

**Emerging Financial Markets of the 1820s:
Latin American Sovereign Debt, 1825-1852**
(Preliminary version; not for citation)

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Presented at
XVIII World Economic History Congress
Polity and State Finance in the Peripheries of the Global Economy

Abstract

As a case study in the vicissitudes of emerging borrowers in global financial markets, this paper analyzes fluctuations within the first cycle of Latin American sovereign debt issued in London. Data derived from the weekly prices of the major sovereign borrowers who had newly borrowed in the London bond market combine with historical narrative to suggest that circumstances specific to each borrower did not, alone, explain either sovereign default or resolution. Creditors' perception of the debtors' creditworthiness, taking account of a range of investment alternatives, carried significant weight in understanding the decisions to go into and come out of default. The conclusions suggest that circumstances specific to each borrower did not, alone, explain either sovereign default or resolution. Creditors' perception of the debtors' creditworthiness carried significant weight in understanding the decisions to go into and come out of default. However, neither did sovereign debtors react passively to market conditions; resolving defaults reflected debtor decisions to avail themselves of receptive financial markets.

Given the general interpretation of a crisis in 1825/26 as the first modern global sovereign debt crisis, the dearth of detailed exploration into the specific trajectory of the cycle is curious. The paper contributes to remedying that lacuna

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The 1820s was a decade of interrelated and geographically widespread shifts in political arrangements, global finance and business practices. European states re-organized themselves in the aftermaths of the Napoleonic Wars and the independence of their former colonies in the Americas. These shifting political dynamics both created and responded to economic change, which many saw as new opportunity. Among the most important innovations was an early period of financial globalization. The expansion of the global financial market, centered in London, gave newly independent Latin American nations access to capital at the same time that it offered potential investors the opportunity to invest anonymously in new states and enterprises.¹ Political independence among the former colonies (the emerging markets of their time) and industrialization in the North Atlantic opened the possibility of greater trade, exchanging commodities for manufactured goods. Economic potential propelled both producers (of primary commodities and of manufactures) and investors hoping to benefit from the gains. Financial openness supported early capital inflows to new states, which quickly turned into widespread sovereign defaults.

This paper analyzes fluctuations within the first cycle of Latin American sovereign debt issued in London (and denominated in pound sterling) as an early case study in the vicissitudes of emerging borrowers in global financial markets.² The cycle lasted from 1822-1825, when the

¹ This paper stands on the shoulders of Carlos Marichal, *A Century of Debt Crises in Latin America: From Independence to the Great Depression, 1820-1930* (Princeton: Princeton University Press, 1989); Frank G. Dawson, *The First Latin American Debt Crisis: The City of London and the 1822-25 Loan Bubble* (New Haven: Yale University Press, 1990). For an early classic reading on British investment in Latin America, see Leland Hamilton Jenks, *The Migration of British Capital to 1875*, Borzoi Political Science Texts (New York: A.A. Knopf, 1927), Chapter 2.

² A significant boom in capitalizing Latin American mining companies listed on the London exchange occurred during the same years. Almost all of these highly speculative (and often fraudulent) companies failed within a few years. They are not the subject of this paper.

loans were contracted, until about 1852, when defaults and compliance problems were well on their way to resolution. Given the general interpretation of a crisis in 1825/26 as the first modern global sovereign debt crisis,³ the dearth of detailed exploration into the specific trajectory of the cycle is curious. The paper contributes to remedying that lacuna by assessing the value of sovereign bonds, relative to each other, from the period leading up to default until resolution. The underlying questions of the research are: to what extent did investors distinguish between different Latin American borrowers, and how and when did the value of debt of emerging sovereigns respond to conditions outside of their control?

This research complements the thriving recent body of scholarship on sovereign debt of the newly independent Latin American states, which largely focuses on the decisions and actions of individual borrowers.⁴ An alternative perspective has been to focus on the creditor side of the market, with little detailed distinction made among debtors.⁵ Intermediaries at the center of the capital market also have recently come under scrutiny.⁶ This paper's underlying premise is that

³ Dawson; Larry Neal, "The Financial Crisis of 1825 and the Restructuring of the British Financial System," *Federal Reserve Bank of St. Louis Review* 80, no. 3 (1998).

