

*Gresham on horseback: the monetary roots of Spanish American political fragmentation in the nineteenth century*¹

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This article deals with the political economic consequences of the disappearance of the Spanish silver peso standard in Spanish America, the longest monetary union that ever existed. With the Napoleonic invasion of Spain in 1808, the fiscal and political structure of the empire imploded and most colonies became independent. Regional competition for revenues exacerbated budget shortfalls driven by military expenditure. Local elites established in former colonial Treasury districts started highly diverse monetary experiments to procure funds. Those in control of mint houses started minting their own coins or debased existing silver currency. Elsewhere, inconvertible paper currency was also created to meet budget deficits. As a result, the most valuable feature of the Spanish American silver peso, its quality standard, was broken and the standard that had organized the early modern international economy for more than 300 years ceased to exist altogether. In Spanish America, as diverse monies co-existed within a formerly highly integrated economic space, a widespread Gresham's law effect exacerbated the conflict among local and regional elites. This fostered the political fragmentation of colonial Spanish America into an increasing number of political and monetary sovereign entities during the nineteenth century.

The economics literature is full of studies of monetary or currency unions, ranging from the sterling area before 1914, to the Bretton Woods system later, and the Euro today. A quick search in EconLit returns over 10,000 entries among abstracts and subjects, and 1,000 titles. None was found for currency or monetary disunion, or fragmentation. Yet the monetary break-ups that occurred in Spanish America during the period 1800–25, along with the fiscal and political fragmentation that followed the implosion of the Spanish Empire, are one of the most prominent examples of such an economic phenomenon. Moreover, the macroeconomic consequences for the long-run performance of nineteenth-century Latin American economies makes the fragmentation of such an extended monetary union a subject worthy of consideration.

The relevance of the Spanish American silver peso in the development of the world economy after the sixteenth century has become fully apparent through the

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studies of global monetary historians. Its crucial role in the divergence between the European and Asian paths of development in the modern world, or in the backing of Alexander Hamilton's federal US dollar, is well known, and the literature is as diverse as it is vast in explaining the peso's success. The Spanish American dollar was probably the single most successful money in modern western economies and the international means of payment before the days of the gold standard. These 'demand side explanations' rely on the Chinese demand for silver (manifested in the spectacular price premiums of silver) as the force that drove the birth and expansion of global trade.² Spanish possession of American mines and the rents from them were the main cause of Spanish success—and decline—between the sixteenth and nineteenth centuries.

Thus, authors have concentrated on the effects of China's demand to explain the demise of the Spanish Empire. For example, emphasizing the importance of the purchasing power of silver, more than the actual quantities of silver produced, Flynn and Giraldez question the fiscal viability of the (Spanish) Royal Treasury by the mid-seventeenth century.³ They claim that the fiscal crisis of imperial Spain was connected to the protracted fall of the value of silver that they indicate occurred around 1640. At this point, the extraordinary profits of silver should have ceased, as China's exchange rate reached parity with the silver exchange rate in Europe at the time. In other words, the premium on the export of silver—as a commodity—ended.⁴ However, another spurt of silver demand from China occurred in the first half of the eighteenth century, when the exchange rate for silver to gold was still 50 per cent higher than the rate in Europe. China's population and market growth—and probably China's expansion to the north—explains this second opportunity for European arbitrage and further trade thereafter, according to global monetary historians.⁵

Indeed, the Spanish Empire was the largest monetary union ever known. By the 1780s, within the financial and political strain caused by the Napoleonic wars in Europe, a bankrupted Crown and imperial state eventually imploded, opening the way for a series of revolts and revolutions, both in the metropolis and colonies. This led to the independence of the colonies, and the emergence of modern Latin American republics in the early 1800s. The implosion of the Empire resulted in the fragmentation of that monetary union and of the existing political structure. This had consequences for trade and production over a wide economic region that had formerly been highly integrated.⁶ Furthermore, some implications for the ensuing political development of post-independent Latin America can be drawn from these monetary incidents. Contrary to the traditional assumption of the empire as merely a system to extract fiscal revenues for the metropolis, the colonial 'economic system' organized around silver mining was very integrated and nearly autarkic.⁷ It linked regional production and markets across very distant regions.

² Flynn and Giraldez, 'Born with a silver spoon', explain the rise and success of the silver peso. However, their compelling consideration does not account for its demise.

³ Flynn and Giraldez, 'China and the Spanish Empire'.

⁴ Flynn and Giraldez, 'Cycles of silver'.

⁵ *Ibid.*, p. 403.

⁶ For a political-economic analysis of Spanish rule and its demise in Spanish America, see Irigoín and Grafe, 'Bargaining for absolutism'.

⁷ In the words of Assadourian, *El Sistema De La Economía Colonial*. For a study on the economic integration and interdependence of Spanish American colonies, see Grafe and Irigoín, 'Spanish Empire and its legacy'.

Studies of the production and marketing of silver in colonial Spanish America have estimated that 40 per cent of the total silver output from Potosí in the late sixteenth and seventeenth centuries remained within the domestic economy.⁸ Given its pivotal role in fuelling the expansion of the global economy, historians have focused on mainly colonial and modern Spanish American foreign commerce. Domestic trade and regional connections have been largely neglected in global economic history and studies of the economic history of Latin American countries.

This article addresses both issues. The first section considers the fragmentation of currency and seigniorage that occurred in revolutionary and post-independent Mexico. The second section revises similar events in the rest of the Spanish Empire, mostly of regions where metallic currency circulated. The third analyses the monetary developments arising from the Empire's fragmentation in the River Plate, where paper standards became dominant at a very early stage. The fourth section assesses some of the effects of the fragmentation of currency and seigniorage in the frame of recurrent fiscal shortfalls. Lacking the monopoly of seigniorage, huge borrowing at ever-increasing interest rates and shorter terms resulted in astronomical debts. Insolvency became a feature of post-independent governments in the region and, with it, institutional development weakened. Having the monopoly of currency emission or coinage, inflationary tax became the last resort for funding the state. Both insolvency and inflation characterized the financial development of the Latin American republics from very early times. The fifth section concludes.

I

New Spain had been the main producer of silver and minter of silver coins in the empire during the eighteenth century.⁹ Since the 1780s, colonial officials and merchants established in Mexico City had resisted every pressure from similar authorities, miners, and merchants in the interior regions to break their monopoly on coinage, and to attract silver to the capital to be minted at its mint house. But as silver flowed within the colony—and the world economy—the ebb could not be prevented by zealous royal orders (*cedulas*). As early as the 1790s, the Crown sought to gain some control over the seepage of silver out of the imperial trading system and the Treasury. As part of overarching reforms to reshape and reinvigorate the imperial revenues in the 1780s, the Crown had established the *fondos de rescates*. The *fondos* were earmarked funds in coined silver for regional treasuries to use to purchase the metal to be smelted and minted in the Mexico *Casa de Moneda*. This provision of liquid capital to miners, as an advance for their metals, contributed to greater mining output in the interior, and increased silver minting in the capital, which was reflected in the tax returns and coinage of the period. This intervention by the Crown sought on the one hand to foster greater returns to miners—by displacing merchants who had originally bought the silver—and to reduce contraband and evasion of taxes on the other. Apparently, greater profits for local mining regions and increased revenues fuelled demands for the opening of other mint houses in the interior of the viceroyalty in New Spain. Silver originating from these regions—purchased with local *rescate* and locally minted—would

⁸ Assadourian, *El Sistema De La Economía Colonial*, p. 150.

⁹ Garner, 'Long term silver mining trends'.

increase local purchasing power and would reduce transportation costs and time lags associated with waiting for the returns—in coins—from Mexico City's mint. The weakness of the fiscal means to procure the metal (the yield from tithes), and vested interests in the colonial capital and Cadiz, however, prevented the *fondos de rescates* from increasing their efficiency.¹⁰

The disruption of the Treasury network in New Spain during the *Insurgencia* (1811–21) prompted Spanish officials finally to authorize the minting of silver coins elsewhere.¹¹ Apparently, a similar process had occurred in the metropolis following the French invasion in 1808, when the Crown re-established the mints in Barcelona and opened others in Mallorca, Cadiz, and Valencia.¹² Alleging difficulties in sending the silver to be minted in 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 (1812–21). Most of them worked on the basis of the *fondos de rescates*, although increasing amounts of the funds were provided by local sources. Fruitlessly, officials in the capital announced the perils of increasing the numbers of mints: '(this) indirectly promotes the insurgency and let's admit it, the single bond that would keep together the provinces with the capital, has been broken'.¹³ During that turbulent decade, both Royalists and Patriots struck very low quality silver coins.¹⁴ These coins were known to the US mint as 'hammered dollars', and were distinguishable from the world-famous Spanish 'pillar dollar' because they were 'decidedly inferior, being worth 101 cents on the average—even compared to the 106.3 cents for Mexico latter coins—and withal very irregular'.¹⁵

¹⁰ Matamala cites the appropriation of the *fondo de rescate* by Treasury officials for fiscal needs and shows that local capital funded the *rescate* of silver in Zacatecas, Durango, and Chihuahua. Miners from Pachuca and Real del Monte, relatively closer to Mexico, continued to exchange metal for money in Mexico. J. F. Matamala, 'De Fondo De Rescate a Casa De Moneda Regional, Zacatecas 1790–1828', paper presented at the Asociación Mexicana de Historia Económica, Mexico City, 26–9 Oct. 2004.

