globalisation, and explores what benefits these countries could have gained from the expansion of international trade and financial markets that occurred in the late nineteenth century. Finally some conclusions are offered.

I. REVIEW OF LITERATURE

The revolution reduced the Spanish empire to a contentious jigsaw puzzle, one that took more than fifty years to finally constitute individual markets and polities. During this period the new republics spent their resources on efforts to establish a new order and legitimacy, which would enable them to claim future fiscal revenues. These revenues would be the bases of the modern states. Traditional economic historians argue that it was only with the definitive constitution of these new countries that their economic potential could be realised. Institutional stability fostered the inflow of foreign capital. Capital markets took shape as a means to fund the now stable rulers. Exports boomed in some economies, allowing them to enjoy the fruits of globalisation in the last quarter of the century. Some of these new republics outperformed the rich economies of the Old World, even becoming standards of success at the time. However, as shown more recently, the previous 50 years at the beginning of the century were crucial for the subsequent performance of the Latin

[2] For a similar study see Della Paolera, Irigoin & Bozzoli (2003)

American economies in the long run (Coatsworth 1998, Haber 1997, Cardenas 1997), and it is clear that Latin America fell behind very early after Independence if the USA is used as the standard of comparison.

Macroeconomic aspects of the revolutionary process clearly mattered, as shown in a number of extremely valuable analyses of the French and North American Revolutions (Sargent and Velde, 1995 and Bordo and Vegh 1998). But no comparable study has been undertaken for Latin America. Instead, there are two related features in studies of Latin America's post-colonial economies: a) the comparison with those areas of North America colonised by the British and the French as a standard of economic and institutional development (North, Weingast and Summerhill, 2000, Coatsworth 1998, Coatsworth and Tortella, 2001, Sokoloff 2001, Coatsworth and Williamson 2002; Engerman and Sokoloff, 1997, 2000, 2003 for a different view); and b) the assessment of the economic performance of the independent republics by using macroeconomic aggregates (Coatsworth 1998). Yet these parameters have some statistical weakness and problems of significance. The required information at aggregate level is only available (or robust enough) after the 1880s at best. Only by then had nation-scale administrations been fully established without disputes. Indeed, the strife about the form (fiscal and political form, or constitution) had ended. As will be developed below, this is a sensitive claim for the argument presented in this paper.

In addition, this approach has some ontological flaws:

1) The macroeconomic aggregates by the 1880s are themselves the results of economic and political processes in the former colonial regions, which ended with the creation of nation-scale markets. The indispensability of the political and economic outcomes should be considered when using ex-post and reduced forms of data.

2) As said, most often independence has been taken as an exogenous factor in the explanation of its economic consequences. Some general features have been attributed to the end of Spanish rule without considering that **the prime result of independence was the disintegration of the colonial state**. It resulted not only in the political fragmentation of the empire, but also in the collapse of the fiscal system and monetary regime that had organised the economy in the continent for three centuries. **Independence in Spanish America also meant the disintegration of the largest fiscal and monetary union ever known to that date.**

3) Since neither the economic orientation of the new republics nor their taxation differed much in postcolonial times compared to the colonial fiscal structure, it does not seem appropriate to consider the change of political system as a breaking point or a discontinuity in the economic history of Spanish America. Regardless of some idiosyncratic events[3], any economic interpretation of Spanish American Independence should account for the particulars of the fiscal and financial situation, in the empire and its respective colonies, by the 1800s.[4]

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[3] For instance the failure of the Insurgence rebellion in Mexico in 1810 followed by the restoration of Spanish rule for a decade; or the quiet resignation of the governor in Panama, to take oath as head of the revolutionary government the same afternoon.

[4] The historiography of the fiscal and administrative reforms directed by the Carlos III and his heirs is wide but inconclusive on their long run impact. Few scholars have suggested a link between the fiscal crisis of the *Ancien Regime* in Spain and the collapse of Imperial rule (Fontana, 1971). However no further research has explored this assumption, nor has it related them to the economic stagnation of both the metropolis and the empire during the nineteenth century.

With the exception of a few compilations of articles, (Prados & Amaral, 1993, Liehr, 1989), independence from Spain has not received much attention from economic historians other than from the North American scholars mentioned above. In fact, available interpretations of the performance of Latin American economies in the nineteenth century are focused on the economic consequences of political events - rather than the economic causes of institutional changes -, namely the effects of mercantilist rule's disappearance. However the integration of national economies in the Atlantic world was only realised once the modern states consolidated by the end of the nineteenth century.

The view of Latin American and European historians is definitively shaped by the idea that Independence was an exogenous political phenomenon, and this permeates the literature of every aspects of Latin American studies. The revolutionary decades are considered a watershed in the long transition from colonies to individual nations and markets. This is even apparent in major studies on economic, fiscal and monetary history of the continent, as seen in the seminal work by TePaske and Klein. Comparably good studies are available on the financial and fiscal situation of each of the new republics.[5] The former analyse the empire in South America as a whole entity, desegregated by viceroyalties as the largest political and administrative units in the New World, the latter have focused on the individual republics, although these only defined their political and fiscal boundaries by the 1860s. One and another use the revolutionary decades, respectively in each viceroyalty, to set either the starting point or the closing date for their analysis. Setting the stage for studying the economic and institutional performances of the former colonies around a political discontinuity in the 1810s-20s disregards major continuities, like taxation and monetary regime, that persisted in the new republics. In fact, as will be shown, the legacy of these partial or incomplete institutional changes affected the economic success of the postcolonial states.

The economic history of individual countries in the nineteenth century is overwhelmingly organised around political and institutional events. For instance it is common to mistake the history of the province of Buenos Aires for that of Argentina. Yet before the 1860s there was no such identifiable jurisdiction either politically or fiscally. Nor did the region by the 1870s yet have a national currency. In the late 1870s debased Bolivian coins formed the reserves of Argentina's incipient banking system, and in some areas of the Argentinean Interior Chilean paper money was preferred to that issued by several provinces.[6] The Viceroyalty of New Granada also achieved independence from Spain in the 1810s, under the name of Great Colombia. It took 20 years to break into three different fiscal and monetary entities, as modern Ecuador, Venezuela and Colombia, from which Panama separated only in 1903. The River Plate viceroyalty established in 1776 also broke up. Paraguay separated in 1811. Chile separated in 1818 after the revolutionary armies took over the capital. Uruguay, on the eastern bank of the River Plate finally and formally broke away in 1825, following the war between Brazil and the United Provinces of the River Plate. Potosi and the adjacent regions also formed a new republic in 1825 after fifteen years of continuous warfare with royalists. Yet Bolivia had a very unstable political life after independence, and into the 1830s and 1840s it was involved in fights with Peru. For part of the 1840s both countries shared Customs in the port of Arica, once Bolivia's attempt for open access to the Pacific was defeated by its own fiscal and monetary decline.

Mexico is probably the most obvious example of the inconvenience of using 1880s' nations as the unit of analysis to assess the fate of Latin American republics in the post

[5] A recent collection of essays provides a good overview of the fiscal and monetary history of individual countries. Bordo and Cortes Conde (2001) in particular ch 9-12.
[6] In fact contemporary diplomats and international bankers considered the provinces to be separate units. In the River Plate area a loose confederation of provinces existed until the 1860s, entangled in civil warfare.

independence period. From 1836 to 1848 Mexico lost 55,000 kms2, more than half of the territory which New Spain had in colonial times. The loss of today's Texas, New Mexico, Florida and California means that Mexico is ill suited for comparisons of economic performance with other national economies that incorporated larger territories in the same period. More important, however, are the fiscal and financial costs that the territorial loss caused. The financial and monetary strain Mexico endured to maintain its territorial jurisdiction together had a definitive macroeconomic impact, as will be shown. Thus in the 20 to 30 years following the end of Spanish rule, Mexico incurred huge extra costs while the macroeconomic fundamentals of the empire continued to decline. The succeeding fiscal, financial and political constitution of the new republic was resolved in these decades. This process was expensive and determined the ensuing development of the postcolonial economies.

Indeed political boundaries emerged from within the existing colonial fiscal structure. So the definitive constitution of the republics later in the century resulted from the aggregation of some of these fiscal and monetary entities into new states. The revolution meant that *cabildos* (colonial corporation for local government) resumed sovereignty over the realm once the king was imprisoned in 1808. For political historians the resumption of sovereignty was the constitutional issue at stake in the process that opened with Independence. New local governments, *juntas*, were formed at every village or city of some importance, as occurred in the peninsula. Significantly, these locations were the sites of the *cajas reales*, local royal treasuries. Before the Revolution these treasury districts were an integral part of the imperial fiscal network to organise royal finances. Their officials supervised the collection and distribution of royal revenues. They also defrayed the current expenses of the administration and regular military. These *cajas* were located in vice regal capitals, productive mining areas, major ports, agricultural-market centres, administrative cities and military outposts. As the empire extended and the Bourbons policies reinforced the extraction of fiscal rents, new *cajas* appeared all over the Indies as a means of reinforcing royal control over the collection of taxes and thus insuring the crown its share of that income. By the 1810s Mexico had 23 fiscal districts, New Granada had 18, Peru had 13, Chile had 5, the River Plate had 14, and the Upper Peru had 9.[7]

The near equivalence of the sites of the former fiscal administration and the ensuing political units that emerged after the Revolution is very telling. Those units, provinces or states became to a great extent fiscally and politically autonomous. Some of them were bound to each other in loosely defined constitutional (federal, confederate or consolidated) national states. More often though, they were related to each other by the continuous warfare that characterised nineteenth century Latin American political development. As will be shown, most of them also attempted to have their own money. Indeed the economic and political process of their successive aggregation into greater fiscal units should sketch the economic history of state formation of Latin America's current republics in the 19th Century.

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[7] The *cajas* were located as follows: for New Spain (Mexico) in Acapulco, Arispe, Bolaños, Campeche, Chihuahua, Durango, Guadalajara, Guanajuato, Merida, Mexico, Michoacan, Oaxaca, Pachuca, Presidio de Carmen, Puebla, Los Alamos -Rosario, Saltillo, San Luis Potosi, Sombrerete, Tabasco, Veracruz, Zacatecas and Zimapan. For Peru in Arequipa, Carabaya, Castrovirreyna, Chachapoyas, Cuzco, Huamanga, Huancavelica, Jauja, Lima, Piura y Paita, Puno, Saña, San Juan de Matucana, Trujillo, Vico and Pasco. For the Upper Peru (Bolivia) in Carangas, Charcas, Chucuito, Cochabamba, La Paz, Oruro, Potosi, Santa Cruz de la Sierra and Arica, For Chile in Concepcion, Mendoza, Santiago, Valdivia and Chiloe. In The River Plate: Buenos Aires, Catamarca, Cordoba del Tucuman, Corrientes, Jujuy, La Rioja, Maldonado, Montevideo, Paraguay, Salta, San Juan, Santa Fe, Santiago del Estero and Tucuman. TePaske (1984) p.70. Cuba had 23 (Te Paske, 2002, 32). In New Granada the main 4 cajas, Cartagena, Bogota, Popayan, Panama gathered 67% of total royal revenues. Jaramillo, Meisel & Urrutia (2001)

II. Instability. What instability?

According to North, Weingast and Summerhill, "The Spanish Crown had long provided an important enforcement mechanism".[8] Without it political disorder followed. Disorder engendered political instability and this caused uncertainty and raised transaction costs, all of which acted as a deterrent to growth. But does causality run from political to economic events? What is instability? What were the ultimate roots of Latin America's political instability?