⁴ For some examples of recent literature, see Leonardo Weller, "Rothschilds' 'Delicate and Difficult Task': Reputation, Political Instability and the Brazilian Rescue Loans of the 1890s," *Enterprise and Society* 16, no. 2 (2015); William Roderick Summerhill, *Inglorious Revolution : Political Institutions, Sovereign Debt, and Financial Underdevelopment in Imperial Brazil*, ed. Rutledge Ian, Yale Series in Economic and Financial History (New Haven: Yale University Press, 2015); Graciela L Kaminsky and Pablo Vega-García, "Varieties of Sovereign Crises: Latin America 1820-1931," *NBER Working Paper Series* (2014); Catalina Vizcarra, "Guano, Credible Commitments, and Sovereign Debt Repayment in Nineteenth-Century Peru," *Journal of Economic History*, no. 2 (2009); Richard J. Salvucci, *Politics, Markets, and Mexico's "London Debt," 1823-1887*, Cambridge Latin American Studies (New York: Cambridge University Press, 2009). A classic early study is J. Fred Rippy, "Latin America and the British Investment "Boom" of the 1820's," *The Journal of Modern History* 19, no. 2 (1947).

⁵ The most notable contribution to this literature is Carmen M. Reinhart and Kenneth S. Rogoff, *This Time Is Different : Eight Centuries of Financial Folly* (Princeton: Princeton University Press, 2009).

⁶ An innovative interpretation of the role of debt underwriters is emerging from the work of Marc Flandreau, Juan Flores and their collaborators. For a selection of this work, see Marc Flandreau and Juan H. Flores, "Bonds and Brands: Foundations of Sovereign Debt Markets, 1820-1830," *The Journal of Economic History* 69, no. 3 (2009); Marc Flandreau, "Sovereign States, Bondholders Committees, and the London Stock Exchange in the Nineteenth Century (1827-68): New Facts and Old Fictions," *Oxford Review of Economic Policy* 29, no. 4 (2013); Marc Flandreau et al., "The End of Gatekeeping: Underwriters and the Quality of Sovereign Bond Markets, 1815-2007," in *Nber International Seminar on Macroeconomics 2009*,

understanding global sovereign debt requires analysis that integrates all of these players. The short-term perspective, based on weekly changes of bond yields, across bond issuers within a well-defined time frame allows a nuanced comparative understanding of the dynamics underpinning international financial activity.

Conditions within the anonymous market of bond buyers and sellers gelled with national circumstances in the late 1820s to influence widespread default among Latin American sovereign borrowers. Nevertheless, the emerging borrowers remained responsive to the stresses of market fluctuation during periods of fluctuation. The global financial environment was not conducive for borrowers to decide to settle their debts until the end of the 1840s. The paper invokes Brazil as a referent for Spanish American sovereign loans and nuances the notion of default; Brazil's incomplete default resulted in mitigated, but still significant costs.

The conclusions suggest that circumstances specific to each borrower did not, alone, explain either sovereign default or resolution. Creditors' perception of the debtors' creditworthiness, taking account of a range of investment alternatives, carried significant weight in understanding the decisions to go into and come out of default. However, the paper also finds that sovereign debtors did not react passively to market conditions; resolving defaults reflected debtor decisions, which were costly and politically risky, to avail themselves of receptive financial markets. These conclusions are not surprising; in fact they are exactly what financial theorists and historians would expect. Their importance is to highlight the ubiquitous tradeoff for emerging economies in global financial capital markets between access to capital and vulnerability to fluctuation.

After this introduction, the paper proceeds in sections that offer a discussion of data and methodology, brief historical overview to establish the setting, an analysis of the debt

ed. Lucrezia Reichlin and Kenneth D. West (Chicago: National Bureau of Economic Research; University of Chicago Press, 2010).

characteristics across the cycle from early borrowing through default until resolution of debt irregularities, followed by a deep dive into the chronology of bond yield fluctuation in conjunction with historical narrative, and a conclusion.