¹¹ *Memoria Presentada a La Camara De Diputados*, p. 13. Oaxaca and Morelia coined money, if briefly, while communication with Mexico City was cut off. Meek, *Exchange media*, p. 50; Matamala, 'La Descentralización', p. 20.

¹² Matamala, 'La Descentralización', n. 13–14, pp. 18–19; R. Torres Sanchez, J. Gomez, and F. Perez de Garcia, 'Exchange rate behaviour and exchange rate puzzles: why the 18th century might help', Facultad Cs Económicas y Sociales, Universidad de Navarra working paper, 12/04 (2004).

¹³ Marques de San Roman, Superintendent of the Mexico mint house, report on 7 March 1813, quoted in Matamala, 'De Fondo De Rescate', p. 21 (see above, n. 10).

¹⁴ The standard Spanish American peso *de a 8* was 0.902 of a thousandth fineness and weighed 28.76 grams. The provisional royalist peso coined in Durango had 0.895 fineness and a 40 mm diameter, and weighed 26.84 grams. The one struck at (Real del Catorce) was 32.01 grams. At Sombrerete it weighed 26.66 grams and had a 42 mm diameter. Coins occasionally struck in Oaxaca weighed 27.33 grams and had a 39.5 mm diameter. Those from Chihuahua weighed 26.04 grams. Among the patriots' monies, coins struck in Michoacán were 27.91 grams, and 39.6 mm in diameter. In Veracruz, a two-real coins weighed only 5.69 grams and measured 26.6 mm. Pesos from Guerrero, known as Morelos piece, weighed 19.04 grams and measured 38.8 mm. The 'Morelos Sud' constituted a payment promise to be exchanged for its face value as soon as possible. It weighed 24.53 grams and measured 38.5 mm. Insurgents also minted copper in Acapulco and Guerrero. Royalists counterstamped small denomination coins of four reals. Royalists counterstamped Zacatecas pesos in Veracruz (28.66 grams and 40.6 mm). The standard of Chihuahua coinage varied greatly depending on the year of issue. So authorities, the army, and merchants were obliged to use counterstamps to secure its circulation. In 1821–3, Emperor Iturbide coined pesos of 0.902 fineness, 26.95 grams, and 40 mm, together with small denomination copper coins (see <http://www.cmonedam.com.mx/cmm/numismatica/hist.htm>, accessed 9 March 2003).

¹⁵ 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' (US House of Representatives, 39th Congress, 3rd Session, Ex. Doc. 71, House of Representatives, letter from the Secretary of the Treasury, 11 Feb. 1857).

The number of provincial mints increased with the definitive end of Spanish rule in 1821. The first Mexican Constitution of 1824, known as the Federal Constitution, maintained the prerogative to coin silver in each state that already had a working mint, providing—ineffectually—that the federal government was responsible for overseeing the standards at each establishment.¹⁶ However, the Constitution provided no indication of the means to purchase the metal from miners. Thus, the monopoly over the coinage of the former imperial *Casa de Moneda* in Mexico City ceased altogether, along with the monetary system that had existed for centuries in the richest part of the Empire. Thereafter, these states had an additional and powerful source of funding for their participation in the armed conflict that characterized Mexican political development during the century: the dispute between centralism and federalism.

The existence of several mints was an impediment to the republican government's enjoyment of seigniorage as a source of revenue, and made it impossible to execute decisions as a monopolistic monetary authority. From 1811 to 1821, the six new *Casas* minted approximately one-quarter of the coins produced in the country.¹⁷ Between 1822 and 1824, the proportion increased to more than half the total of Mexican silver coins, as minting in the capital plummeted. In the 1840s, there were 10 *Casas* manufacturing hundreds of millions of silver coins (as well as gold valued at 27 million pesos), which all contributed to the expansion of the amount of currency in circulation.¹⁸ Between 1824 and 1856, the mint in the capital city coined only 65 million silver pesos, less than a sixth of the Mexican currency of the period, while all of the others combined produced 365 million.¹⁹ This reduction of coinage at the former main imperial mint was partly due to the shortfall of silver coming into the capital city, now diverted to provincial mints. 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 quality of the coinage, and hence stock and circulation of money in Mexico (see appendix table A1) (figure 1).

The fragmentation of coinage was bound to prejudice merchants' commercial interests in Mexico City and the subsidiary port of Veracruz. Given the location of the new mint houses, silver from Chihuahua or Hermosillo had easier access to overseas markets through the port of Guaymas on the Pacific. Mexican pesos struck in Durango, Culiacan, Guadalajara, or Zacatecas must have enjoyed better purchasing power on imports brought via Mazatlan or San Blas on the Pacific than those brought via the colonial overland route from Veracruz. Similarly, the ports of Tampico and Matamoros on the Gulf must have favoured silver minted in nearby San Luis Potosi, Guanajuato, and Zacatecas. This relative proximity to alternative ports through which silver could be exchanged in the still buoyant trade with

¹⁶ 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 and 1830.

¹⁷ *Memoria Presentada a La Camara De Diputados*, pp. 21, 27, 29, 35, 39, 41; Ortiz Peralta, 'Las Casas De Moneda', p. 134.

¹⁸ See tab. A1 in the app. In 1847, the mint at Mexico City was rented out, and in the following decades all of the other mints were run privately, most of them by US merchants.

¹⁹ The mint at Zacatecas 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. Orozco y Berra, *Informe sobre la Acuñacion*, pp. 25–34.

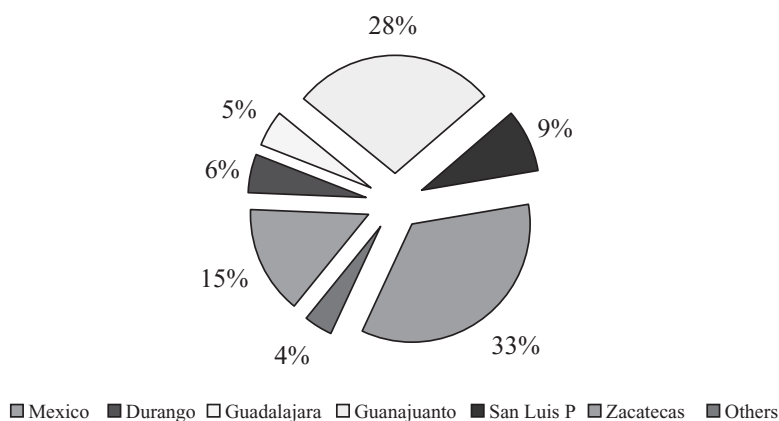


Figure 1. *Coinage of silver, Mexico mint houses, 1824–56*

Source: Author's own estimates from Orozco y Berra, *Informe sobre la Acuñación*, pp. 25–34.

China, or into the Atlantic economy, allowed them to avoid the former monopolistic intervention of merchants in Mexico City or Veracruz. Taken together with the different production capacities (in terms of metal endowment), this must have affected the purchasing power of silver pesos in relation to imports differently in every individual region. 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.²⁰

Thus, there was ample room for competition among the *Casas de Moneda* to attract silver bars for minting. In the years 1823–7, metal from regions in the orbit of the Zacatecas mint house accounted for an average of 48 per cent of the more than 20 million pesos coined there. Silver bars came from San Luis Potosi (25 per cent), Durango (13 per cent), Sombrerete (8 per cent), and Chihuahua (2 per cent).²¹ However, these neighbouring mining regions had their own mints. On the one hand, differential cost of transport, time to obtain the returns in money, and the price of the silver bars taken for smelting and minting (*rescate*) influenced the decision of miners about where to take their metal for minting. Thus, overall, relative availability of silver was also bound to affect the flows and intensity of trade within regions and ultimately overseas. On the other hand, mints in the hands of the states could render extra income from seigniorage. Repeated deficits coupled with inelastic public expenditure, within a context of very reluctant sources for domestic borrowing, must have made coining an attractive source of revenue. After all, debasement and monetary manipulations were anything but

²⁰ Mexico City also minted small denomination copper coins amounting to 5–8 million pesos. Manipulation of the copper coinage in the late 1830s ignited dramatic if short-lived political turmoil in Mexico City (Torres Medina, 'La Ronda De Los Monederos Falsos', p. 116). In 1880, there were still 11 mint houses in Mexico. Between 1893 and 1903, following a reform by Minister Limantour, all of them closed except the one in the capital. This restored monopoly over seigniorage to the federal government (Lopez Rosado, *Historia Del Peso Mexicano*, p. 56).