Nineteenth century Mexican political history is probably the paradigm of political strife and instability. Data shown in table 1 confirms the stereotype.

Table 1. ***Measuring Instability.*** *Members of Mexican Administrations´ length of term, 1824-1857. (in months)*

Position	**Number**	Mean months	**Max months**
President	16	12.81	54
Minister of War	53	6.32	30
Minister of Finance	**87**	**4.31**	**32**
Foreign minister	57	4.98	32
Minister of Justice	61	6.13	29
Provisional governments			
President	33	5.97	32
Provisional War	24	2.12	21
Provisional Finance	**32**	**0.75**	**3**
Provisional foreign	28	3.07	20
Provisional justice	33	1.24	14
Total	424	4.65	54

Own estimates from DF Stevens *Origins of Instability in Early Republican Mexico* (1991)

The job of the person in charge of Mexican finances (only the national or federal administration are shown above) was far more hectic than that of those responsible for the armies or the polity. The longest term of the state secretary in charge of the Mexican Treasury was 32 months in the early 1830s. Even during the more stable years of Benito Juarez (1861-1872) there were 8 changes in the person who conducted Mexican finances.[9] As will be further developed below, revolutionary governments led by the Great Liberators of Latin America all failed in administering the new republics' finances: Generals such as Santander in Colombia, Sucre in Bolivia or San Martin in Peru, who surrender the government to a Constituent Congress in 1822. At the same time that the amortization of paper money his government had issued. Patriot troops rioted in Lima as they were favoured recipients of paper money. "Public order disintegrated" concurrent to the failure of paper money. Both were due admittedly to "the revolution's inability to become financially self-sufficient". (Anna, 1974, 878) [10]

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[8] ".. widespread political instability and violence distinguish much of Latin America. While the US enjoyed an enduring set of political arrangements that both provided to stability and protected markets from predation, most of Spanish America erupted in internecine war. Instability diverted resources from economic activity and channelled them into *caudillo* armies and a variety of praetorian efforts. Instability made impossible to establish institutions that could bring the expected private returns rate from investment closer in line with social returns" North, Weingast & Summerhill (2000) p. 41ss.

[9] During the *porfiriato* (1877-1911) there were 16 secretaries L. Ludlow (cord) *Los Secretarios de Hacienda y sus proyectos* (Mexico, 2002) I, 26-7, 170.2, 312-3; II, 9, 86.

[10] For a quite different trajectory in the case of the French Revolution, see Sargent & Velde (1995)

"Many of the people who had most warmly welcomed the hero of Ayacucho [General Sucre] in 1825 became his most convinced enemies during the next three years". Mutinies broke in Chuquisaca, one of the most tortured regions of present day Bolivia. This was where the tax revolt had started in the late 1780s and had also been the battlefield in the long war between Spaniards and patriots. As explained below, Sucre's endeavours to reform colonial taxation according to Simon Bolivar's plans failed entirely. He wrote to Bolivar in his resignation from the Presidency of Bolivia "I am convinced that in the long run [Bolivia] will become inflamed like the rest of America, and I do not want to be the victim, when knowing the causes, I see that the solution is impossible".[11]

The case of Peru is probably the most ominous example of the fiscal nature of the ensuing political instability that eroded the achievements of the Founding Fathers. Lima was surrendered to revolutionary armies after an agonising 3 years, during which Spaniards resisted a long naval siege to Callao while fighting back in the mining areas inland. Fiscal needs had already obliged Spanish officials to abandon mercantilist restrictions and adopt free trade in the most recalcitrant loyalist colony of the empire. Spanish rule in Peru already financially depended on customs revenues, from which it obtained more than 30% of its income. (Jacobsen 1989, 318). This anticipated the later course of action of post-independent republics. Fifteen years of war in the region had exhausted the royal treasury and the purses of Peruvians. The situation became dramatic as Lima's food supplies ran short. Over-taxation and compulsory borrowing by royalists had ruined the mercantile classes and depleted the local capital stock. Unable to raise money from locals, revolutionary leaders abolished all direct taxes as a desperate means to gather popularity.[12]

Were political causes ultimately behind the overall disorder, within this framework of fiscal and financial penury? What was the scope revolutionary governments had to set a stable macroeconomic environment that could accompany the change of political regime? What was the legacy that they received from colonial rulers, and what could they bequeath to following republican administrations? All these republics achieved their independence by 1825. Together with their new diplomatic status came their bonds to foreign sources of capital. However, all these countries defaulted on the loans that were contracted during the London market's boom in 1824. (Marichal 1989) The crash of the London market was caused by "the anticipatory export of goods to South America by British merchants counting on payment eventually from the great loans that were made in 1824. [But] the Latin American venture proved to be little more than empty mine shafts" (Neal, 1993 p. 172). In Latin America this episode disturbed further trade as markets were glutted and specie was severely drained. Increasing shortages of circulating specie were also due to an increased demand for money as recruitment and mobilisation monetised sectors formerly outside the wage economy, e.g. slaves and indigenous communities. There were also increasing needs for domestic borrowing as budgets fell short of military expenditures. With debt default, external sources of capital dried up. Thus further taxes, domestic borrowing, or monetary experiments were the only avenues out of the fiscal and financial strangling left by the crisis of the empire in the continent.

By the first decade of the nineteenth century, Spanish American societies were fiscally exhausted from the strain of Bourbon demands for revenues. John J TePaske, one of the

[11] Quoted in Lofstrom (1970). p. 298.

[12] They also recognised debts they had incurred on (6.50 million), distinguishing from $11.7 million of the colonial standing debt (Anna, 1974, 678). The financial burden imposed on late colonial administrations by the metropolis demands to maintain Spain at war is suggested by Marichal, (1999). From 1781 to 1811, colonial subjects in New Spain had assisted the crown with more than 44 million pesos in all types of voluntary or compulsory loans. The sum represented 5% of the total revenue of Spain in the period. (Ibid. Appx I-3). Mexican silver had also guaranteed the Spanish borrowing of 58 million Dutch guilders in Holland between 1779 and 1807.

most knowledgeable scholars of Spanish American finance, points out that the financial depletion and exhaustion of the colonial economy combined with the enormous exaction of revenues paved the way for the revolt, and eventually the collapse of the empire.[13] As said, this situation had left Peru at the time of the Revolution in a uniquely acute fiscal and financial disarray. While eighty per cent of Peruvian exports in the 1790s consisted of millions of silver coins and bars, by 1821 this same economy had to resort to fiat paper money to pay for current expenses. Issues amounted to $500,000, half of the average yearly customs revenues, and lasted in circulation no longer than 2 years. The failure of revolutionaries at achieving some sort of financial stability was repeated in the River Plate and in Mexico. In the River Plate, General Pueyrredon started to issue paper scrip for paying current expenses as early as 1817. In 1823 the Empire of General Iturbide, who led the expulsion of royalists from Mexico, saw his fiduciary experiment collapse within months, and the 4 million paper pesos he had printed rapidly disappeared from circulation.[14] In the year following the resignation of General Sucre, Bolivia started playing around with the silver quality of its currency.

The fiscal and financial crisis of the Empire was crudely apparent to the revolutionaries. They needed revenues in order to establish republican rule. These revenues had been the pillars of the empire, as shown in the well-regarded "pillar" Spanish dollars. Adam Smith had already noted that, opposite to what had been the experience of British colonies, Spanish Americans had funded the existence and expansion of the empire.[15] Now, in the absence of the Spanish king, who would furnish the state in the role of revenue collector? Who ultimately would "pay" for the costs arising from the new state of affairs? This demanded a consensus that, in a society as fragmented s postcolonial Hispanic American, was far from easy to achieve. Clearly, the initial setting for post-independent rulers appeared to be seriously conditioned by the existing fiscal and financial bankruptcy of the colonial Treasury and economy.

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[13] Te Paske (1982)

[14] During the Iturbide Empire of 1821-22 four million pesos were issued as fiduciary money, but they were soon retired from circulation in 1823. This was despite their being printed on the reverse of papal edicts for persuasion. (Lopez Rosado 1975. 41).

[15] In those institutional accounts of the relative backwardness of Latin American republics the lack of self government is associated with inefficiencies from its colonial legacy in instituting governing institutions conducive to growth, as was the case in North America. (North, Weingast and Summerhill, 2000). The assumption of a highly centralised absolutist state, attributed to Spain, (North & Weingast, 1989, North, 1989) is a misjudgement of the political nature of the imperial system of governance as shown by Jack Green's idea of *negotiated empires* and John Elliot's definition of early modern Europe as a system of *composite monarchies*. Jack Green draws in contemporaries like Edmund Burke, Charles Davenant, Adam Smith, and others to depict how the English Empire was changing at the time of the American Revolution: ".. the intensifying rivalries with France and Spain led to .. systematic constitutional discussions about the nature and workings of the empire. .. for the implementation of an imperial system that, like the contemporary Bourbon reforms in the Spanish Empire, would be uniformly structured, depoliticized and subject to rational directions [where] a new directive mode of imperial governance [would be substituted for] the traditional consensual [mode of governance]. The aftermath of the Seven Years War provided an occasion for a "policy revolution" that "involved direct metropolitan taxation of the colonies to help pay debts accumulated during the war" .."this [offensive] was complicated by changes in the internal governance of Great Britain following the Glorious Revolution .. [change of a *dominium regale* for the *dominium politicum et regale* in which the ruler needed consent and that consent usually had to be given by the representative assembly .. [furthermore] the American withdrawal from the British empire neither settled this controversy over the nature of the empire, nor put and end to British efforts to enhance metropolitan authority over the colonies" (Greene, 2002. P.276-79). The present performance of most of the colonies that remained within the British Empire until the mid 20th century shows that the case of the 13 North American colonies that left in 1776 was an extraordinary case rather than the standard legacy of British American institutions. Thus it considers the US as the norm in the assessment of the role of institutions in intensive growth economies.

III.a. FISCAL FRAGMENTATION

Originally the colonial fiscal structure was highly decentralised. The collection of revenues and the distribution of funds for current expenses was allocated through the 48 *cajas reales*. (Klein & TePaske 1982, TePaske 1982, 1986, Klein 1995) These were the purses of the empire. Historians have shown the importance of these *cajas* in financing the empire in the Caribbean, Florida and Cuba, the Philippines and in Cartagena de Indias with the *situados* (transfers) from New Spain (Marichal & Souto 1994) and New Granada (Meisel 2000), just as the River Plate was subsidised by Upper Peru (Halperin, 1980). The collection and distribution of revenues at the regional level had developed along with a high degree of autonomy and integration in the regional economies.