DATA AND METHODS

Financial and political historians recognize the level and fluctuation of bond prices as an important means by which interested parties assess the creditworthiness and stability of a debtor. For debtors, investor/creditors and analysts the level and fluctuation of the value of bonds offer the metrics to proxy the value of debts, even if these measures do not affect the long-term cost of capital attached to the original loan.⁷ Analyzing the trajectory of prices at which bondholders bought and sold sovereign bonds allows for an assessment of market fluctuations and for insight on the understanding by propertied economic actors of the prospects for borrowing states. The value of international sovereign debt, after it has been issued, does not affect a borrower's payment obligations. However, fluctuations in value directly influence the value of capital within that sovereign's territory. The price trend also indicates the credibility and legitimacy of a sovereign borrower in meeting its commitments to its foreign and domestic creditors, its citizens and in the global geopolitical arena. All of these issues held sway in the early nineteenth century, as they continue to do so today.

Prices for the bonds of new sovereign borrowers and on British perpetual consolidated 3 percent bonds (known as consols) are of interest here. As the dominant instrument in global financial markets, the consol yield serves as the benchmark measure for the market – the (closest approximation of risk-free) return on market investing. Normal comparative financial analysis requires the translation of loan prices into yields-to-maturity, to normalize price

⁷ Since the face value of the bond is established when it is issued, the mechanism for increasing its return is to pay a lower price for it on the secondary market. Investors require higher returns (lower prices) on bonds as expectations of a debtor's decline.

fluctuations for differences in interest rate, maturity and initial price.⁸ However, the yield-to-maturity measure cannot be used for loans in default, the loans of interest here. Although investors continued to buy and sell bonds while in default, it is unlikely that market participants assessed an expected yield-to-maturity when making purchase/sale decisions. In order to normalize the loans with respect to interest rate and issue price, and to reflect the indeterminate schedule of their resolution, the paper utilizes the current yield, treating the bonds as though they were consols (fixed dividend rate and perpetual dividend payments.)⁹

In keeping with much of the current literature on sovereign debt, the paper invokes the concept of a risk premium to isolate the trajectory of sovereign creditworthiness. The risk premium, or country risk, is the difference between the bond yield and the market benchmark (consol) yield.¹⁰ This transformation assumes that risk assessment was independent of the benchmark. Findings from this paper suggest, in contrast, that sovereign risk assessments for emerging borrowers responded to the state of the markets. The relationship makes sense from an analytic perspective, if investors adjusted their required return on risk partially in reflection of their liquidity concerns, given other circumstances in the market. However, an implication of this relationship is that the risk premium measure does not fully distinguish between sovereign

⁸ Alternative measures of the *ex-ante* or *ex-post* internal rates of return are not suitable here. The *ex-ante* rate assumes that the initial terms of the bonds are met, which we know not to be the case; the *ex-post* measure assumes that we know the cost of resolution. Neither measure reveals the expectations of investors while the bonds were outstanding.

⁹ The current yield is simply the coupon payment/current price. For purposes of consistency all of the bond prices, including those not in default, have been converted to current yields. The yield moves inversely with prices: a higher price translates into a lower yield, which reflects favorably on the borrower (and vice versa – lower price equates to a higher, less favorable, yield.)

¹⁰ The risk premium that investors required on sovereign debt, compared to the most risk-free (safest) alternative use of capital, conveys information on the financial standing of borrowers in international financial markets and separates sovereign risk from overall risks of the financial market, which are not specific to the borrower. This measure isolates country risk from broad underlying shifts of the financial markets. The best benchmark of “risk-free” lending for the nineteenth century is the yield on the British consol. The spread between the yields on sovereign bonds of each nation and the British consol defines the risk premium.

political/economic risk and market risk.¹¹ This problem is not addressed in much analysis of emerging market sovereign debt; however, it plays a role in the methodological choices of this paper.