²¹ Matamala, 'De Fondo De Rescate', app. (see above, n. 10), p. 21.

new: they had colonial antecedents.²² All of this ought to have been reflected in different relative prices or profits for miners and in the quality of pesos coined in these regional mints; in other words, in the exchange rates of Mexican pesos within the country.²³ 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 and traditional features of the Spanish American peso came to an end: the standard of quality. Historians have paid little attention to the differences in appearance, fineness, and weight of Mexican silver coins in the post-independence period. However, scattered evidence suggests that these differences were great (see appendix tables A2 and A3). Crown officials had always been reluctant to open new mints, and regarded the creation of the provincial mints as 'dangerous to the governance of the kingdom'.²⁴ According to historians studying the post-independence period, the Mexican peso initially lost its acceptance 'because the world was not used to the new design introduced after 1824' that substituted the eagle for the bust of the Spanish sovereigns. In the Philippines, as the '[ruling class] were all royalists, they could not tolerate the circulation of coins proceeding from the provinces in revolt . . . 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'.²⁵

In China, the Mexican eagle was received at 15 per cent below the parity of the old Spanish pesos.²⁶ 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 per cent premium on their intrinsic value there, the Chinese soon distinguished the differences between old and new silver coins minted in Spanish America.²⁷ Pesos struck with the colonial dies in Chile, Bolivia, or Peru, for reasons explained below, suffered discounts in Asian markets, whereas coins minted in Mexico traded at a premium. Even pesos minted within Mexico were not equally regarded, depending on the letter that indicated the original mint house. Apparently coins struck in Guadalajara were notoriously less favoured among Mexican pesos.²⁸

²² In 1728–30, the fineness of the peso piece had been reduced to 417.6 grains at 0.9166 fineness (11 *díneros*): the pillar peso. In 1772, Carlos III lowered it again to 0.90278 (10 *díneros*, 20 grains). Weight remained the same in the coins known as the 'bust peso'.

²³ Miners in Guadalupe and Calvo avoided the minting of silver bars, despite having paid all taxes and mint charges. According to Antonio Ibarra (UNAM), 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. I am indebted to Antonio Ibarra for sharing this information.

²⁴ Matamala, 'La Descentralización', p. 22. Guild merchants (*consulados*) from Mexico and Veracruz tried to close the 'provisional' mints in 1816, but the reaction of provincial miners and merchants impeded it.

²⁵ Perez Gilbert, 'Manila galleons', p. 52.

²⁶ Lopez Rosado, *Historia Del Peso Mexicano*, p. 47, recalls an ensuing appreciation to recover the premium that the Spanish American coins had traditionally enjoyed in the Far East. No dates are provided.

²⁷ Effects in China have been analysed in M. A. Irigoien, 'A Trojan horse in 19th century China? The global consequences of the breakdown of the Spanish American silver peso standard', paper presented at the 61st session of the XIV Congress of the International Economic History Association, Helsinki, 21–5 Aug. 2006.

²⁸ They were called *peso del anzuelo* (angle peso), in reference to the letter G stamped on the coins, standing for the Guadalajara mint.

Coins from these provincial mints circulated widely in China ‘with different degrees of acceptance’.²⁹ Hence, it is plausible to think that they also circulated at different exchange rates within Mexico. Local knowledge or information would have ensued preferences for different types of pesos or money, and this should have been manifested in different prices. Similar observations on standards were made at the other end of the trade with silver pesos. US merchants were then the main intermediaries of trade with China and in the export of Mexican silver pesos.³⁰ The US mint observed in 1835 ‘the tendency of Mexican dollars of more recent issues to 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 executed at the city of Mexico’.³¹ There, as in the rest of Spanish America, the scarcity of circulating medium was recurrently mentioned. This, and the use of foreign coins in acceptance for taxes, is indicative of extended Gresham law effects in the currency system, at least within the territories of the former Spanish Empire.³²

According to this well-known idea, if two coins are in circulation, the relative face values of which differ from the relative quality of its bullion content, the dearer coin will be extracted from circulation for melting down or hoarding. This first distortion would generate a consequent phenomenon whereby ‘bad money drives out good money’. The observed drainage of specie in post-independent Latin America overall was a result of the hoarding of the good currency within a context of multiple coins in circulation. This would cause distortions in relative prices; fuel speculative pressures; prejudice the creation of capital markets; and—given the structure of imports and exports in colonial Spanish America and the structure of taxation in post-colonial republics—create protracted further market fragmentation. Undesirable economic and social effects from coexisting diverse coins and paper notes would ultimately foster regional disputes and political disorder in the context of building republican institutions in the aftermath of the fall of imperial rule.

II

The monetary chaos extended to other mining economies like New Granada (present-day Colombia, Ecuador, and Venezuela). In colonial times, the gold coins minted in both Bogotá and Popayan were already failing to keep up with the Spanish colonial standard. Because of imperial transfers of revenues—the *situados*—various silver pieces coined at different mints also circulated in the wider region. At the time of the revolution, patriots in control of Cartagena in 1811 debased silver coins and minted copper until 1815. Royalists in Popayan minted

²⁹ McMaster, ‘Aventuras Asiaticas Del Peso Mexicano’, p. 388.

³⁰ Pitkin, *Statistical view*, tabs. I and II, pp. 153–6; Irigoín, ‘Trojan horse’ (see above, n. 27).

³¹ US House of Representatives, *Assay of foreign coins*, MS 60.

³² 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, *Historia Del Peso Mexicano*, pp. 49–50, 58; emphasis added).

silver pieces of various qualities and weights.³³ They took the minting press on horseback from Popayan to Quito to create money with which to pay the troops. Established in Pasto, the press only allowed the cutting of small denomination coins made of smelted silver expropriated from private individuals and churches. The Pasto coins were worth 8 or 9 *díneros* (0.666 or 0.750 of a thousandth fineness). In Bogotá, silver pesos of different qualities were minted between 1814 and 1821 (the so-called *chinas*).³⁴

The constitutional assembly in 1821 sought to restore stability and directed the coinage of silver and gold with the usual colonial standards. However, until 1828, the government continued to mint much lower quality pieces stamped with the year of the constitution (1821) as a (false) guarantee of the silver content. These coins had a fineness of 0.666 and 0.538 in a thousandth part of pure silver (or 8 *díneros* and 7 *díneros* 12 grains) and were called *de la India*, because a picture of the head of an Indian woman was struck on the reverse of the coin. In the early 1830s, reports from the Assayer at the US mint found that gold coins from Colombia 'among themselves, present varieties meriting notice'.³⁵ Silver pesos struck in Colombian mints varied in intrinsic value from 75 cents to newer pieces worth about 93 or 95 cents.

According to a contemporary writer, insolvent governments of the time lacked the means to run the mint and procure a sound standard for the Colombian peso.³⁶ Hence, several attempts in the late 1820s and 1830s to redeem the bad silver in circulation and reform the currency never achieved their goal. Furthermore, new coins were in greater demand in neighbouring Ecuador and Venezuela, so it was hard to withdraw the poorer quality coins from circulation in Bogotá.³⁷ It seems that Gresham law effects, which were caused by co-existing silver in circulation in the Caribbean, also made the policy more difficult.³⁸ Every reform aimed at unifying the circulating medium with a fixed exchange rate at which the old coins would be changed or received by the Treasury failed. As the export of bullion remained prohibited, incorrect valuations of actual market prices ultimately accelerated the substitution of currencies. Along with the monetary turmoil caused by

³³ Costales, 'Historia de la Casa de Moneda de Quito', p. 15.

³⁴ Fiat money was unsuccessfully tried in 1821 and again in 1838 in the form of Treasury bills. Meisel, 'El Patron Metalico'.