This system of financing the colonial state was created by the Bourbons to distribute the surpluses to the less favoured parts of the empire. Silver shipped from New Spain to the Caribbean funded the Spanish intervention in the imperial wars of the 1780s. Via Cuba, funds were redistributed to Santo Domingo, Puerto Rico, Florida, and Louisiana. Silver thus spilled over into the English possessions in the Caribbean islands. Seventy-five percent of the Treasury in Cuba consisted of *situado* from New Spain, which during the war with England in 1779-1783 amounted to at least 37 million pesos.[16] These subsidies became increasingly important in Buenos Aires after 1776, when the Bourbon reforms placed the mines of Potosi (separated from Lima) under the control of colonial authorities recently established in the River Plate. In colonial times Potosi was the chief treasury in terms of yield, and it distributed revenues throughout the southern part of the empire. In fact the *situado* financed the colonial capital with a subsidy of up to 1.5 million pesos a year.[17] These sums represented 54% of the Potosi treasury's total yield and one third of the Buenos Aires treasury's total income, which was the main *caja* in the River Plate.[18] This subsidy continued until the outbreak of Revolution in the 1810s. In a review of recent works on Mexican economic history Richard Salvucci use the example of Cuba to show that these fund transfers within the empire financed colonies deprived of silver. The same point could be made of Buenos Aires. As Salvucci suggests, the role that these intra-imperial subsidies had in attracting trade has to be considered when comparing the economic performance of the different former colonies.[19]

By 1810 the fiscal structure in Spanish America was heavily strained under the burden of metropolitan demands. Since the 1780s the economy had been suffering from mounting fiscal pressures and a growing social resistance that these policies provoked. Local authorities established at the sites of the *cajas* could grab revenues formerly collected for the imperial treasury. Thus they had an easy means to fund their participation in the disintegration of the Imperial state, particularly in the collapse of its fiscal and monetary institutions and the vacuum of a legitimate authority. With increasing demands to arm revolutionary troops and as domestic sources of revenues shrunk, each province collected levies on the goods that were consumed or in transit through its jurisdiction. In the subsequent attempts to form some sort of consolidated state on a greater scale, strife about revenue collection usually turned into open warfare.

Some colonies had a calmer transition to a republican fiscal and political constitution than others, notably Chile. Most of the others though remained entangled in political disorder and institutional instability. After 1821 Mexico, for instance, formally alternated between a centralist consolidated state and a federalist reunion of autonomous states (provinces),

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16 Marichal, (1999. P.50-1)

17 TePaske (1982) appendix viii. p. 94

18 Klein, (1973) Table 1.

19 As done by Coatsworth,(1998). He found that both Cuba and Argentina (Buenos Aires) were the most successful of the post-independent economies. Salvucci (2001)

most of which were former sites of a *caja* and operated their own mint houses. The centralist-federalist dispute conceals the competition between Mexico City merchants connected to the monopolistic trade via Veracruz with the economic interests of new local and regional competitors. As will be shown, after 1824 Mexico had more than 10 mint houses instead of a single one in Mexico City. Some of them were very near to rich mining centers, and were close to and well-integrated with the three new ports opened in the Pacific (San Blas, Acapulco and Mazatlan), or the two new Ports in the Atlantic (Tampico, Campeche). Ultimately this resulted in increased political bargaining over the benefits (or revenues) of being able to trade silver for imported consumer goods. Thus Mexico's transition to undisputed republican institutions, which would reduce transactions costs and promote some growth, was costlier and longer than Chile's. It took Mexico about 80 years after the *Insurgencia* revolted against Spain in 1811 to reach a period of institutional modernisation and some economic growth, under the regime known as *Porfiriato*.

Extracting blood from a turnip: postcolonial taxation

In 1840 an Englishman travelling in Mexico wondered

> "How much taxation people can bear? Mexicans achieved the miracle almost as great as extracting blood from a turnip. There is no country in the world, which for its surpassed climate, variety of land, production, which in proportion of its population is capable of producing so much, certainly none which does produce so little." [20]

As noted by Adam Smith, the base and success of the Spanish colonial taxation system was the export of net fiscal rents and the income derived from silver mining.[21] Yet with the disappearance of Spanish power these fiscal rents should have become available to revolutionary governments, as the tax scheme did not change much with the Revolution. Early in the century Liberal reformers tried to lower the heavy tax burden inherited from the Bourbon reforms by decreasing or abolishing all of the main forms of colonial taxation (e.g. Indian tributes, taxes on mining and monopolies, customs and sales taxes), but they failed utterly. A clear pattern became apparent in all of these cases very early on: Where the yield of any individual tax had been significant to the colonial treasury, no changes to the tax scheme were introduced after Independence.

The abolition of the Indian tribute, for example, was an aim eagerly pursued by liberal administrations. Nevertheless tribute (head taxes) continued to be a substantial part of the new Mexican states' treasury. Similarly in Bolivia, the Indian tribute was still the main source of revenues (40%) in the post-independence period, and throughout the century. Colombia only abolished it in 1850 (Deas, 1981), and in republican Peru it made up a third of total revenues during the stormy 20 years after the withdrawal of Spanish forces. Such a large share of ordinary income was very difficult to abolish, particularly considering the lack of alternative sources of revenues. The share of tribute in revenues remained substantial in highly populated areas, just as rents from the monopoly on tobacco, salt or gunpowder persisted longer where yields had been important under Spanish rule, as in Colombia or Paraguay.

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[20] He also observed that the "Population of Massachusetts was almost a tenth as great of Mexico and its productions vary nearly in an inverse ratio with the number of their respective population, if excluding mines there is a greater disproportion." (Thompson, 1846) p. 192. He was also bewildered by the tripling of annual expenditure in the post-viceregal period and wondered - **advancing a puzzle to the NIE - "can it be true that costs more to exercise laws made by the people themselves than the edicts of a despot**?". P.197. emphasis added.

[21] From 1800 the colonies in America contributed half or more of the Spanish Imperial Treasury's ordinary income. (Marichal 1999. 36)

Revolutionary governments seeking to foster their recovery were also keen to relieve the fiscal burden on mining. Hence, taxes on silver were abolished or reduced. However the metropolis had previously subsidised crucial inputs. Imports of quicksilver by republican governments were severely contingent on their fiscal position, which contributed to the stagnation of silver mining across all the mining regions in Latin America.

Historians explain the decline of silver mining with a number of reasons: technological backwardness, exhaustion of ores and the destruction of physical and human capital during the wars of Independence, etc. Others recall the sudden lack of capital after the flight of wealthy Spaniards following expropriations after the revolution (Quiroz, 1993, 131). To some extent this was probably the case in Peru and Mexico. But even if there was a capital shortage, it was short lived. Direct foreign capital was invested in South American mines soon after Independence.[22] From the mid-1820s English funds eagerly poured into mining. Later in the 1840s US merchants formed companies, which practically controlled the process of smelting and minting in the regional mint houses in Mexico.

Yet locals rarely invested sizeable stocks of capital in mining in the post independence period. Studies on Bolivian economic history have estimated severe outflows of capital in the century. (Klein, 1993,p. 87) Hence, and despite short lived booms such as in 1840s Peru (Pasco), only Chile's silver and gold mines fared better under the new regimes. In fact, the rich ores there were only discovered after independence, and this particular development of Chilean mining rendered sizeable revenues. Chile's sources of revenues were comparatively more distributed. Its dependence on customs was necessarily lower, and the fiscal burden on consumers was lighter. Chile had a much more stable macroeconomic situation than its neighbours in the early nineteenth century, as well as a more stable currency over the century. Not surprisingly, the Chilean political transition in the post independence period was far smoother than its neighbours.

Bolivia was probably a rare case where local money was invested to some extent in mining by mid century. By then the riches of colonial Potosi were barely a memory of the past. (Mitre 1986) Contemporaries who had knowledge and long investment experience in mining were still limited by a lack of credit, which may explain mining's gloomy performance. [23] This is an explanation worth exploring further. It is likely that the detrimental effects of macroeconomic instability and inflation affected the availability of credit in the local economy, as it affected the prospect of foreign direct investment. Thus loanable capital must have been either very scarce or more expensive than otherwise. This can account for the observed low investment ratio. Wealthy locals preferred to invest in land assets or real estate instead. As a result technology tended to stagnate and growth was very weak or ephemeral. Hence, the decline of mining can be explained by the prevailing macroeconomic situation that made financing scarce, particularly for those long-term returns on investment like mining.[24] As a consequence, the dire fiscal situation of the new republics curtailed urgently needed investment in mining. This in turn deprived the

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[22] Between 1824 and 1825 26 mining association formed to exploit Spanish American gold and silver mines and invested around 1 million sterling. (Rippy 1959, 19) Contemporaries and historians agree more on the overoptimistic estimation of costs and surcharges made by contractors, together with the incorrect assessment of technological needs. Speculative contractors associated with British investments did not help to foster the industry. However the experience of US private capital in Mexican mining shows a different trajectory. Between 1819 and 1824 40 million pesos left Peru, "half of them without duty"(Humphreys, 1940, p.116-17). British Consuls estimated that a third of total South American legal silver output was underrepresented by a third because of contraband.

[23] Omiste (1893).

[24] This was an overall feature of Latin American development in the early national period. A study on an allegedly opposite case, the success of pastoral exports while cereal agriculture stagnated in the River Plate before 1870s, shows the same. Irigoin, (2000a)

independent states of a major source of revenue, which further exacerbated the vicious cycle of fiscal hardship and economic stagnation.

Liberating Latin America from Spanish mercantilist restrictions (and from the intermediaries and transaction costs associated with them) is usually seen as a cornerstone of the revolutionary process. But with freer trade post-colonial governments increasingly relied on taxes levied on commerce, which ultimately taxed consumption. External customs and levies on internal commerce/sales (the colonial *alcabala*) became the main source of income for many of the new states. The particular dependence of Latin American countries on indirect taxes on consumption did not change until well into the twentieth century. These taxes were relatively cheap to collect and provided immediate income to cash starving treasuries.

Initially custom duties were lowered in comparison with the rates of former colonial trade taxes. Colonial *almojarifazgo* or custom charged a 3 or 7% duty if the goods were Spanish, but an additional general import duty of 33.3% was charged on foreign merchandise. Originally, new tariffs averaged 20-25% of import prices across the new republics. As a result manufactures flooded into the continent and huge outflows of bullion resulted in a massive trade disequilibrium. Within a few years tariffs rose sharply (in nominal terms), surpassing colonial rates, in order to meet the needs of budget deficits and detain the drain of specie. In most countries particular sectors demanded protection. Thus some goods were subject at times to prohibitions or prohibitive duties, like sugar in Peru, some textiles in Mexico or hats in Buenos Aires.

Silver was the main export of the region: 80% of Peru's and all of Mexico and Bolivia's exports. Despite the fact that Buenos Aires had no metal resources, in the 1830s bullion represented a third of its exports. The high dependence on silver for exports led to restrictive but ineffectual policies on the extraction of bullion in all the new republics. The measures not only affected actual shipments abroad but also domestic transactions within the same country. Silver and gold exports were either prohibited as in Bolivia or heavily taxed, 6% *ad valorem* in Chile. In Bolivia and Mexico a further tax was charged on bullion in circulation between regional markets. The role of Buenos Aires as intermediary (not a producer) in the exports of bullion was apparent in its low export tax of 1% on silver and 2% on gold.