Weekly bond prices for the “Foreign Funds” listed on *The Course of the Exchange* (the reigning financial press of the day) comprise the quantitative database for deriving the risk premia. Some of the fourteen borrowers listed as Foreign Funds (Table 1) are not included in this analysis. Among Latin American borrowers, an attempted loan to Guatemala is excluded,¹² the infamously fraudulent loan to the imaginary kingdom of Poyais is also not considered. The loan to Gran Colombia was re-apportioned with its partition into New Grenada, Venezuela and Ecuador in 1834. Redefined political boundaries resolve did not debt problems, and New Grenada (Colombia) bonds were delisted from the price tables in 1846, after trading irregularly. European sovereign borrowers also offer a brief metric of comparison for the Latin American states. The data identify two distinct groups of European state debt: a “healthy” group of Austria, Denmark and Russia, who met the service obligations on the debt and “unhealthy” borrowers who defaulted or failed to place their bonds.¹³ For efficiency of exposition, this paper

¹¹ An earlier version of this paper attempted to separate the effects of market change from changing risk assessment. Severe data constraints and difficulties in systematically identifying sustained change rendered this approach infeasible. John Landon Lane jumped through considerable econometric hoops to try to make this work; even in the absence methodological success, the effort helped to develop the ideas of the paper.

¹² Guatemala defaulted immediately; the vast majority of the contracted debt remained unsold, and they did not establish a significant trading record; therefore it has been dropped from the analysis. (In 1838, the residual of the Guatemala loan was apportioned between the successor countries (Central America, less Panama, in twenty-first century geography); renegotiation of these loans by the successor states was staggered from 1844 through 1874.

¹³ The “unhealthy” European borrowers, Greece, Naples and Spain, are not considered in this paper. After default, Greek bonds traded very seldom on the London exchange (thus generating little data.) The current state of the data do not allow me to identify commonalities between Spanish and Spanish-American debt, and the historical analysis would not generate expectations of commonalities. The desire to avoid any suggestion or presumption of such commonalities has prompted me to exclude Spain – and “unhealthy” Europe from this analysis. Also among what would have constituted “unhealthy” Europe, Naples attempted to issue debt in 1824, but the issuance seems to have been unsuccessful. Also, these

uses the healthy European borrowers of Austria,¹⁴ Denmark and Russia in comparative perspective with the Latin American debt. In addition, Portuguese bond yields, relative to the Brazilian, offer an interesting mirror into both Brazilian independence and the inter-related connections of the bond market. For some borrowers, debt renegotiations during this cycle resulted in the actual exchange of bonds, the price series have been spliced to reflect the series involved in active trading at any given time.¹⁵ (Figures 1-4 display the risk premia and yield trends. See the Data Appendix for the details of the bond series' construction and the Appendix Table for descriptive statistics.)

The analytical framework here departs from most current analyses by eschewing econometric testing of the risk premia trends, such as calculating break-points for event studies. The decision to rely on historical narrative reflects the frequency of, and inability to control, gaps in data points as well as the continued interrelationship between risk premia and market yield identified above.¹⁶ Many of the bonds traded irregularly, and they continued to trade (in unknown volumes) on the London exchange after defaults. The prices reported for defaulted bonds could reflect current information ("news") about the value of the debt, sporadic *ad hoc* and partial payments of past-due amounts, speculative trading in anticipation of debt settlement re-negotiations, churning to give an appearance of active markets, or "noise." Prices also could change in response to changes in investors' liquidity or perceptions of any given bond relative to others. Further, prior to transatlantic telegraph communications, severe asymmetry

bond issues do not include (North) American issues or those of France, which had been issued during the reparations settlement of the Napoleonic Wars and *The Course of the Exchange* listed separately.

¹⁴ The bonds traded at irregular intervals and Austria refinanced its debt domestically, withdrawing from the London listing in 1849.

¹⁵ For Mexico the 1837 and 1846 loans replaced their predecessors (though they also fell into default), and the Peruvian loan was re-negotiated in 1849.