³⁵ 'Those from Bogotá 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'; US House of Representatives, 22nd Congress. 1st Session, Doc. 115, *Letter from the Secretary of the Treasury*, 15 Feb. 1833.

³⁶ Restrepo, *Memoria Sobre La Amonedacion*, p. 14.

³⁷ In what is now Ecuador, powdered gold, or silver bars, smelted in Riobamba circulated domestically better than coined gold during colonial times. After independence, Colombian and Peruvian coins were currency. Because of different intrinsic values, they disappeared out of circulation, and in 1830 the government started to print money. Paper notes were accepted at par for 50% of import duties. In 1832, a mint started to coin gold and silver while establishing fixed exchange rates with foreign currencies. The Ecuadorian silver peso had 0.875 grains fineness and 30.64 grams of weight. However, after 1838, lower quality coins from Colombia and Bolivia began to pour into the country, and the official standard could not be maintained. In 1845–7, the first monetary crisis ever recorded occurred in Ecuador. Between 1859 and 1862, the government authorized the establishment of private banks of issue that printed inconvertible paper pesos. The over-issuing 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, *Historia Monetaria*, pp. 5–6).

³⁸ As late as 1838 it was possible to import macuquina silver coins from Jamaica with a 25% profit. Safford, 'Commerce and enterprise', p. 116, quoted in Jaramillo, Meisel, and Urrutia, 'Continuities and discontinuities', n. 55, p. 441.

so many diverse circulating coins, the former Spanish viceroyalty broke down into three different political entities before 1830.

With debasement and currencies of different quality in circulation, gold and good silver were extensively hoarded. Hence, specie in circulation appeared to be short. Rightly, the Colombian economic historian Adolfo Meisel argues that the problem was not currency scarcity but the poor quality of coins.³⁹ The alleged shortage of circulating medium was notorious in the whole region during the 1840s. Reforms in 1846–8 were more effective at stabilizing the currency in Colombia. The colonial fractional units for currency were decimalised; silver was coined with 0.900 of a thousandth fineness; and, more importantly, the export of bullion or uncoined gold was then permitted with a 6 per cent duty. In the following years, coinage was reduced dramatically. However, according to historians, after 1850 Colombian prices steadily increased over the next 30 years.⁴⁰ Apparently Colombian exports boomed and the pressure to coin local bullion was reduced.⁴¹ The improvement in the balance of payments avoided deflation, and even domestic prices rose. Nevertheless, the causality of the relation between a more stable currency and 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, significant changes were made to the colonial monetary system that had been in place previously. In Peru the export of silver bars was prohibited and shipments of coined silver were subject to a 5 per cent tax. As the republican government was financially broke, it was unable to make advances on the metals for coinage and so could not effectively run the mint house. By as early as 1826, the mint was operated semi-privately by British merchants, who procured the capital to purchase silver and produced pesos. British Consuls estimated the seigniorage at 14 per cent of the silver value. According to the same source, there were great advantages in illicit exports of silver *piña* or uncoined silver, so contraband trade ‘was huge’.⁴² 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 per cent duty. Chile had a more relaxed fiscal policy about the extraction of metals, but bullion bore a heavier seigniorage tax (18 per cent).⁴³ As the financial position of Chilean governments was more comfortable, they also had a sounder currency policy.

Potosi had been the original source of silver in the spectacular rise of the Spanish peso in the sixteenth century until the 1640s. During the convulsed years of 1810–25, the Spanish and several insurgent armies battled for control of the region despite the fact that mining output had long been in decline.⁴⁴ Once the republic

³⁹ Meisel, ‘El Patron Metalico’; Jaramillo et al., ‘Continuities and discontinuities’, p. 444.

⁴⁰ Cited in Meisel, ‘El Patron Metalico’.

⁴¹ On exports, see Ocampo, *Colombia*, p. 89.

⁴² Humphreys, *British consular reports*, p. 150. Comparing the relative value of silver—in lumps and coined—in remittances to England in 1826, which included costs of freight, insurance, duties, and other charges, the premium was about 9% in favour of the former (uncoined) (Ricketts to Canning, 27 Dec. 1826, cited in Humphreys, *British consular reports*, p. 151).

⁴³ Humphreys, *British consular reports*, p. 95.

⁴⁴ Buenos Aires tried repeatedly to take control of present-day Bolivia away from the Spaniards. Whereas indigenous resistance persisted in the countryside, the Royalists harshly controlled the big towns. The mint was ransacked every time it changed hands until 1825, when the revolutionary armies finally triumphed.

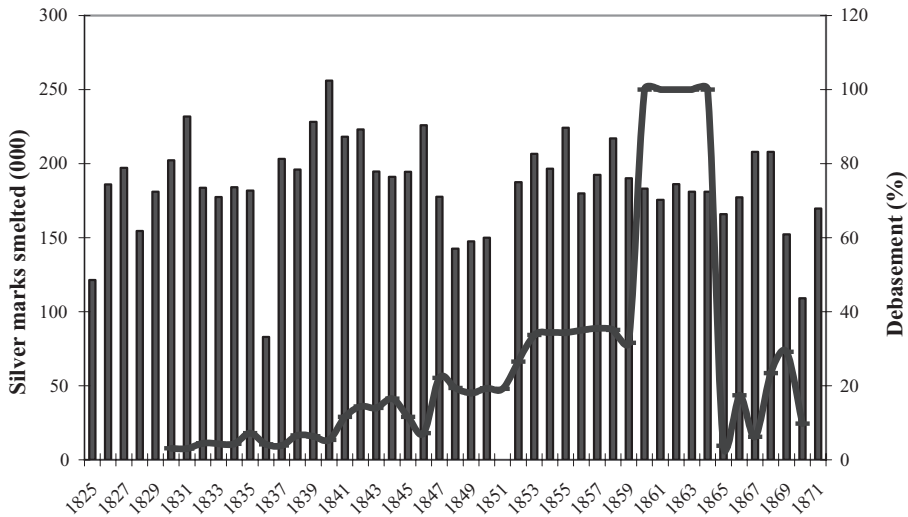


Figure 2. *Debasement of Bolivian silver peso, 1826–72*

Source: Debasement: own estimates from Mitre, *El Monedero De Los Andes*, apps. 4 and 5, pp. 118–19; silver marks from idem, *Los Patriarcas de la Plata*, app. A.

of Bolivia was established in 1825, the colonial mint at Potosi remained in government hands. In the aftermath of independence, Bolivia was coining around 1.8 to 2.4 million pesos per annum. The dearth of small change led to the decreeing of the minting of small denomination coins (of half and a quarter real) with a lower content of silver than the usual, 0.902 in a thousandth of fineness.⁴⁵ In 1829, pure silver was reduced to 0.666 in the smaller denomination coins. The peso piece continued to be minted with the usual fineness and content. Other apparent features remained identical. Adulteration meant a 26.15 per cent 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 *pesos febles* (feeble peso). Repeated adulteration of the silver content of Bolivian coins permitted an increase in the quantity of money in circulation in nominal terms.

Debasement as a monetary policy of the Bolivian government began in 1830, and was initially limited. It represented about 5 per cent of the total coinage of the decade. The proportion of bad coins increased four-fold in the 1840s, and during the 1850s they comprised 40 per cent of the stock of money coined in Bolivia. In the 1860s, all Bolivian pesos were feeble or debased.⁴⁶ However, this was independent of the availability of metal to the mint house: as shown in figure 2, the number of silver marks purchased and smelted at the *Casa de Moneda* remained steady throughout the period of heavy debasement of Bolivian coins. The international price of silver cannot account for the pressure to adulterate the currency:

⁴⁵ According to the decree of 10 Oct. 1829, coins in circulation had disappeared because of 'the extraction of silver' (reproduced in Prados Robles, 'Efectos Monetarios', app. 2, p. 327). The colonial standard at Potosi was 10 *dineros*, 20 grains of fineness (0.902), and 542 grains of weight.