After the 1840s, as other commodities for export appeared, bullion became less important in Latin America's exports. (Bairoch, 1985) These were also the beginnings of the export booms in some particularly resource-endowed economies, such as the River Plate countries, Colombia and Peru, which would thrive by the century's end. Frequently, the fiscal system became a source of subsidies for these sectors, aggravating its re-distributive effects. Pastoral exports form the *pampas*, for instance, bore no taxes except for hides, which paid specific duties denominated in the local currency, the inconvertible paper peso. Hence as a result of currency depreciation the Treasury gathered lower real revenues (Tanzi effects) and the fiscal bill of exporters was nullified. This represented an indirect subsidy for exporters at the expense of urban consumers, which substantially bolstered the growth of exports in the region. (Irigoin, 2000a)

In the case of Peru and New Granada lower import duties were initially intended to divert the tax burden from the rural indigenous peasantry to urban consumers. (Jacobsen 1989, Jaramillo, Meisel & Urrutia 2001) Yet the fundamentals of the tariff scheme did not change. Although it was initially simplified the tariff schedule was organised along the traditional lines of granting privileges on individual products. The levy was a proportion of the price and, short of officials thanks to the collapse of the fiscal administration, the price was usually self declared by merchants. This made the valuation of the fiscal base troublesome, and gave importers an easy means of reducing their tax bill by under-assessing the value of goods.[25]

External customs thus remained the main source of ordinary income in the region. (Centeno,1997) With extreme shares of 90% of total revenues depending on them in countries like Argentina or Uruguay, or 1850s Peru, new republics obtained on average two thirds or more of their revenues from taxes on trade. This was also the case of Chile, Ecuador and Venezuela.[26] Customs rendered a third or more of Colombia and Mexico's revenues, which slightly decreased after the 1830s. In only two countries did customs contribute little or nothing to the treasury. Paraguay was once such odd case. After the revolution it split from neighbouring provinces and became a highly autarkic economy. Paraguayan Customs revenues were either negligible or nil in some years. Complete isolation from the international economy lasted until the Great War with Brazil, Uruguay and Argentina in the 1860s (Pastore, 1993). Yet income from levies on internal commerce formed 30% of total income. This was also the case of Bolivia, which collected up to 7% of its income from import taxes while it had access to the Pacific. For a decade only, the 1830s, Bolivia could trade directly overseas, and had the lowest tariff in the region as a way of diverting trade from its usual intermediaries with the international economy, Valparaiso (Chile), Arica (Peru) or Buenos Aires (Argentina).Yet sale taxes were charged at every sizeable village. Thus Customs and *alcabala* together made up 40% of total treasury income, equating the income from the Indian head tax. (Huber, 1990)

Generally speaking the internal tax on trade, the colonial sales tax or *alcabala* was the second major source of revenues. Rates were a proportion of the price and varied in different regions: 4% in Buenos Aires, 6% in both Perus and 8% in Mexico (lowered to 6% in 1790). It was subsequently charged on every item sold in the domestic markets. By late colonial times its yield represented 14% of total revenues in Peru, 24% in Chile and 6% in the Upper Peru.[27] Already in 1780 *alcabalas* rendered to the Mexican Treasury more than silver taxes.[28] With the 1760s reforms the fiscal base of those paying *alcabala* was broadened to include the indigenous population, which had been originally exempted according to privileges granted by the Habsburgs sovereigns. In 1776 it was extended to basic foodstuffs of the indigenous population (*chuño, charqui, ají, aguardiente*, tobacco, sugar y native textiles). When in subsequent years the Crown tried to impose *alcabala* on grain and maize, Indians in Upper Peru revolted led by Tupac Amaru and Tupac Catari.[29]

Thus, revolutionary government sought to abolish the *alcabala*, as they did with the head tax. However sale taxes were soon restored for the same reason: the urgent need for revenue. In the case of Mexico the collection of both was granted to the states by the federal constitution of 1824, whereas the Federal government collected Customs revenues. In Bolivia it persisted until the beginning of twentieth century. In New Granada *alcabala* still formed 13% of total revenues in the 1830s. (Jaramillo, Meisel & Urrutia, 2001, 428). In the River Plate it was abolished early in the 1820s when foreign trade looked promising, but the sales tax was restored by the late 1830s in the northern provinces where commerce in transit was more significant.

[25] In 1868, after several reforms liberalising the tariff and improving its collection, Argentina, whose fiscal institutions were one of the most modern and market friendly at the time, (Amaral 1993) still had 1148 articles listed in a tariff schedule of over 275 pages in length.

[26] Peru followed after the 1840 reforms. By then income from Guano exports allowed the fiscal bottleneck inherited from the fiscal bankruptcy at the end of Spanish rule to be sorted out. (Gootenberg, 1993)

[27] The tariff of this sale tax had been increasing since late colonial times. Originally it was 2%, doubling in 1772, and increasing again to 6% in 1778. The effective burden has been estimated from 4.5% to 7% in Perú, and from 1.7% to 2.4% in Upper Perú in the late eighteenth century. (Newland, mimeo)

[28] Marichal, (1990) p 73.

[29] O'Phelan Godoy, (1986)

More importantly, whereas duties on exports other than bullion (if any) were specific, both taxes on imports and on sales were *ad valour* levies, charged on the current price of goods. The tariff for both taxes was a proportion of the *aforo* price, allegedly the current price in the local market. For European manufactures it was usually appraised at the ports of entry. As the fiscal valuation was most often a price self-declared by the importer, the *aforos* were thus established in prices denominated in local currency. In fact the tax was included in the final price borne by consumers. Imports boomed with greater openness to trade and the new fiscal and political boundaries. As the fiscal burden fell mainly on imported goods, regardless of where they were manufactured, and because imports constituted a large proportion of consumer goods, the tax eventually burdened consumers. The tariff was ultimately a source of revenues, and its effects on commerce were less important than fiscal considerations. Even those liberal reformers that were confident that lowering the duty would increase the yield (anticipating the effects of the Laffer curve) had to compromise with more conservative policy makers in devising a realistic rate to secure the income of treasuries.

Due to fragmented fiscal sovereignty, imported goods continued paying levies as they were moved through the continent, despite the freer trade policies at the ports. In fact, the relatively lower tariff at the port was one of the instruments used to wage commercial war in the contentious strife for revenues among these economies. Thus European goods bore double taxation as "foreign" merchandise had to pay Customs at the ports and successively paid taxes as they went further inland on carts. This meant a redistribution of income, or at least of the fiscal burden across the regions. The persistence of internal customs and levies that charged goods on transit (within regions that formerly had been part of the same fiscal unit), while tariffs were relatively lower at ports, resulted in distortions to prices that benefited the littoral economies at the expense of the most populated economies located in the interior.

III. b. MONETARY FRAGMENTATION

The role of the Spanish American silver peso in the development of the world economy is widely known and the literature is as diverse as it is vast in explaining its success. It was probably the "single most successful money" and international means of payment before the days of the gold standard.[30] Spanish possession of American mines and the rents from them were the main cause of Spanish splendour and decline between the sixteenth and the nineteenth centuries. The Spanish Empire was the largest monetary union ever known. Independence resulted in the fragmentation of that monetary union, and this had consequences in trade and production over a wide economic region that had formerly been highly integrated. Contrary to the traditionally assumption of the empire as merely a system to extract fiscal revenues to Europe, the colonial "economic system" organised around silver mining was very integrated and nearly autarkic. It linked regional production and markets from very distant regions.[31]

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[30] A recent argument of "demand side explanation" relies on the force of Chinese demand for silver (manifested in the spectacular price premiums of silver) as the force that drove the birth and expansion of global trade. Thus Flynn and Giraldez (2002) explain the rise and success of the silver peso. However their compelling consideration does not account for its demise.

[31] Studies on the production and marketing of silver in colonial Spanish America have estimated that 40% of Potosi output in the later sixteenth and seventeenth centuries remained within the domestic economy. See the seminal study by CS Assadourian, (1986). Domestic trade has been neglected in studies of the economic history of Latin American countries.

In Mexico during the *Insurgencia* (1811-1821) the disruption of the treasury network led Spanish officials to authorise the minting of silver coins elsewhere.[32] The same had happened in the metropolis following the French invasion in 1808, when the crown re-established the mints in Barcelona and opened other**s** in Mallorca, Cadiz and Valencia. (Matamala 2001, fn 13-14) During this turbulent decade both Royalists and Patriots struck very low quality silver coins. [33] They were known as the "hammered dollars" by the US mint, and were distinguishable from the Spanish pillar dollar because "it was decidedly inferior, being worth 101 cents on the average [compared to 106.3 cents for Mexico latter coins] and withal very irregular".[34] The number of provincial mints was increased under the Empire (1821-23) and, after 1824, the Republic. The Federal Constitution of 1824 maintained the prerogative to coin silver in each state that already had a mint house at work, providing - ineffectively- that the federal government was responsible for overseeing the standards at each establishment.[35] Thus the monopoly over the coinage of the former Imperial *Casa de Moneda* in Mexico City ended altogether, along with the monetary system that had existed for centuries in the richest part of the Empire. Thus, these states had an additional and powerful source to fund their participation in the armed conflict that characterised Mexican political development over the century: the dispute between centralism and federalism over the republic's constitution.

Indeed, the existence of several mints was an impediment to the federal government to enjoy seignorage as a source of revenues and made it impossible to execute decisions as a monopolistic monetary authority. From 1811 to 1821 the six new *Casas* minted an extra third of the 104 millions pesos produced in Mexico city. (Informe, 1857, Ortiz Peralta 1998: 134). Between 1822 and 1824 the proportion increased to more than a half of the total Mexican silver coins, since minting in the capital plummeted to 8.6 million. In the 1840s there were ten *Casas* manufacturing hundreds of millions of silver coins (as well as gold for 27 million pesos), which all contributed to expanding the amount of currency in circulation.[36] In the period 1824-1856, the mint at the capital city coined only 65 million

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[32] Alleging "difficulties to send silver remittances to Mexico city" six new official mints appeared in Chihuahua (1811-14), Durango (1811-21), Guadalajara (1812-21), Guanajuato (1812-21), Zacatecas (1810-21) and Sombrerete (1812-12). (Informe, 1857) In addition, Oaxaca and Morelia coined money, if briefly, on their own initiative while cut off from communications with Mexico City. (Meek, 1948 p. 50). Local authorities declared that silver in circulation was scarce, and that budget shortfalls resulted from military expenses. (Matamala 2001, p. 20)

[33] The standard Spanish peso de a 8 reals was .902 fineness and 28.76 grams The *provisional royalist peso* coined in Durango had .895 fineness, 40 mm diameter and weighted 26.84 grams. The one struck at (Real del Catorce) was 32.01 grams. At Sombrerete it weighted 26.66 grams and 42 mm diameter. Coins occasionally struck in Oaxaca weighted 27.33 grams and 39.5 mm. Those from Chihuahua weighted 26.04 grams. Among the patriots monies, coins struck in Michoacan were 27.91 grams and 39.6mm. In Veracruz, a 2 reals coins weighted only 5.69 grams 26.6mm. Pesos from Guerrero, known as Morelos piece, weighed 19.04 grams and 38.8 mm. The Morelos SUD constituted a payment promise to be exchanged for its face value as soon as possible. It weighted 24.53 grams and 38.5 mm. Insurgents also minted copper in Acapulco and Guerrero. Royalists counterstamped small denomination coins of 4 reals and in Veracruz, Zacatecas pesos (28.66 grams and 40.6 mm), were stamped again by Spaniards. The Chihuahua mint had a huge variety of issues. So the authorities, the army and merchants were obliged to use counterstamps to secure its circulation. In 1821-23 Emperor Iturbide coined pesos of .902 fineness, 26.95 grams and 40 mm, together with small denomination copper coins. www.cmonedam.com.mx/cmm/numismatica/hist.htm