¹⁶ In an environment of high fluctuation and unknown volumes of transactions, the usual strategies of either assigning the last-known value to missing data or interpolation between known data points are unsatisfactory. Imposing a requirement of having data points for all bonds in the sample would reduce the data set too much.

in the timing of responses to continental and inter-continental news renders the interpretation in London of effects of political and economic news from Latin America imprecise.¹⁷

The bonds of Brazil, Mexico and Peru traded with relative regularity. Historical narrative and less complete quantitative observations with respect to other borrowers supplement information from these bond series. *The Times* (of London) is the major source for determining what, and when, the average investor learned of events in Latin America.¹⁸

Finally, twenty-eight years is a very long time in financial markets and the trajectory of risk premia and yields in Figures 1 and 2 suggests common patterns along with significant differences, which merit detailed chronological study. Just as the experiences of borrowers varied, so did distinct sub-periods of heightened fluctuation demonstrate differences in risk premia behavior across the entire 28-years of the first sovereign debt cycle. Financial history and Figures 1-4 identify three periods (between widely experienced localized peaks of risk premia and consol yield) when commonalities in the risk premia and consol yield trends suggest the predominance of general market forces over national circumstance to explain variation: 1825-June 1830, 1845-1848 and 1849-1852. Within these time periods, the data reveal that the movements of risk premia and the consol yield were generally in the same direction. In the interim, from July 1830 through 1845 Latin American bonds demonstrated more disparate movement, while healthy European securities generally showed slow improvement (declining risk premia.) Further, localized short-term peaks and troughs of premia and the consol had a

¹⁷ This paper distinguishes between events that happened in Europe, which had immediate impact on bond prices, and those occurring in Latin America. For the latter, their effect on bond yield in London is considered relative to their announcement in *The Times*. The time gaps of transatlantic information flows, in the era before transoceanic telegraph in the 1870s are an important, consideration. It generally required eight weeks for communication to flow between London and Rio de Janeiro, and six weeks between London and Mexico City.(Steam transport was introduced during the 1850s.) Although this method needs to be interpreted loosely, it provides a surprisingly accurate mapping between important news events and bond yield shocks.

¹⁸ *The Times* was the news-providing publication of the day; other sources would have been more limited in information dissemination.

tendency to cluster within consecutive weeks, serving as a useful tool for identifying market causality in contrast to sovereign risk. (Table 2 presents the measures of fluctuation of interest in the paper and Table 3 identifies the clustering of weekly fluctuations.)

Although circumspection is necessary in interpreting the data series, this history of the bond yields required of sovereign borrowers reveals consistent and nuanced insight into the particularities of both early capital market activities and early Latin American nation formation.

HISTORICAL SETTING

In the 1820s, the idea that sovereign states could borrow substantial amounts, for long periods of time, from anonymous lenders/investors in a foreign country expanded to new borrowers.¹⁹ Existing scholarship attributes the expansion of the debt markets during these years to the rapid and very large increase in investor liquidity with the end in 1815 of wartime borrowing that had financed Britain's undertaking of the Napoleonic Wars.²⁰ Between 1822 and 1825, the fourteen sovereign states listed in *The Course of the Exchange* raised £40.1 million. These borrowers included seven newly independent Latin American nations, the emerging markets of the era, with £20.75 million of debt obligations. Brazilian bonds accounted for £3.69 million (£5.69 million, including the Portuguese obligations identified below, for which they assumed responsibility as a condition of Portuguese recognition of independence.) The other major borrowers were Mexico and Peru, with £6.4 million and £1.2 million of bonds,

¹⁹ Although domestic debt and intra-European markets had long existed for a small universe of sovereigns, the expansion to new sovereign borrowers in the 1820s was an expansion from earlier years. (Reinhart and Rogoff.)