⁴⁶ The reform tried to change the existing bi-monetary system, resuming the coinage of 0.902 fineness silver coins, the *peso boliviano*. However, these pieces weighed 400 grains, which made them equivalent to the feeble pesos. In 1865, small denomination coins underwent further debasement to six *dineros*, or 0.500 fineness of pure silver only.

the silver ounce fluctuated below 16 to the gold ounce in London. Only after 1874 did silver prices fall steadily in the international markets. So, pressure from repeated fiscal shortages was behind the Bolivian expansion of currency.⁴⁷

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 continued until the early 1870s. In 1872, exports of silver were finally free, and so was minting thereafter. This reform ended the government monopoly on coinage but created a paper currency, and an incipient government-owned establishment initiated Bolivia's banking system.⁴⁸ One of the first operations was the redemption of all 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 levels not achieved since shortly before the revolution.⁴⁹

III

Further south, in the regions of the southern cone that were poorly endowed with silver, paper money took shape very early as the circulating medium. Although in the River Plate region, Buenos Aires governments inaugurated the use of paper currency shortly after the revolution, this was not a revolutionary recourse. The Banco de San Carlos, established in Madrid in the 1780s, increasingly printed notes (*vales de Carlos IV*) to bolster war-shattered Spanish finances. In 1798, the Banco interrupted convertibility of the notes by suspending their acceptance at par. The institution, the paper instrument, and the royal administration itself barely survived a few years more.⁵⁰ By 1817, in Buenos Aires a quasi-bank, Caja de Depositos, started issuing paper scrip as a government liability, which was received at the Customs House. The mass of paper created by this institution, plus several other instruments, such as Treasury bills, originated to fund the expenses of the revolutionary armies. The situation resulted in serious monetary disorder. Private money also appeared. These were the 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 that persisted in the region until the 1870s) soon transformed into a government bank of issue. After 1826, the printing of inconvertible paper notes by the bank became one of the pillars of Buenos Aires's economic and political leadership over neighbouring regions.⁵¹

The other former provinces of the viceroyalty of the River Plate soon formed part of the confederation known as the *Provincias Unidas*; they also created their

⁴⁷ Abendroth, 'Finanzas Publicas'.

⁴⁸ Peñaloza Cordero, *Nueva Historia Economica*, p. 61.

⁴⁹ Over the course of the century, legal production had fallen from around 1,400 tonnes (decadal average) in the 1770s to about 840 tonnes in the 1800s. From 1830 to 1860, it fell further to 500 tonnes. Mitre, *El Monedero De Los Andes*, tab. II, p. 23.

⁵⁰ The institution outlasted the monarchy, as paper money remained a source of government financing after the fall of the monarchy. Tedde de Lorca and Marichal, *La Formacion De Los Bancos Centrales*, pp. 19–26; White, 'Fueron Inflacionarias', pp. 519–20.

⁵¹ Irigoin, 'Inconvertible paper currency', pp. 342–3.

own money. Those with some mineral resources occasionally minted silver coins with an average of 0.750 of a thousandth fineness.⁵² Others, further away from the Andean mines and better integrated to export their pastoral produce through the Atlantic, tried a fiduciary (unbacked) currency to cope with the shortage of specie: all eventually failed. This was the case with 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.⁵³ 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 region.⁵⁴ As a result, all sorts 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 legal tender in the interior provinces of present-day Argentina, with various exchange rates. Chilean gold circulated in Mendoza, as Brazilian *milreis* did in Corrientes and Entre Rios. Indeed, monetary diversity lasted until 1881, when the 'gold peso' was adopted as the national monetary unit.⁵⁵

Unlike other contemporary experiments to fund major political transitions with fiat money, such as the Continental in North America or the *assignat* during the French revolution, the paper peso of Buenos Aires enjoyed a long (if turbulent) life of 40 years, until 1867. Buenos Aires's inconvertible paper peso remained in circulation, despite repeated massive issues, because of the fiscal fragmentation that followed the fall of the Spanish Empire in the River Plate. Receiving paper notes in return for taxes was the mechanism conceived by the Buenos Aires government in order 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 its ordinary income came from duties on imports largely consumed far beyond the port. Duties were paid in paper pesos, the Buenos Aires currency. Thus, this artificial demand for paper notes helped them to remain in circulation, despite the lack of metallic reserves. 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 of meeting fiscal deficits in Buenos Aires. With recurrent issues of paper, the effects of inflationary tax (the erosion of the future value of government obligations due to inflation) decreased real revenues 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 more, and a process of currency substitution began. Gold ounces, silver *pesos fuertes* or feeble pesos, and any other metallic currencies were preferred to worthless paper scrip, save for settling accounts at the Custom House. Currency substitution aggravated this, as inflationary episodes

⁵² Between 1831 and 1857, provinces like La Rioja minted about half a million pesos of intermediate quality. Salta and Cordoba also coined silver. Although sums were minor in terms of the national aggregate, they were reasonably significant in terms of regional GDP. Alvarez, *Temas De Historia Economica Argentina*, p. 99; Omiste, *Cronicas Potosinas*, p. 19.

⁵³ Halperin Donghi, *Revolución Y Guerra*, p. 91.

⁵⁴ That was the fate of other ephemeral banking enterprises, such as the Brazilian-owned Maua Bank (Tedde de Lorca and Marichal, *La Formacion De Los Bancos Centrales*, p. 139).

⁵⁵ Alvarez, *Temas De Historia Economica Argentina*, pp. 97, 100–1.

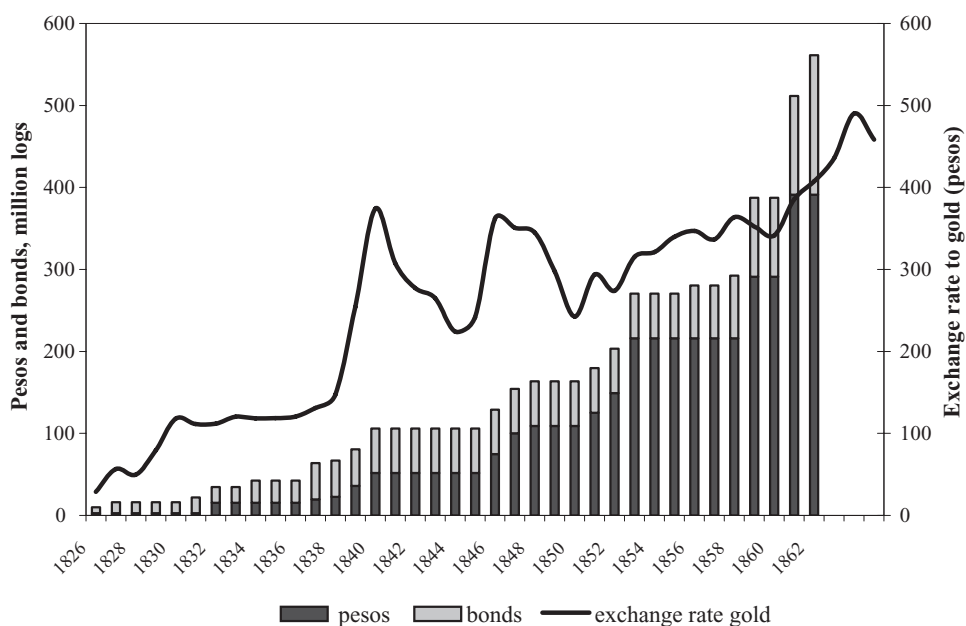


Figure 3. *Depreciation of Buenos Aires's paper peso, 1826–64*

Source: Irigoin, 'Inconvertible paper currency'.

were followed by marked appreciation of the paper peso and deflation. As illustrated by figure 3, high volatility in the exchange rate was a fundamental consequence of Buenos Aires monetary policy in the period.

Rapid inflation and volatility began in Buenos Aires (present-day Argentina) as early as 1826, following the decree of inconvertibility. A blockade to the port during the war with Brazil (1825–8) strangled imports to Buenos Aires and, with it, the source of ordinary revenue: customs. With rising and inelastic military expenditure, the issue of bonds and of inconvertible paper money ensued to solve the fiscal deficit. In the 1830s, the financial position of the government improved, credit recovered, and the peso appreciated as the economy grew moderately in real terms. After 1837, contentious relations with the Bolivia–Peru Confederation over the collection of customs revenues led to an increase in military spending that wrecked the weak fiscal recovery. European blockades of the port during 1838–41 and 1845–8 magnified the extreme dependence of Buenos Aires's revenue on import duties. Further contraction of domestic sources of borrowing, partly due to previous inflationary policies, obliged the government to resort to printing more paper pesos. As a result of the massive expansion of currency, depreciation peaked and the prices of consumer goods skyrocketed.⁵⁶ In the aftermath of these episodes, sudden appreciation of the exchange rate provoked deflations with serious prejudices to trade that led to a chain of bankruptcies. During the 1850s, in the final stages of the civil war before the establishment of the definitive constitution

⁵⁶ Estimates of the composition of Buenos Aires's imports indicate that about 90% of them were foodstuffs and wage goods. Similarly one-third of the European goods imported were re-exported further inland (Irigoin, 'Inconvertible paper currency').