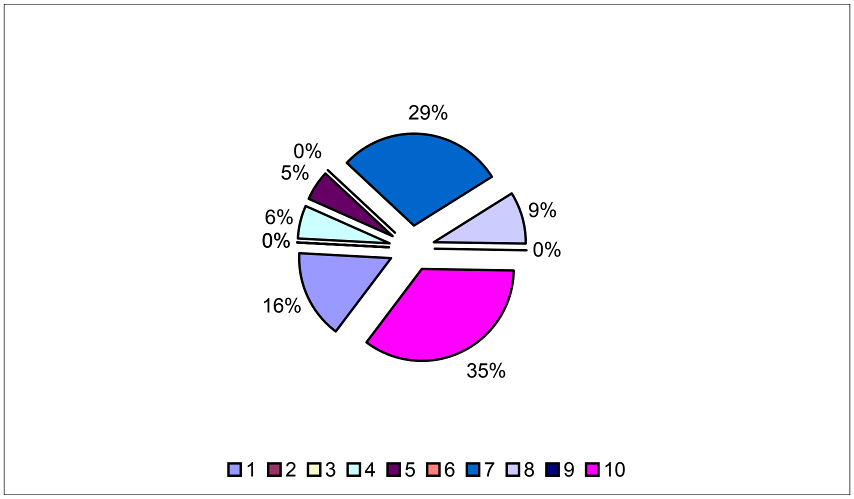
[34] They "may be known by their defaced appearance, which is not due to wear but to blow of the hammer, by which they were coined". United States 39th Congress, 3rd Session, Ex Doc. 71. House of Rep. Letter from the Secretary of the Treasury. 11th February 1857.

[35] In 1828 another mint house opened in San Luis Potosi. Chihuahua resumed coinage in 1832. Guadalupe y Calvo's operated after 1843 and Culiacan from 1846, and, a small mint struck pesos briefly in Tlapan, within today's Mexico city as a separate mint between 1828-30.

[36] Between 1824 and 1839 Mexico City coined 24.2 million pesos, Guanajuato 29.5 million and Zacatecas 70.5 millions pesos. (Informe, 1857) In 1847 the mint at Mexico City was rented out and in the following decades

silver pesos, less than a sixth of the Mexican currency of the period, while the others combined produced a further 365 million.[37] This reduction of coinage at the former main Imperial mint was partly due to the shortfall of silver coming into the capital city. Meanwhile the overall legal output of silver was decreasing. The different capacities of producing silver coins in the several mint houses must have affected the stock and circulation of money in Mexico.

Figure 1. Coinage of Silver, Mexico mint houses 1824-1856



References: **1** Mexico City 16%, **4**: Durango 6%, **5**: Guadalajara 5%, **7**: Guanajuato 29%, **9**: San Luis Potosi 9%, **10** Zacatecas 35%. Sources own estimates *Casa de Moneda* (1989)

This compounded with the subsequent disadvantaging of the merchants' commercial interests in the city and in the subsidiary port of Veracruz. Given the location of these new mints houses, silver from Chihuahua had easier access to overseas through the port of Guaymas. Mexican pesos struck in Durango, Cualiacan, Guadalajara or Zacatecas must have enjoyed better purchasing power on imports brought via Mazatlan or Tepic on the Pacific than via the former overland route from Veracruz. Similarly, the port of Tampico on the Gulf must have favoured silver minted in nearby San Luis Potosi or Guanajuato. This relative proximity to alternative ports through which silver could be exchanged in the still buoyant trade with China, or into the Atlantic economy, allowed them to avoid the former monopolistic intervention of merchants in Mexico City, Veracruz, and Acapulco. Taken together with the different capacities (in terms of metal endowment), this must have differently affected the purchasing power of silver pesos in relation to imports. Regional mercantile elites and networks had to develop accordingly. So contemporary political strife between Centralists in Mexico City and Federalists in the states is not surprising.[38]

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all the other mints were run privately, most of them by US merchants. In 1861 Benito Juarez introduced the decimal system for fractional money.

[37] Zacatecas' mint only coined 144 million pesos in the same period; Guanajuato coined 121 million, and Durango, Guadalajara and San Luis Potosi combined struck more pesos than the Mexico City mint. (Informe, 1857:36).

[38] In addition, Mexico City also minted small denomination copper coins amounting to 5-8 million pesos. (Memoria, 1849:36). In the late 1830s manipulation in the coinage of copper provoked social discontent with dramatic political consequences. (Torres Medina 1998). In 1880 there were still 11 mint houses in Mexico. Between 1893 and 1903 all of them closed but the one in Mexico City following a reform by Minister Limantour. Only then did the Federal government recover the monopoly over seigniorage. (Lopez Rosado, 1975, p.56)

There was ample room for competition among the *Casa de Monedas* to attract silver bars to mint. Mint houses in the hands of the states rendered income from seigniorage. Chronic budget deficits and a shrinking fiscal basis, coupled with the exhaustion of domestic borrowing had to increase the attractiveness of mint houses as a source of revenue. After all debasement and monetary manipulations had colonial antecedents.[39] All of this ought to have been reflected in different relative prices or profits for miners and in the quality of pesos coined, namely in the exchange rates of Mexican pesos within the country.[40] However barely any research has been done on Mexico's provincial mint houses. This should be considered in addition to transport costs and war damages in assessing the economic capacity of silver mining and the performance of the aggregate economy in nineteenth century Mexico.

Thus, one of the most valuable features of the Spanish American peso was broken, the standard of quality. Historians have paid little attention to the differences in appearance, fineness or weight of the Mexican silver coins in the post-independence period. However, scattered evidence suggests they were wide. Crown officials had already been reluctant to open new mints, and regretted the creation of the provincial mint houses as "dangerous to the governance of the kingdom" (Matamala 2001, 22).[41]

According to historians the post-independence, Mexican peso initially lost its acceptance "because the world was not used to the new design introduced after 1824" that substituted the bust of Spanish sovereigns for the eagle. In the Philippines, as the "[ruling class] were all royalists …, they could not tolerate the circulation of coins proceeding from the provinces in revolt … this it would be a tacit approval of the insurrection in [the Philippines] whereas the sovereign had spared no sacrifice and no effort in the pacification of these republican countries which were now in upheaval and anarchy and **unable to guarantee the purity of the metal which they coined**" (Perez Gilbert, 1955. 52) In China the Mexican peso was received at 15% below the usual parity for the old Spanish pesos.[42] The repeated mentions of the scarcity of circulating medium and the use of foreign coins in acceptance for taxes is indicative of Gresham law effects in the currency system.[43]

China had been the main customer for Spanish and Mexican pesos since the sixteenth century. Whereas the pesos bearing the bust of Carlos IV enjoyed a 30% premium on the intrinsic value there, the Chinese soon distinguished the differences between old and new silver coins minted in Spanish America. Pesos struck in Chile, Bolivia or Peru, for reasons explained below, suffered discounts in Asian markets, whereas Mexican coins traded at premium. Even pesos minted in Mexico were not equally regarded, depending on the letter that indicated the original mint house. Apparently coins struck in Guadalajara were

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[39] In 1728-1730 the peso piece had been reduced in weight and fineness to 417.6 grains at .9166 fineness (11 dineros): the pillar peso. In 1772 Carlos III lowered the fineness again to .90278 (10 dineros 20 grains) but the weight remained the same: the bust peso

[40] A personal communication from Dr. A. Ibarra (UNAM) about miners in Guadalupe & Calvo avoiding the minting of silver bars, despite having paid all taxes and mint charges, is very indicative. According to his sources, miners had a great incentive to smuggle their silver. Profits from keeping silver in lumps or in bars had to be greater than the costs from seigniorage. In the utility function of miners, the risk of adulteration of silver once coined could well explain this otherwise irrational behaviour.

[41] With the backing of the *Consulados* merchants formed guilds from Mexico and Veracruz. They tried to close provisional mints in 1816, but the reaction of miners and merchants in the provinces impeded it. Losses from missing seigniorage were estimated at 5% of the Mexico mint's profits.

[42] (Perez Rosado, 1975 p. 47) recalls a following appreciation to recover the premium that the Spanish American coins had traditionally enjoyed in the Far East. No dates are provided.

[43] Thus, the success of the 1903 monetary reform in Mexico, which allowed the country to adhere to the Gold Standard, is explained by "the success of the (federal) government at surveying the characteristics of coins, which was impossible before given the number of mint houses at work" (Lopez Rosado, 1975, p 49-50, 58)

notoriously less favoured among the Mexican pesos.[44] Coins from these provincial mints circulated widely in China "with different degree of acceptation". (McMaster, 1955, p. 388) It is plausible then to think that they also circulated at different exchange rates within Mexico. Similar observations on standards were made at the other end of the trade with silver pesos. American merchants were becoming the main intermediaries of trade with China and in the export of Mexican silver pesos. The US mint observed in 1835 that "the tendency of Mexican dollars of more recent issues deviate from their proper standard, which has been noticed in the reports on foreign coins within the last two years. It appears equally conspicuous in some of the latest dates. This however, seems to be almost exclusively confined to the issues of the provincial mints, and is not in any material degree observable in the coinage excepted at the city of Mexico".[45]

The literature acknowledges the monetary chaos in post independence New Granada (Meisel, 2001). Already in colonial times, the gold coins minted in both Bogota and Popayan did not keep up with the Spanish colonial standard. Because of the *situados*, various silver pieces coined at different mints also circulated in the region. With the Revolution, Patriots in control of Cartagena in 1811 debased silver coins and minted copper until 1815. Royalists in Popayan minted silver pieces of any quality or weight. In Bogota silver pesos of different quality were minted (the so called *chinas*) between 1814 and 1816. The constitutional assembly of 1821 sought to restore stability and directed the coinage of silver and gold with the usual colonial standards.[46] However until 1828 the government secretly minted much lower quality pieces stamped with the year of the constitution 1821 as a (false) guarantee of silver content. These coins had a fineness of .666 and .538 of pure silver (or 8 dineros and 7 dineros 12 grains). In the early 1830s reports from the Assayer at the US mint found that gold coins from Colombia "among themselves, present varieties meriting notice". Whereas silver pesos struck in Colombian mints varied from the intrinsic value of 75 cents to newer pieces worth about 93 or 95 cents.[47]

According to a contemporary, insolvent governments of the time lacked the means to run the mint and procure a sound standard for the Colombian pesos. (Restrepo, 1860 p.14) Hence several attempt in the late 1820s and 1830s to redeem the bad silver in circulation and reform the currency were never accomplished. Furthermore new coins were in greater demand in Ecuador and Venezuela so it was hard to withdraw the poorer quality coins from circulation in Bogota.[48] Apparently Gresham law effects, which were imported from

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[44] They were called *peso del anzuelo* (angle peso) in reference to the letter G stamped in the coins for Guadalajara mint.

[45] United States, 23rd Congress 2nd Session. Doc.60 House of Rep. Assay of foreign coins, "Letter from the Secretary of the Treasury transmitting a reports of the Director of the Mint". 6th January 1835.