²⁰ Neal; Larry Neal and Marc Weidenmier, "Crises in the Global Economy from Tulips to Today: Contagion and Consequences," in *NBER Working Paper No. 9147* (Cambridge MA: National Bureau of Economic Research, 2002); Dawson.

respectively (See Table 1.) Many (biased) contemporary observers and some subsequent financial historians have suggested that these debts were not excessive.²¹

The new states incurred the loans for purposes of military expenditure and fiscal balancing. Some analysts have contrasted these loans with the developmental purposes associated with subsequent borrowing to finance large-scale physical infrastructure.²² An alternative interpretation could suggest that these state-building actions, in the absence of having inherited viable political or fiscal systems from imperial governors, were among the most important developmental activities facing the newly independent states. In their era, for all of the newly independent states, state-building included the warfare involved with establishing legitimacy and territory. It also included, from the perspective of debtors, putting in place financial resources that bridged from independence to the establishment of legitimacy and construction of a revenue-generating fiscal system. London financial markets had previously served these purposes, albeit with different sovereign debtors.

Brazilian bonds served as an important referent in the markets. Brazil was alone among the Latin American borrowers to not enter into complete default during this period.²³ In comparison with the newly independent Spanish American republics, Brazil also possessed many

²¹ Contemporary investors would have been biased towards this opinion because it both bolstered their arguments for prompt repayment and it did not reflect adversely on their original judgment to extend credit. See for example *The Times* (London) 15 April 1826 and 21 January 1836; Robert Crichton Wyllie, "A Letter to G. R. Robinson, Esq., Chairman of the Committee of Spanish American Bondholders, on the Present State and Prospects of the Spanish American Loans.," ed. Committee of Spanish American Bondholders (London: The Making of the Modern World. Web. 19 May 2017., 1840). and Salvucci, 91-92.

²² Albert Fishlow, "Lessons from the Past: Capital Markets During the Nineteenth Century and the Interwar Period," *International Organizations* 39, no. 3 (1985); W. M. Mathew, "The First Anglo-Peruvian Debt and Its Settlement, 1822-49," *Journal of Latin American Studies* 2, no. 1 (1970): 83; Summerhill. An alternative perspective on "developmental" borrowing of the nineteenth century's third quarter is available in Marc Flandreau, *Anthropologists in the Stock Exchange: A Financial History of Victorian Science* (Chicago: The University of Chicago Press, 2016).

²³ Some of the notable literature on Brazilian sovereign debt, in addition to Summerhill's recent contribution, includes: Marcelo de Paiva Abreu, "Brazil as a Debtor, 1824–1931," *The Economic History Review* 59, no. 4 (2006); Valentim F. Bouças, *História Da Dívida Externa* (Rio de Janeiro: Edições Financieiras, 1950).

characteristics that investors would favor. The transition to independence was relatively peaceful, as opposed to the years-long wars of the Spanish- and British-American colonies. Emerging with a diplomatically recognized and constitutional monarchy, based on its European antecedents, offered a semblance of political stability.²⁴ In contrast with the former Spanish colonies, the altered political status did not raise questions about who the sovereign was. From a distance, the state seemed to clear a low standard of fiscal rectitude.²⁵ The country's export performance, reputation for natural resource wealth, and its potential as a trading partner further sustained economic expectations.²⁶

Offsetting these political benefits, Portuguese (and British) recognition of Brazilian independence required that Brazil compensate Portuguese citizens for property remaining in the former colony and assume responsibility for Portuguese 1823 loan, incurred in London; these obligations totaled £2million. Although the literature is vague, honoring this agreement was an expectation embedded within Brazil's first sovereign loans in 1824 and 1825.²⁷ Over time, Brazil did not enter into total default; but neither did the Treasury remain in complete

²⁴ In fact, in a survey of "The Sovereigns of Europe" *The Times* included "the Emperor of Brazil, who belongs to an European dynasty." (*The Times* (London) 11 January 1850.)

²⁵ In 1830, Brazil carried a lower level of foreign debt service obligation, relative to government revenues, than did the Spanish American republics. (Vizcarra, Table 3.)