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 shown in figure 3.⁵⁷

IV

As a result of inheriting Spanish American fiscal and financial exhaustion from colonial times, republican governments in Latin America faced difficult alternatives for combating meeting post-independence fiscal disequilibria. Deficits recurred. Sources of domestic borrowing were depleted and tax reforms were highly constrained by the harsh exaction imposed by Bourbon rule and Republican experiments, which further concentrated the tax burden. The issue of funded debt was an early recourse of post-independence administrations to bring more flexibility for financial manoeuvre by postponing short-term obligations. Floating debt was consolidated in the aftermath of the revolution. Old colonial debts acknowledged by revolutionary administrations mounted, with exactions and forced loans being imposed equally by revolutionaries and royalists in this period.⁵⁸

Shortly after independence was complete in 1825, with the fall of the last Spanish strongholds of Potosí and Ayacucho into the hands of the patriot army, Latin American countries experienced the first of a long series of disastrous attempts to resort to international debt markets. The first Latin American debt crisis took place within a few years of heavy and dear borrowing in a highly liquid financial environment, the London market after the Napoleonic wars. All countries except Brazil defaulted on their obligations, which precluded alternative external debt finance thereafter for a good 40 or 50 years.⁵⁹

Hence, post-independence governments at both extremes of the former Spanish Empire (Mexico and Buenos Aires, respectively) and almost at every polity in between issued long-term bonds while experimenting with new fiscal recipes. Yet because of the exhaustion of lenders, and due to the effects of rapid inflation and monetary instability, public bonds never developed as a sound source of finance: domestic capital markets never took shape. Budget deficits provoked an early recourse to local merchants for funds. These private sources lent money 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 in a mortgage on future fiscal income, and governments either needed more money or received less revenue every time. So the volume of paper scrip increased as the financial mess worsened.

Lacking monopolistic control over coinage, republican administrations in Mexico borrowed to stay afloat. The so-called ‘politics of penury’ characterize how costs to the Mexican Treasury escalated rapidly during the Federalist and the

⁵⁷ In the 1820s, Buenos Aires’s floating debt from revolutionary wars was consolidated in a five-million pesos funded debt. By 1837, it had increased seven times in nominal values. In 1840, another attempt to float bonds for further 10 millions ought to be sold to the bank, which printed paper pesos to purchase the bonds at 60% of the (nominal) price. Not surprisingly this was the last sale of public stock until 1856, when Buenos Aires was renegotiating with Baring Brothers the defaulted loan of 1824 and major fiscal reforms were under way. Irigoin, ‘Finance, politics and economics’.

⁵⁸ Marichal, *La Bancarotta Del Virreynato*, chs. 3, 4, and 8, describes the Crown’s phenomenal rate of borrowing from its colonial subjects in the earlier years of independence.

⁵⁹ The classic source is Marichal, *Century of debt crisis*.

Centralist regimes. To meet the deficit inherited by the constitutional government in 1824, the Treasury obtained 8 million pesos from the first domestic loan for 16 million in bonds at 5 per cent and 30 years maturity. Thereafter, government indebtedness grew as revenues declined annually. Further borrowing was only possible as loans were made in a way that enabled lenders to use their certificates to pay for taxes.⁶⁰ Not surprisingly, real interest rates skyrocketed, the burden of taxation increased with higher tariffs and multiple new levies, and the fiscal income decreased.⁶¹ With foreign credit curtailed, local moneylenders financed the government at allegedly 'usurious' rates. In 1840, although Treasury expenditure was listed as 12.5 million pesos, only 2,375,314 pesos were actually spent. The remaining 10 million pesos were defrayments for loans, interest payments, and repayment of money on deposit in the Treasury, namely '4.21 pesos for every one for genuine expenses'.⁶² Every government had to borrow even more in each year, but at shorter terms and at higher interest rates, than their predecessors.⁶³

The intertemporal budget constraint arising from ever more borrowing at ever more expensive rates, while committing future revenues to service the debt, ended in astronomical rates of debt burden.⁶⁴ Borrowing at ever-higher rates and shorter terms of maturity was a certain route to building up a debt crisis. Nineteenth-century European experts considered a 35 per cent interest service-to-revenues ratio with the 'greatest prudence'; above 45 per cent, 'the situation looked bleak'; and when reaching 55 to 60 per cent, 'the slightest problem shall induce to restructuring'.⁶⁵ If these were the benchmarks for international capital markets and capital flows, how did Mexico's 120 per cent ratio—shown in figure 4—look to potential lenders? Insolvent governments were unlikely to establish or enforce any long-term rule and order. Even in 1901, the Mexican historian Justo Sierra still observed, 'When salaries are paid revolutions fade, so fiscal insufficiency fuelled political instability'.⁶⁶

Elsewhere, without riches comparable to Mexican silver but with an effective monopoly over seigniorage, the other available option was 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 mobilization for revolutionary wars. 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. Yet in the 1840s, inflation was already noticeable, and in the 1850s,

⁶⁰ Mexican governments, whether Federalist or Centralist, 'rather than reform the tax system . . . searched for ways to buy time until the system began to work as planned' (Tenenbaum, *Politics of penury*, p. 30).

⁶¹ The government paid rates as high as 536% in 1828, 308% in 1829–30, and 232% in 1831 (*ibid.*, p. 32).

⁶² Tenenbaum, *Politics of penury*, p. 56. In 1845, the revenues collected (4,780,000 pesos) suffered a deduction of 15,460,000 pesos, which was 'pledged to one debt or another' (*ibid.*, tab. 9, p. 56).

⁶³ In 1853, the domestic debt amounted to 61,950,033 pesos and included debts from colonial times and to Spanish subjects after independence. The foreign debt represented 55,816,991 pesos (Vazquez Mantecon, *Santa Anna*, p. 137). The total debt of Mexico was 117,767,024 pesos, nearly half of the amount of legal silver exported in the same period (1825–51), 237,126,061 pesos (Lerdo de Tejada, *Comercio Exterior*, tab. 52).

⁶⁴ Sargent and Wallace, 'Some unpleasant monetarist arithmetic'.

⁶⁵ Taken from M. Flandreau, 'Sovereign risk and reputation: developing perceptions in the past age of globalisation', paper presented at the fifth conference of the European Historical Economic Society, Madrid, 24–7 July 2003.

⁶⁶ Sierra, *Political evolution*, p. 191, quoted in Tenenbaum, *Politics of penury*, p. 53, n. 33.

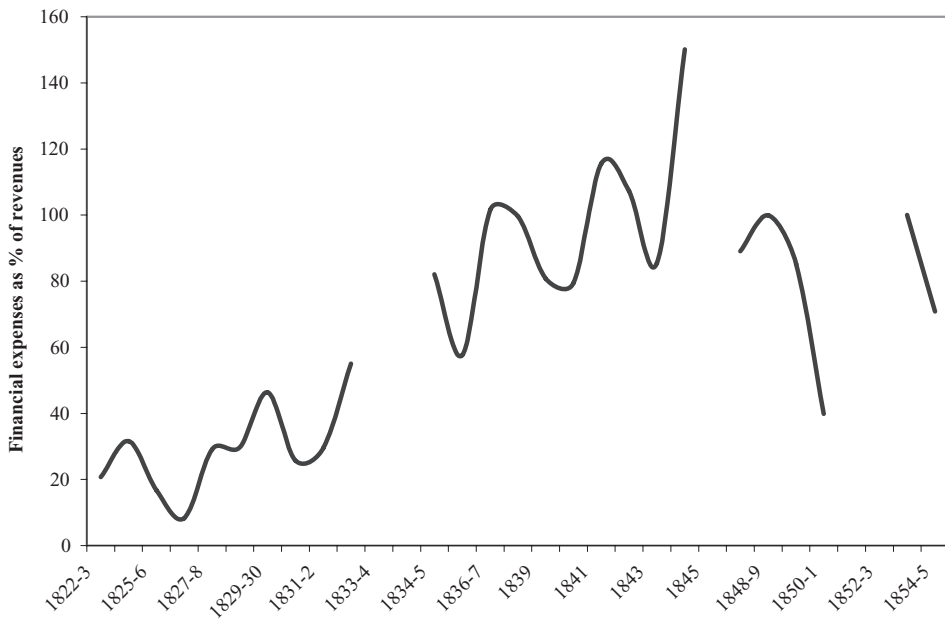


Figure 4. *Debt burden, Mexico, 1822–55*

Source: Author's own estimates from Tenenbaum, *Politics of penury*, tab. B, pp. 180–1.

further debasement was unavoidable; otherwise, Bolivia could not have maintained its imports nor funded its already shaky Treasury.