[46] Fiat money was tried in 1821 and again in 1838 in the form of treasury bills. The following pages drew information from http://www.banrep.gov.co/blaavirtual/hbinx.htm

[47] "Those from Bogota were found to be 21 carats fine, corresponding to 84.84 cents per pennyweight while those of Popayan were of 20 carats 2 grains fine, corresponding to 83.58 cents per pennyweight. United States 22nd Congress. 1st Session. Doc 115. House of Rep. 15th February 1833.

[48] In what is present day Ecuador, gold in powder or silver bars smelted in Riobamba circulated domestically better than coined gold during colonial rule. After Independence Colombian and Peruvian coins circulated widely. Because of different intrinsic values they disappeared out of circulation, and in 1830 the government started printing money. Paper notes were accepted at par for 50% of import duties. In 1832 a Mint House started coining gold and silver while establishing exchange rates with foreign currencies. The Ecuadorian silver peso had .875 grains fineness and 30.64 grams of weight. However after 1838 worse quality coins from Colombia and Bolivia began pouring into the country, and the official standard could not be maintained. Huge forgery occurred and in 1845-47 the first monetary crisis ever recorded occurred in Ecuador. Between 1859 and 1862 the government authorised the establishment of private banks of issue that printed inconvertible paper pesos. The over issue of notes and the speculative expansion of credit followed. In the short run the paper currency experienced inflation and depreciation. The gold premium reached 60% by 1874, the time of the "second" monetary crisis. (Carbo, 1978)

coexisting silver in circulation in the Caribbean, also made the policy more difficult.[49] Every reform to unify the circulating medium included a fixed exchange rate at which the old coins would be changed or received by the Treasury. As the export of bullion remained prohibited, incorrect valuations of actual market prices ultimately accelerated the substitution of currencies.

With debasement and currencies of different quality in circulation, gold and good silver were heavily hoarded. Hence specie in circulation (on the surface) appeared to be short. Rightly, the Colombian economic historian Alfredo Meisel argues that the problem was not currency scarcity but the poor quality of coins. The alleged shortage of circulating medium was notorious in the 1840s. Reforms in 1846-48 were more effective at stabilising the currency in Colombia. The colonial fractionally units for currency were decimalized, silver was coined with .900 fineness and, more importantly, the export of bullion or uncoined gold was then permitted with a 6% duty. In the following years coinage was reduced dramatically. However according to historians, after 1850 Colombian prices steadily increased over the next 30 years. (Meisel, www) Apparently Colombian exports boomed (Ocampo 1984) and the pressure to coin local bullion was reduced. The improvement in the balance of payments avoided deflation, and even domestic prices rose. Yet the causality of the relation between a more stable currency and the economic recovery deserves further research.

Republican governments in colonies further south also retained the monopoly over the minting of silver coins. They maintained their authority over monetary policy and could therefore collect revenues from seigniorage. However, there were significant changes regarding the colonial monetary system that had been in place previously. In Peru the export of silver bars was prohibited, and when coined shipments of silver were subject to a 5% tax. As the government was financially broke, it was unable to make advances upon the metals for coinage so it could not effectively run the mint house. Already by 1826 the mint was operated semi-privately by British merchants, who procured the capital to purchase silver and produced pesos, and the seigniorage was estimated at 14% of the silver value. (Humphreys, 1940, p150). According to British consuls there were great advantages in illicit exports of silver *piña* or uncoined silver, so contraband trade was huge.[50] Yet the same observer noted that there was no smuggling of silver in lumps from Chile after the government allowed its export with a 7% duty. Chile had a more relaxed fiscal policy about the extraction of metals, but bullion bore a heavier seigniorage tax (18%) (Humphreys, 1940 p. 95) As the financial position of Chilean governments was more comfortable they also had a more sound currency policy.

Potosi had been the original source of silver in the spectacular rise of the Spanish peso in the sixteenth century. During the convulsive years of 1810-1825, the Spanish and several insurgent armies battled for control of the region despite the fact that mining output had long been in decline.[51] Once the republic of Bolivia was established the colonial mint house at Potosi remained in the hands of the republican government. In the aftermath of Independence, Bolivia was coining around 1,8 to 2,4 millions pesos per annum. The dearth of small change moved it to decree the minting of small denomination coins (of half and a

[49] Safford (1965, 115) quoted in Jaramillo, Meisel & Urrutia (2001, fn 55)

[50] Comparing the relative value of silver lumps and coined as a remittance to England in 1826, which included costs of fright, insurance, duties and other charges, the difference was about 9 % in favour of plata piña. This included an extra charge of 7% upon the price of silver in lumps from "expenses of smuggling " Ricketts to Canning, 27 December 1826 cited by Humphreys, (1940 p.151)

[51] The River Plate Confederation led by Buenos Aires tried repeatedly to control today Bolivia. Whereas indigenous resistance persisted in the countryside, the Spaniards harshly controlled the big towns. The mint was ransacked every time it changed hands until 1825, when the Revolutionary armies triumphed.

quarter real) with a lower content of silver than the usual .902 fineness.[52] In 1829, pure silver was reduced to .666 in the smaller denomination coins. The peso piece continued to be minted under the usual fineness and content. Other apparent features remained identical. Adulteration meant a 26.14% reduction in the metallic base of the smaller coins in relation to the peso. This began to be distinguished as the *peso fuerte* (hard peso), and the adulterated coins as *feeble pesos*. Repeated adulteration of the silver content permitted an increase in the quantity of money in circulation in nominal terms. Thereafter the coinage of adulterated pieces resulted in an artificial expansion of currency, namely a debasement of the Bolivian silver currency.

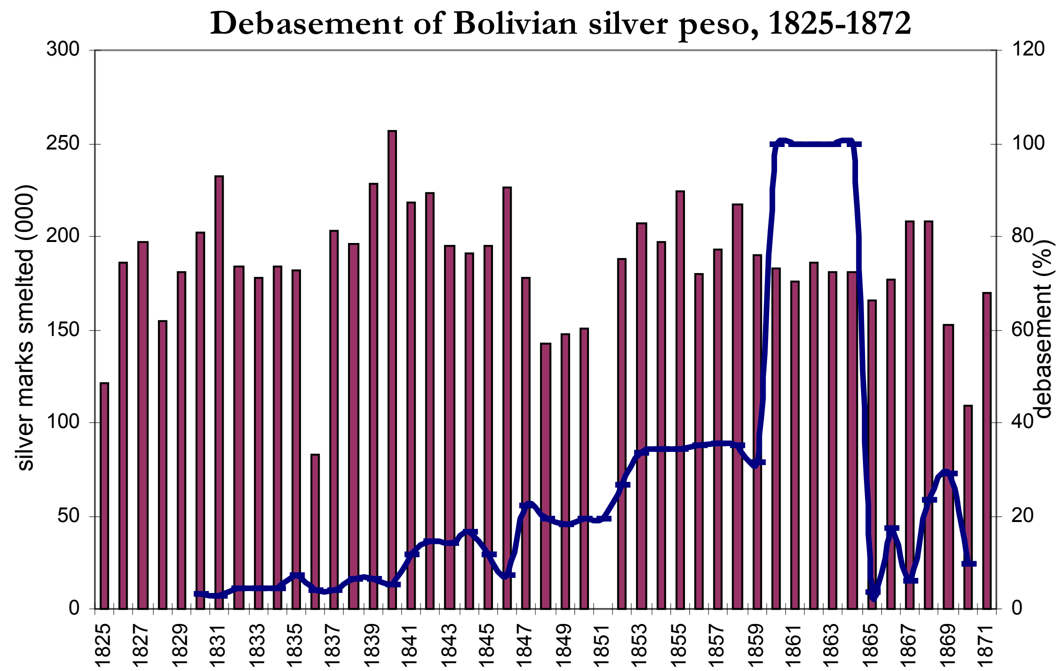
Debasement as a monetary policy of the Bolivian government began in 1830 and was initially low. It represented about 5% of the total coinage of the decade. The proportion of bad coins increased four-fold in the 1840s, and during the 1850s they formed the 40% of the stock of money coined in Bolivia. In the 1860s all the Bolivian pesos were feeble or debased.[53] As an attempt to change this monetary policy, Bolivia (as well as Peru) introduced a decimal system for the fraction of the peso in 1863. However, this extravagant debasement lasted until the early 1870s. In 1872, exports of silver were freed and so was minting thereafter. This reform ended the government monopoly of coinage but created a paper currency, and an incipient government owned establishment initiated Bolivia's banking system. (Peñaloza Cordero, 1944) One of the first operations was a redemption of all the feeble coins with bank notes at a fixed exchange rate. At that time the international economy was decisively moving towards the rule of gold standard. The decreasing international price of silver finally pushed Bolivia to move to a fiduciary money standard. Ironically the legal production of silver also recovered to the levels not achieved since shortly before the revolution.[54]

Figure 2. Debasement of Bolivian silver peso, 1826-1872

[52] According to the decree, coins in circulation had disappeared because of "the extraction of silver" decree of 10th October 1829 reproduced in Prados (1995, apx 2). The colonial standard n Potosi was 10 dineros 20 grains of fineness (.902) and 542 grains of weight.

[53] The reform tried to change the existing bi-monetary system resuming the coinage of .902 fineness silver coins, the *peso boliviano*. However these pieces weighed 400 grains, which made them equivalent to the feeble pesos. In 1865 a further debasement was made to small denomination coins, the notorious *Melgarejos,* that were worth only 6 dineros, or .500 fineness of pure silver.

[54] Over the century legal production had fallen from around 1400 tonnes in late colonial times to about 840 tonnes in the 1800s. Further contraction ensued, and from 1830 to 1860 average production of legal silver per decade was 500 tonnes according to official figures. Mitre (1986, Table II)



In the River Plate Buenos Aires inaugurated the use of paper money very early soon after the revolution. By 1817 a quasi bank *Caja de Depositos* started issuing paper scrip as a government liability, which was received at customs. The mass of paper created by this institution, plus several other instruments like treasury bills, originated in the expenses of the revolutionary armies. It resulted in a serious monetary disorder. As these papers circulated in a secondary market, private money also appeared. These were antecedents to the creation of the *Banco de Descuentos* in 1822. Originally it sought to restore monetary order and provide liquidity, although this bank (the single financial institution in the region until the 1870s) transformed soon into a government bank of issue. After 1826 the printing of inconvertible paper notes by the bank became one of the foundations of Buenos Aires' economic and political leadership over neighbouring provinces.

The other provinces that were confederated in the former colonial River Plate, known as the *Provincias Unidas,* also created their own money. Those with adequate mineral resources occasionally mint silver coins of an average .750 fineness.[55] Others, further away from Bolivian mines and better integrated to export their pastoral produce through the Atlantic, tried a fiduciary currency to cope with the shortage of specie. All of them eventually failed. This was the case of money printed in 1840 in Tucuman, when the ruling Northern League tried to furnish resources to fight Buenos Aires. Notwithstanding that the League had (hopelessly) imposed capital punishment on those who refused to accept the notes.[56] Ultimately the 'flight' of bullion to Buenos Aires in silver or gold ounces, which were the reserves of these paper monies, explains the differential successes of fiduciary experiments in the River Plate. [57] As a result all sort of monies circulated in the Interior of the River Plate. By the 1840s Bolivian silver coins were so abundant that they acquired the status of

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[55] Between 1831 and 1857 La Rioja minted about half million pesos of intermediate quality. Salta and Cordoba also coined silver. Although significant in terms of their regional GDP, on the whole the sums were minor. J Alvarez, (1929, 99), Omiste(1893, 19).