²⁶ For an excellent example of the optimism with which Europeans viewed Brazil, see Johann Jakob Sturz, *A Review, Financial, Statistical, & Commercial, of the Empire of Brazil and Its Resources: Together with a Suggestion of the Expediency and Mode of Admitting Brazilian and Other Foreign Sugars into Great Britain for Refining and Exportation* (Wilson, 1837). Recent scholarship reinforces the conclusion of Brazil's export dynamism for the first three decades of the independence. (C. Absell and A. Tena-Junguito, "Brazilian Export Growth and Divergence in the Tropics During the Nineteenth Century," *Journal of Latin American Studies* (2016).) Population growth, largely related to slave imports resulted in the stability of GDP *per capita*, rather than its growth. (Giovanni Federico and Antonio Tena-Junguito, "Exports and American Divergence. Lost Decades and Emancipation Collapse in Latin America and the Caribbean: 1820-1870," in *Working Papers in Economic History WP 17-01* (Madrid: Universidad Carlos III, 2017).) But that constraint did not affect the ability to service international debt.

²⁷ Bouças; Marcelo de Paiva Abreu, "A Dívida Pública Externa Do Brasil, 1824-1931," *Estudos Econômicos; (Instituto de Pesquisas Econômicas, Universidade de São Paulo)* 15, no. 2 (1985); Marichal; Summerhill. Summerhill is the exception in the categorization of the loans; he refers only to deficit finance; the other analysts refer to the Portuguese obligations as justification, at least partially, for the loans. To my knowledge, nothing specified whether the Brazilians would redeem the full amount of the debt or simply continue to meet the servicing obligations of dividend and sinking fund payments.

compliance with the terms of its 1824/25 debt. In addition to suspending its payments on the Portuguese debt in 1828 upon challenges to continued political ties between the two states, its own dividend payments and sinking loan obligations were often in arrears. The Treasury entered into private loans with its British bankers in 1828 and again from 1832 to 1835, which were subsequently capitalized by turning them into publicly issued loans in order to meet dividend obligations. From 1828 until 1851, meeting the commitment to maintain a sinking fund was irregular and rare.²⁸

In contrast to Brazilian partial compliance, all of the Spanish American borrowers entered into default when they did not make scheduled dividend payments in late 1826 and 1827. This paper demonstrates a difficult and long path, but as with Brazil, the debts were re-scheduled in the late 1840s and early 1850s. By the late 1850s, when London capital markets entered a new phase of expansion, they were again receptive to Latin American sovereign debt.

THE DEBT CYCLE, 1825-1852

Many historians and analysts have addressed the earliest financial market for Latin American bonds in terms that suggest commonality among borrowing sovereign states. The data suggest the need for a more finely tuned assessment, which can parse similarities from important differences. Among Latin American states, the differences of experiences were wide; risk premia varied substantially in levels, timing of changes and dynamics (Figure 1 and Appendix Table.) Most notably, investors identified Brazilian bonds with a lower risk profile. Throughout these twenty-eight years, Brazilian debt did not require a risk premium in excess of 8.53 percentage points; Spanish American bonds seldom commanded a premium that low. The average cost of risk on Brazilian bonds between December 1824 and December 1852 was 3.52 percent, a mark up of more than 100 percent over the consol yield; the mean for the Spanish

²⁸ On this matter, see the conflicting opinions in MFR 1843: 14 and RAL 000/401A/7 [undated letter, 1852] from NMR to Brazilian Minister of Finance.

American republics (excluding Colombia) ranged from 10.19 percent (Chile) to 18.49 (Peru) percent (maximums ranged from 36.56 percent to 63.29 percent.) Beyond their level, the risk premium attached to Brazilian bonds also was more stable than those of the Spanish American issues, as demonstrated by the lower standard deviation (of the first difference for weekly premia, Table 2A.)

Investors often conflated their assessments of Brazilian and Portuguese creditworthiness (Figure 3) reflecting the nations' intertwined political and financial circumstances. The risk premia required of each were relatively similar and closely correlated, but at times, reflected the uncertainty of their entwined governance debates and the Portuguese Civil War. The reversal in the order of the level after 1828, discussed below, was permanent.

Comparison of the Brazilian experience with the "healthy" European borrowers offers a very different interpretation from those relative to Spanish America and Portugal. Brazil could not pass as a "healthy" borrower (Figure 4.) The consistently low, declining and relatively stable premia were significant advantages for newly emerging European borrowers who met their debt servicing obligations. These advantages did not accrue to the Brazilians. Denmark, the lowest cost borrower, realized an average risk premium of 97 basis points (0.97%) and its maximum reached 2.25 percent, a differential of greater than 2.5-fold relative to the Brazilian trends (3.52 and 8.53 percent for the mean and maximum, respectively.)