However, Bolivia could not afford an autonomous monetary policy. Dependence on other countries for trade and the series of *ad valorem* taxes charged by neighbouring intermediaries ‘imported’ foreign inflation and amplified the residual effects on the price of imports caused by monetary manipulations elsewhere. Despite debasing its currency, and because it lacked access to the sea and its mercantile networks were dependent on partners in Buenos Aires and Valparaíso, Bolivia was obliged to trade with neighbours whose currencies were even weaker. The Chilean government strictly prohibited the introduction of debased coins from Bolivia as payment for exported goods. This was unnecessary in the port of Valparaíso, where merchants only accepted *pesos fuertes* from Bolivian importers. Initially, Peru took no comparable measures for political and economic vested interests. For example, until the 1840s, lacking major export commodities and in the context of huge financial disarray, the agricultural districts in the south of Peru found in neighbouring Bolivia a substantial market for their produce. Also, until 1841, there were several attempts to organize a political confederation between the two countries. Thereafter, the *guano* export boom bailed out the Peruvian Treasury—albeit temporarily—and the economy grew. Peru’s government stopped accepting the feeble pesos for taxes and ill feeling towards Peru increased in Bolivia, together with prices. Warfare broke out within the Peruvian–Bolivian Confederation, and continued as domestic strife in Bolivia until the mid-1850s.⁶⁷

⁶⁷ Gootenberg, *Between silver and guano*, ch. 5.

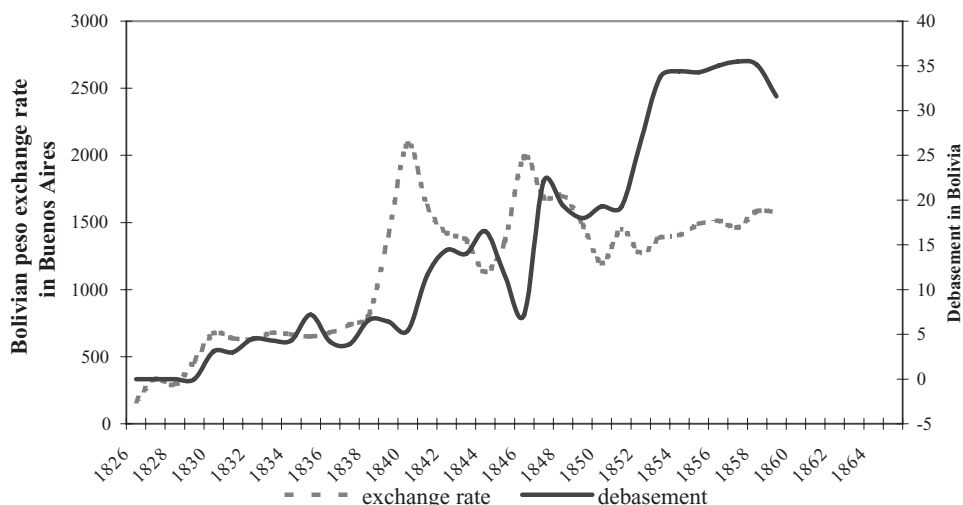


Figure 5. *Autonomous monetary policy? Bolivian peso debasement and exchange rate in Buenos Aires, 1826–60*

Source: As for figs. 2 and 3.

Nevertheless, Bolivian feeble pesos were always taken at par with the hard peso in the southernmost regions. As mentioned earlier, at the port of Buenos Aires and the intermediate mercantile sites along the old route to the Atlantic, Bolivian pesos were either legal tender or well received. Figure 5 shows the effects of Buenos Aires's deficit financing monetary policy on the exchange of the Bolivian peso. Decisions on monetary affairs taken in Buenos Aires reverberated in Bolivia. Waves of paper notes flooding 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 in order to maintain the level of imports. A highly volatile paper peso on the Atlantic ultimately drove monetary policy in the highlands of Potosí.

Mutual recriminations about the economic effects of the circulation of debased currency underpinned a permanent tension between Bolivians and Peruvians. Often this turned into military skirmishes. Yet an intense commerce—long-established since colonial times—in the border region made fruitless Bolivian efforts to pursue an autonomous monetary policy, or Peruvian government attempts to halt the circulation of *feble pesos* in southern areas—even if at an increasingly discounted rate.⁶⁸

Traditionally, economic historians have stressed the role of relatively greater openness to trade in explaining the economic success of some Latin American republics after the 1870s. Very recently, some North American scholars have revised the traditional view of the underlying forces of commercial policies in Latin America before the Great Depression. They were surprised by the degree of

⁶⁸ Vargas, *Reflexiones Económicas*, pp. 2, 4 7.

protectionism (high tariffs) that prevailed at an early stage in the region. This allegedly restrained Latin America from exploiting productive forces, and from enjoying the benefits of globalization. The nominal degree of protectionism in post-independent Latin America was very high, and much higher than elsewhere during the first age of globalization. As has been widely referred to in the literature, Coatsworth and Williamson also observe that early republican governments had strong fiscal objectives which drove the tariff policy.⁶⁹ Thus, the 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 customs duties were paid with depreciated paper money and bonds that circulated at huge discounts in secondary markets, the effects of financial and monetary policies on the tariff and customs yields should be taken into account in order to assess more accurately the degree of protectionism in those economies.⁷⁰ This was common currency for international merchants of the period as the information was available, along with local prices and customs duties, from correspondents in the River Plate. For instance, the 'Price Current list' of Baring's agents in Buenos Aires and one of the most established American houses, Lynch, Zimmermann, & Co., had a blank space to fill by hand in the printed item: 'Duties [blank] payable in paper which being at [blank] per cent discount, reduces them in proportion'.⁷¹ The blank spaces were filled in by hand, and varied (in inverse proportion) according to the urgency of the Treasury's situation and the prevailing exchange rate. The first varied from 'half' to 'one third' of the duty, and the second stated the percentage of discount that paper pesos had in the market. Domestically, depreciation of pesos and *ad valorem* taxes on consumer goods resulted in distortions of relative prices and provoked major redistribution of income and the tax burden. These distortions finally granted sizeable protection or subsidies to some sectors, particularly exporters of non-metallic commodities—taxed with fixed (specific) duties denominated in paper pesos—at the expense of consumers. Abroad, the acceptance of depreciated paper money by bankrupted treasuries as full payment of taxes lowered whatever protectionist effects high tariffs could have had. Protection for local manufactures, if indeed there were any, arose from making imports relatively dearer by higher exchange rates. As in other current revisions of globalization, the contemporary macroeconomic situation (and hence the 'good domestic policies', or lack thereof) underlies the benefits that these countries could have received from the expansion of international trade and financial markets characterized by globalization in this period.⁷²

V

The collapse of imperial rule did not provoke major changes in taxation nor in the matrix of revenue collection. Yet with the disappearance of the Treasury network

⁶⁹ Coatsworth and Williamson, 'Always protectionist?'.

⁷⁰ Coatsworth and Williamson miss the fact that import duties were *not* 'typically specific' until modern times. Generally they were *ad-valorem* and the base for the tax was expressed in local currency and largely outdated because of compounding administrative deficiencies and erosion from laggard adjustments in exchange rates. *Ibid.*, p. 227.

⁷¹ 'Lynch, Zimmermann, & Co., Price Current' was printed weekly in Buenos Aires and sent to overseas correspondents. John Carter Brown Library, Brown University, Providence, RI, Brown & Ives papers, 'South American correspondents', B 308, F1. PS59 (several dates).

⁷² Flandreau, 'Sovereign risk' (see above, n. 65).

that distributed revenues throughout the empire, and demands for funding the establishment of legitimate new republican administrations, political fragmentation ensued. Indeed, the new political units that emerged from within the fiscal structure of the empire often centred on former colonial mints, or the site of Treasury offices. Thus, fiscal receipts and coinage fell into the hands of new local authorities. Regional elites could now defend their individual economic interests and be part of the dispute over the design of the new revenue collection unit: the republican state. The fiscal and monetary unit of the Spanish Empire in South America was dismembered, and replaced by an increasing number of fiscally and monetarily autonomous smaller entities that were the inception of modern Latin American republics.

Where governments could enjoy a monopoly over seigniorage, the expansion of currency (either by coinage or by printing paper money) was the ultimate source of revenue to which all of these political entities resorted. Elsewhere, as in the case of Mexico, mounting debt resulted in repeated and protracted economic and political crises. Peru endured at least 20 years of serious recession compounded by deflation. Financially weakened administrations could not exercise their rule without challenge. Weak institutionality ensued, and the fiscal and political—even the territorial—constitution of these republics was delayed by long-lasting civil warfare. Peace and stability were achieved only when the competition for revenues and seigniorage ended. Then, stable institutions and credible rules of the game took shape, and foreign capital returned to assist in the building of markets and politics. 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 globalization. In the long run, none of them achieved true, intensive, and sustainable economic growth.