[56] Halperín Donghi, (1979, 91).

[57] That was the fate of other ephemeral banking experiences as the Confederation and the Brazilian *Maua* banks.

legal tender in the Interior provinces of present day Argentina, where they had a different rate of exchange. Indeed monetary diversity lasted until 1881 when the 'gold peso' was adopted as a national monetary unit.[58]

Unlike other contemporary experiments to fund major political transitions with fiat money, like the Confederation' continental in North America or the French revolution, the paper peso of Buenos Aires enjoyed a long if turbulent life of 40 years, until 1867. Then the peso recovered convertibility with silver at a rate 25 times lower than originally, with the extraordinary circumstance of lacking the metallic reserves to back the change of monetary regime. Buenos Aires' inconvertible paper peso remained in circulation, despite repeated massive issues, because of the fiscal fragmentation that followed the revolution in the River Plate. Receiving paper notes in return for taxes was the mechanism conceived by the Buenos Aires' government to enforce acceptance of the peso as legal tender. Buenos Aires controlled the customs house at the single port in the region that had access to overseas trade. The bulk of her income came from duties on imports largely consumed far beyond the province. Duties were paid in paper pesos, the Buenos Aires currency. Thus this artificial demand for paper notes helped them remain in circulation. As a result Buenos Aires pesos performed far better than other provincial currencies in replacing scarce bullion.

From 1826 the expansion of currency became the ultimate means to meet fiscal deficits in Buenos Aires. With recurrent issues of paper the effects of inflationary tax (the erosion on the future value of government obligations due to inflation or depreciation of the means of payment) were reduced over time. This obliged the government to issue even more money. There were times when the expansion of currency was substantial, so high depreciation followed. Subsequently inflationary expectations raised the price of hard currency even further and a process of currency substitution began. Gold ounces, silver *pesos fuertes* or feeble pesos and other metallic currencies were preferred to worthless paper scrip. Inflationary episodes were followed by marked appreciation of the paper peso and deflation. Ultimately high volatility in the exchange rate was a fundamental part of Buenos Aires monetary policy.

High inflation episodes began in 1826-1830, following the decree of inconvertibility. A blockade to the port during the war with Brazil strangled imports to Buenos Aires and with it, the source of ordinary income, Customs. With inelastic military expenditures, the issue of bonds and of inconvertible paper money ensued to solve the fiscal deficit.[59] In the 1830s, the financial position of the government improved, credit recovered and the peso appreciated as the economy grew (though mildly) on real terms. After 1837 contentious regional relations with the Bolivian and Peruvian confederations over the collection of Customs revenues, led to an increase in military spending that wasted the weak fiscal recovery. A French blockade to the port during 1838-1841, the extreme dependence of Buenos Aires revenues on import taxes and the further contraction of domestic sources of borrowing (partly due to inflationary policy), obliged the government to resort to printing

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[58] Chilean gold circulated also in Mendoza, as Brazilian *reals* did in Corrientes and Entre Rios. Alvarez, (1929, 97, 100-1).

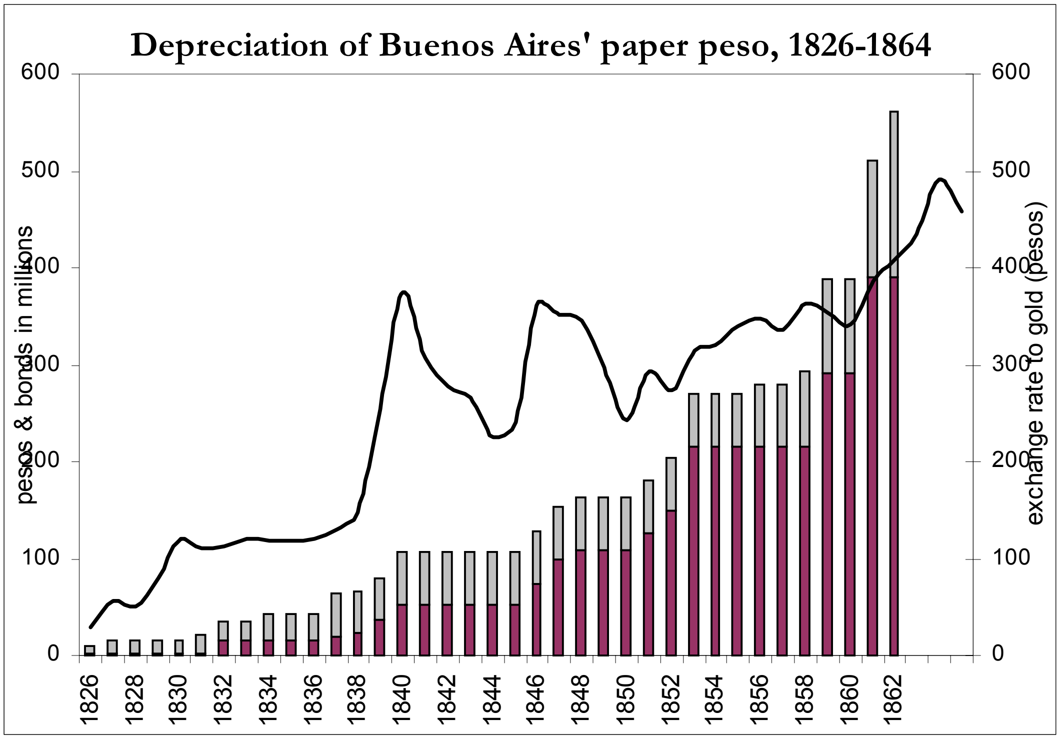
[59] As part of the 1820s fiscal and financial reforms, the floating debt from revolutionary wars was consolidated in a funded debt. Original stock amounted to 5 million pesos. By 1837 further issues increased it to 34 million pesos in nominal values. In 1840 another attempt to float bonds for further 10 millions had to be sold to the bank, which printed paper pesos to purchase them, as a mean to obtain the offered 60% (nominal) price. This was the last recourse to domestic borrowing until the mid 1850s. By then Buenos Aires was renegotiating with Baring Bros on the defaulted 1824 loan and a major fiscal reform was under way. (Irigoin, 2000b)

paper pesos for funds. Depreciation peaked and prices of consumer goods skyrocketed.[60] Recovery did not last long as an Anglo French fleet laid siege to the port again in 1845-1848, which provoked another massive expansion of the currency. The sudden appreciation of the exchange rate thereafter provoked a severe deflation with serious prejudices to trade and led and a chain of bankruptcies.[61] During the 1850s, in the final stages of the civil war before the definitive constitution of present day Argentina, the monetary means to wage war and fund the deficit continued. However the effects on currency depreciation and volatility clearly differed as displayed in the graph.

Figure 3. Depreciation of Buenos Aires´ paper peso, 1826-1864

[60] My own estimates of the composition of Buenos Aires' imports indicate that about 90% of them were foodstuffs and wage goods. Similarly one third of the European goods imported into its port went further inland.

[61] This inflationary policy was characteristic of the Rosas regime. Although previous and successive administrations followed the same policy in order to fund the state's chronic insolvency. (Bordo & Vegh, 1998)



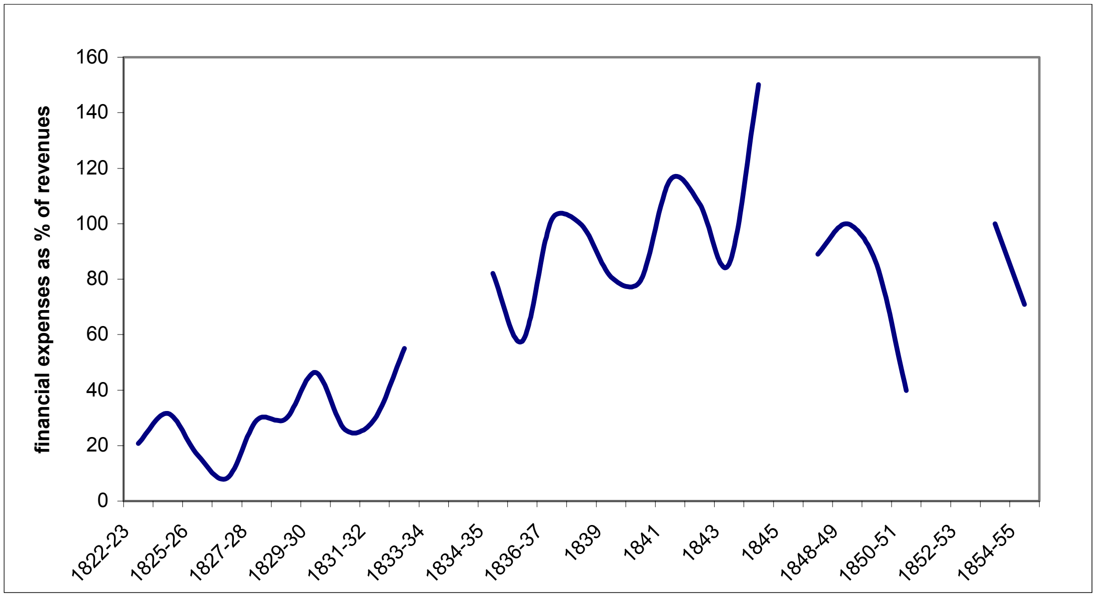
IV. EFFECTS FROM FISCAL AND MONETARY FRAGMENTATION

With the inheritance of fiscal and financial exhaustion from colonial times, republican governments faced difficult alternatives to meet the fiscal disequilibria of post-independence. Deficits continually recurred in Latin American finances thereafter. Sources of domestic borrowing were depleted and tax reforms were highly constrained by the harsh exaction imposed by Bourbon rule.

Where governments could enjoy the monopoly over seignoriage, the expansion of currency (either by coinage or by printing paper money) was the last source of revenue to which all these political entities resorted. Elsewhere, as in the case of Mexico, the building of a mounting debt protracted repeated debt and political crises. Peru endured 20-years of serious recession compounded with deflation. Financially weakened administrations could not exercise their rule without disputes. Weak institutionality ensued and the constitution, fiscal and political, of these republics was delayed by long civil warfare. Peace and stability were achieved only when the competition for revenues and seignoriage ended. Then stable institutions and rules of the game took shape, and foreign capital returned to assist in the building of markets and polities. Some countries fared better than others in the redistribution of income within the fragmented empire together with the inflow of fresh money. Those with appropriate resource endowments occasionally or more lastingly benefited from ongoing globalisation. In the long run none of them achieved true, intensive and sustainable, economic growth.

Early recourse to funded debt was meant to bring more flexibility for financial manoeuvre by postponing short term obligations. Floating debt was consolidated in the aftermath of the revolution. Governments at both extremes of the former Empire, like Mexico and Buenos Aires, and at each polity in between issued long term bonds while trying new fiscal recipes. Yet because of the aforementioned exhaustion of lenders, or due to the effects of rapid inflation, public bonds never developed as a sound source of finance, and domestic capital markets never took shape. Budget deficits provoked an early recourse to local merchants for funds. These private sources lent or sold goods to the government and received promissory bills, treasury notes, and interest bearing vales to be redeemed at Customs. In fact, the repetition of this practice resulted on a mortgage on future income, and governments either needed more money or received less revenues every time. So the volume of paper scrip increased as the financial mess worsened.

Figure 4 Debt Burden, Mexico 1822-1855



Lacking monopolistic control over coinage, Federal administrations in Mexico used borrowing to stay afloat. The intertemporal budget constraint arising from further borrowing at more expensive rates, while committing future revenues to service the debt, ended in astronomical rates of debt burden.[62] Insolvent governments were unlikely to establish or enforce any long-term rule and order.

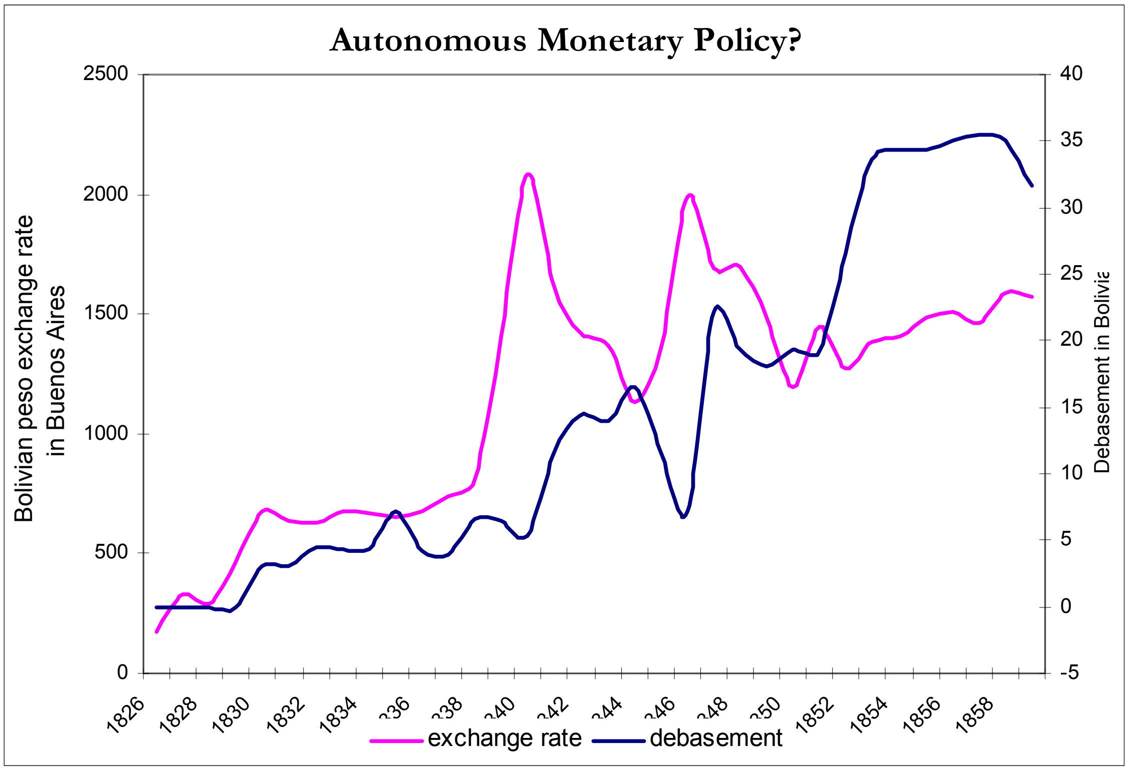
Elsewhere, without riches comparable to Mexican silver but with a monopoly over seignoriage, the other available resort was the inflationary tax. Initially adulterated coins or paper money circulated for their nominal value or did not produce serious inflationary effects. In most places debasement concurred with a minor expansion in the demand for money due to the revolutionary wars mobilisation. Yet without an equivalent increase in the productivity of the economy, the repeated expansion of currency would sooner or later manifest itself in inflation. In the 1830s the coinage of feeble pesos did not seem to have such an impact in Bolivia. Apparently inflation was already noticeable in the 1840s, and in the 1850s debasement was unavoidable. Otherwise, Bolivia could not maintain its imports nor fund its already shaky treasury.

Yet Bolivia could not afford an autonomous monetary policy. Dependence on other countries for trade and the retinue of *ad valorem* taxes "imported" foreign inflation or amplified the residual effects on the price of imports caused by monetary manipulations elsewhere. Despite debasing its currency, because of existing mercantile networks and geographical constraints, Bolivia was obliged to trade with neighbours whose currencies were even worse. Figure 5 shows the effects of Buenos Aires' poor monetary policy, with which they could only fund their deficits, on Bolivian currency. Decisions on monetary

62 Nineteenth century European experts considered a 35% interest service to revenues ratio with the "greatest prudence" .. above 45% "the situation looked bleak", and when reaching 55 to 60% "the slightest problem shall induce to restructuring". Taken from Flandreau (2003). If these were the benchmarks for international capital markets, or letting the capital flow, how did Mexico's 120% ratio look to potential lenders?

affairs taken in Buenos Aires reverberated in Bolivia. Waves of paper notes into the Buenos Aires market shook the purchasing power of Bolivian silver pesos, and sudden appreciation or depreciation of the silver exchange rate became exogenous shocks. With the depreciation of the Buenos Aires peso exchange rate, Bolivian imports cheapened. When the opposite occurred, Bolivia had to debase further to maintain the level of imports. A highly volatile paper peso on the Atlantic ultimately drove monetary policy in the highlands of Potosi.

Figure 5 Autonomous Monetary Policy? Bolivian peso debasement and exchange rate in Buenos Aires, 1826-1860.



Traditionally economic historians have stressed the role of relatively greater openness to trade in explaining the economic success of some Latin American republics after 1870s. Very recently some North American scholars have revised the underlying forces of commercial policies in Latin America before the Great Depression. They were surprised by the degree of protectionism (high tariffs) that prevailed early in the region. (Coatsworth & Williamson 2002). This allegedly restrained Latin America from exploiting the forces, and enjoying the benefits, of globalisation. In comparison with other economies outside the north Atlantic, the nominal degree of protectionism in post-independent Latin America was very high, and much higher than elsewhere during the first age of globalisation. As has been widely referred to in the literature, the authors also observe that early republican governments had strong fiscal objectives driving the tariff policy. So tariff was a "revenue source and a protective device for special interests", which precluded the gains from trade and further integration into the global economy. However, if custom duties were paid with depreciated paper money or bonds that circulated at huge discounts in secondary markets, the effects from financial and monetary policies on the tariff and Customs yields should be included to assess more accurately the degree of protectionism in those economies. Domestically, they resulted in distortions of relative prices and provoked major income and tax burden redistribution. Thus they resulted in distinguishable protection or subsidies to some sectors, particularly exporters of non-metallic commodities at the expense of consumers. As in other current revisions of globalisation, the current macroeconomic situation (and hence the "good domestic policies" or lack of thereof) underlies the benefits these countries could have received from the expansion of international trade and financial markets characterised by globalisation in this period.[63]

CONCLUSIONS

The collapse of the Imperial rule did not result in the complete disappearance of the colonial fiscal system. Neither did they result in changes in the system of taxation nor in the matrix of revenue collection. With the disappearance of the imperial network and the ensuing political fragmentation, receipts fell into the hands of new local authorities. In fact the observed political fragmentation that resulted from Independence was a mirror-image of the structure of the imperial fiscal machinery. On the basis of controlling the regional treasury, and by grabbing the old colonial revenues, the regional elites could defend their economic interests and be part of the dispute over the design of the new revenue collection unit, the republican state. Political fragmentation, as the financial means to fund civil warfare, originated in the existing fiscal system.

The fiscal and monetary fragmentation of the former colonies led to strife over fiscal resources. Deficits recurred, and given the impossibility of tax smoothing policy, deficit financing by inflationary means further aggravated the fiscal position of the competing states. Significant consequences for the economy's performance resulted from complete and repeated fiscal inefficiency, an insufficient fiscal base, and the overwhelming allocation of the tax burden on consumers. The results were huge market disintegration, higher and massive transaction costs, crowding out, and ultimately more inflation and severe distortions in prices and exchange rates.

The outcome of the studied macroeconomic aspects shows that any comparison between the institutional nature of North and South American growth paths is ill conceived. The political units on which economic performance is measured were not obvious before the 1860s. The macroeconomic consequences of independence affected the growth prospects of the postcolonial economies in the former Spanish empire. Repeated levies on trade provoked by fiscal fragmentation fostered market disintegration and placed further obstacles to exchange in addition to transport costs. The diversity of currencies, resulting from the coexistence of several monetary authorities (mints and banks of issue, plus private monies) caused greater instability.

Distortions to prices resulted from the structure of taxes (e.g. the pricing of the fiscal base on the valuation of an *ad valorem* tariff for imported consumer goods and specific duties for exports). Several unstable metallic currencies and depreciated paper monies amplified the Gresham law effects on exchange rates in distant territories given the structure for marketing foreign trade, monopolies on Customs on overseas trade, and a web of internal customs. Indirect distortions of relative prices and domestic terms of trade (besides those from international trade and particular market conditions) provoked shocks in the allocation of resources and capital. Currency instability and taxes on the introduction and transit of goods produced major alterations in income distribution between different

[63] Flandreau (2003)

regions and within sectors of a given economy. The production of commodities for export, other than silver, benefited indirectly. Whereas consumers were heavily burdened and domestic savings were exhausted by the voracity, and insolvency, of the treasuries. Volatile currencies and multiple exchange rates promoted hoarding of relatively hard(er) currencies, placing further pressure on exchange rates. The alleged shortage of capital that the existing historiography identifies was in fact the disappearance (reduction) of loanable capital from the surface. High interest rates in domestic markets reflected the high risk premium more than scarcity of capital.

Monetary more than political uncertainty prevailed. This impeded the establishment of financial institutions and weakened the scope for capital markets. Capital was available through informal and more expensive sources. Higher transaction costs checked investments and reduced growth. Inflation became endemic, and remained as the means to fund fiscal deficits, and growth was extensive because technology stagnated. The lack of improvements in infrastructure kept transport costs for the domestic economies extremely high. The lack of investment in technology and domestic transport made it impossible for the Latin American economies to benefit from falling costs of long-distance maritime freight. Coastal areas profited at the expense of the interior (inland) economies. Different regions performed distinctively: Economic growth measured at the federal or national level may have stagnated but certain regions within a country outperformed others. Regional diversity broadened and concentration without specialisation occurred in some sectors as a result of fiscal rents. Disparities, regional and within countries, broadened and inequality worsened after independence, affecting the prospect for sustainable growth over time.

Assessing the institutional and economic performance of the region through the perspective of the institutional building process that characterised modern European states and the subsequent results in fostering growth is insufficient. One of the most comprehensive analyses of the relations between institutions and growth, to which the US experience is comparable, is Eric Jones' explanation for the sustained intensive growth of modern Europe (Jones 1981:110). Jones emphasises the double benefits from competitive decision making and economies of scale in the occurrence of the "European miracle". This was the double benefit of "the unity within the diversity, that gave Europe the best of both worlds". In the case of postcolonial Latin America the opposite occurred. These economies had to face competition from within the unity, a unity that no longer existed. Eventually this produced greater diseconomies of scale. The fiscal costs of political and monetary fragmentation are a good example.

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