The monetary fragmentation of the empire was a major cause of strife over fiscal resources among the former colonies. Deficits recurred, and, given the impossibility of tax-smoothing policies, deficit financing by inflationary means further aggravated the fiscal position of successor competing states. As insolvency became recurrent, monetary manipulation was the ultimate means for funding bankrupted states. Significant consequences for the performance of the economy resulted from complete and repeated fiscal inefficiency, an insufficient fiscal base, and the overwhelming allocation of the tax burden to consumers. The results were huge market disintegration; higher and massive transaction costs; crowding out; severe distortions in prices and exchange rates; and ultimately more inflation.

Erosion of revenues and an increasing debt burden in the long run generated a similarly perverse vicious circle. Currency substitution aggravated effects from volatile exchange rates in one place, but amplified effects from monetary manipulations elsewhere. These distortions were undesirable imports that placed an additional burden on consumption and reduced revenues. The most expedient reaction of post-independence rulers was to increase tariffs further—or to reinforce internal customs (excise duties)—aiming to increase the speed with which yields from import duties were gathered, rather than the amount. This meant greater internal barriers to trade, which undermined tax yields in the long run for chronically unbalanced treasuries. Having unequal access to foreign commerce because of geography—and factor endowments favourable to the development of

a commodity export-led economy (other than silver)—the ultimate effect was that the burden was passed on to ‘foreign’ neighbouring consumers. This ultimately destabilized the political basis of any attempt to recreate a set of sovereign authorities, now in a fragment of the former empire. The monetary disunion of the empire propitiated the commercial and political strife among the parts of a formerly integrated economy. Tariff and monetary policies in the period resemble the ‘beggar thy neighbour’ policies known throughout the world at the time of another currency fragmentation: the fall of the gold standard. In fact, economic integration in Latin America has proven an elusive desideratum since the time of Simon Bolívar.

Thus, assessment of the economic performance of South American republics in the post-independence period by using macroeconomic aggregates—with ex-post and reduced form of data—faces a major problem: to what extent were these political units in existence by the 1820s? Indeed, fully-fledged Latin American republics were not obvious before the 1860s. The required information for GDP, GDP per capita, and even population figures at aggregate level is only available (or robust enough) after the 1880s at best. So, were the national boundaries of these countries in the 1860s predetermined? Only by then had nation-scale administrations, currencies, and revenue collection been fully established without disputes. Indeed, the strife about the form (fiscal and political form, or constitution) had ended, and the emerging republics were also developing an incipient monetary sovereignty. Similarly, neo-institutional interpretations of Spanish American independence, which depict a region absorbed by disorder, endemic civil wars, and despotic rule that altogether wasted the growth potential of these economies, fail to answer this question: what was the warfare and political strife about? With their emphasis on territorial fragmentation and the long-lasting civil warfare that prevailed after the end of Spanish rule, and their interpretation of the resulting political instability as a corollary of independence, they offer an ad hoc exogenous political explanation for the region’s institutional failure. Independence is thus seen as exogenous to the economic analysis following the birth of the modern republics.

By the 1880s, those aggregates are themselves the results of economic and political processes in the former colonial regions, which began with the monetary disunion of the colonies and ended with the creation of nation-scale markets. The fragmentation of the currency union that was the Spanish Empire generated a diversity of monies, resulting from the co-existence of several monetary authorities (mints and banks of issue, plus private monies). It caused greater instability and distributed the Gresham effects beyond each political unit. The effects on markets and trade nurtured political reactions to the widespread Gresham effects in the overall region. They are at the roots of the subsequent development of the political units that emerged during the nineteenth century: the Latin American republics.

Thereafter, 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 continued to be the means of funding fiscal deficits; growth was extensive because technology stagnated. The lack of improvements in infrastructure kept transport costs for domestic economies extremely high. The lack of

investment in technology and domestic transport made it impossible for the Latin American economies to benefit from the 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 each country outperformed others. Disparities, regional and within countries, broadened after independence. Thus, widening inequalities affected the prospect for sustainable growth over time and fuelled persistent regional conflicts.

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APPENDIX

Table A1. *Coinage of silver pesos in republican Mexico, annual average in millions of pesos*

<i>Mint house</i>	<i>1824–9</i>	<i>1830–9</i>	<i>1840–9</i>	<i>1850–6</i>
Mexico City	2.347	1.018	1.838	3.182
Chihuahua ^a		1.900	0.420	0.300
Durango ^b	0.970	0.900	0.685	0.590
Guadalajara	0.684	0.593	0.939	0.546
Guanajuato	0.965	2.585	4.580	6.102
San Luis Potosi	1.475	1.158	1.450	1.760
Zacatecas	4.574	5.287	5.744	3.601

Notes: *a* in operation after 1832; *b* in operation since 1826.

Source: Author's own estimates from Orozco y Berra, *Informe sobre la Acuñacion*, pp. 25–34.

Table A2. *Coinage of silver pesos in republican Mexico, 1824–56*

<i>Date</i>	<i>Denomination</i>	<i>Die</i>	<i>Fineness</i>	<i>Mint mark</i>	<i>Weight (grams)</i>	<i>Diameter (mm)</i>	<i>Edge</i>
Up to 1808 ^a	8 reales	‘Carolus’ ^b	0.903		27.0602 ^c		Striated
1811	8 reales	Ferd VII	0.895	none	26.84	39.5	Ornamented
1811	8 reales	Ferd VII	0.895	none	32.01	40	Striated
1811	8 reales	Ferd VII	0.895	none	26.66	42	Plain
1812	8 reales	Ferd VII	0.895	none	27.33	39.5	Ornamented
1815	8 reales	Ferd VII	0.895	none	26.04	39.2	Ornamented
1811	8 reales	Ferd VII	0.895	none	19.04	38.8	Plain
1812	2 reales	Ferd VII	0.895	none	5.69	26.2	Plain
1812	8 reales	Ferd VII	0.895	none	27.92	39.6	Plain
1812	8 reales	Ferd VII	0.895	none	24.53	38.5	Ornamented
No date	4 reales	Ferd VII	0.895	none	11.99	35.5	Plain
No date	8 reales	Ferd VII	0.895	MexicoMo	26.89	39.7	Ornamented
1811	8 reales	Ferd VII	0.895	none	28.66	40.6	Plain
1812	8 reales	Ferd VII	0.895	none	26.24	39.2	Plain
1812	8 reales	Ferd VII	0.895	ChihuahuaC [^]	26.23	40.7	Ornamented
1822	8 reales	Ferd VII	0.902	MexicoMo	26.95	40	Ornamented
1822	8 reales	Ferd VII	0.902	MexicoMo	26.99	40	Ornamented

Notes:

a Colonial standard after 1772–6.

b Featuring the face of Charles III or Charles IV.

c Made of 24.4293 grams of fine silver + 2.6342 grams of alloy.

Source: Author's own data, based on http://www.cmonedam.com.mx/numismatica/hist_numis.html (Numismatic Office, Banco de Mexico).

Table A3. *Valuation of Spanish American coins in the Philippines*

<i>Class of peso coin</i>	<i>Net weight (grains)</i>	<i>Fineness (grains)</i>
Old Spanish peso	499.2	445.08
Mexico 1831	502.08	450.48
Mexico 1832	495.48	442.8
Mexico 1833	502.68	451.2
Bolivia 1829	499.56	450.36
Bolivia 1832	499.08	450.36
Peru 1832	499.08	450.36
Peru 1832	494.4	445.32
Peru 1833	498.6	450.72
Chile 1833	505.92	456.21
River Plate	491.76	442.24
1/2 (4 reals) Old Spanish peso	249.6	222.48
Bolivia	250.56	168.6
1/4 (2 reals) Old Spanish peso	124.8	111.24
Mexico	123.48	111
Central America	114	103.68
Bolivia	125.64	84.84
Colombia (Cundinamarca)	124.86	84.72
1/8 (1 real) Old Spanish peso	62.1	55.68
Central America	58.2	52.2
Colombia (Cundinamarca)	95.4	44.4
New Granada	48.6	27.48

Source: Oropilla y Fortich, *Philippine counterstamped coins*, tab. 9.1 (monetary table of American and Spanish American coins), p. 173.