Nevertheless, the general relationships between the bond series demonstrated important similarities across all of the periods; shifts of level and direction of change during crucial years also generate useful findings. Assessing specific periods within this debt cycle allows for insight on the balance between general market forces and country-specific conditions in the trajectory of sovereign debt in early global financial markets.

EARLY CRISIS, DEFAULT & IMMEDIATE AFTERMATH: 1825-JUNE 1830

By the end of 1824, when Brazilian bonds began trading, all of the newly independent Latin American states had borrowed in London.²⁹ As Figure 1 reveals, investor perception of creditworthiness was established from the beginning of the cycle, in increasing order of risk: Brazil, Mexico and Peru; the bonds of Buenos Aires, Chile and Colombia fell into an intermediate range. However, all of the risk premia fell within a relatively narrow range until late 1825, when divergence began. Market fluctuations, as connoted by the changing consol yield, were small when compared to the variability exhibited by the Latin American bonds: the standard deviation of weekly yield change was less than one-half of any other bond series, and one-fifth to one-eighth of the Latin American bonds (Table 2A.) With the exception of Chile and Austria, all weekly changes of risk premia were correlated, at a statistically significant level, with fluctuations in the consol yield (Table 2B.)

Evidence from the consol suggests that the height of the London financial crisis occurred in February-March 1826, when the yield hovered around 3.95 percent. Risk premia for other sovereign borrowers rose in tandem with the consol yield. The risk attributed to Brazilian, Russian and Danish bonds also reached their highest level of the period within a three-week window of the market crisis. The height of the Latin American risk assessments clustered tightly a few months later, in the first half of July 1826, when all of the new states' bonds peaked simultaneously with a secondary peak of the consol yield (Table 3.)

Resolution of the London banking crisis occurred rapidly in 1826, as demonstrated by the declining benchmark (Figure 2.) Outcomes varied for the Latin American borrowers. Shortly prior to the generalized clustering of July, Peru triggered the first sovereign default when it failed to pay its scheduled dividend on 15 April 1826. Attempts to renegotiate the Colombian

²⁹ In 1825, second tranches of loans were extended for Brazil, Mexico and Peru; Guatemala (or the Central American Republic) contracted a loan in 1825, which investors failed to subscribe.

debt were also flailing. Despite increasing risk premia for other Spanish American debt, neither Brazil nor the market registered change in immediate response to the default. In October 1827, Mexico was the last Spanish America borrower to default during the period.³⁰ Reserves withheld from the loan proceeds to meet the early payments were exhausted and servicing the full obligation required (non-existent) current revenues from Mexico.³¹ With a rapid turnover of governing groups and without a secure means to capture customs revenues (the major source of state finance) Mexicans did not meet the debt payments. Shortly afterward, Brazilian bonds reflected national political uncertainties. During 1828, the Brazilian Treasury suspended its servicing of the Portuguese debt³² and its own sinking fund obligations, and it took on privately placed loans from its London bankers to meet dividend payments. In consequence, Brazilian risk premia increased nearly 75 basis points, from 4.28 percent to 5.05 percent between March and April, despite an improving market return. The trajectory began to look like their Spanish American counterparts. However, the shifting relationship bode even less well for Portugal, and the relative ordering of Brazilian and Portuguese risk premia permanently reversed in mid-1828, when the Brazilian bonds routinely required lower premia than the Portuguese, which relied upon Brazilian payment.³³ Risk premia of Latin American bonds showed no distinct clustering during these defaults and disruptions.

³⁰ Between September 1826 and September 1827, Colombia, Buenos Aires and Chile also stopped honoring their debt service obligations.

³¹ Salvucci, 101. *The Times* [of London] 17 February 1826.

³² News of the Portuguese king's death in Lisbon arrived in London on 21 March, and also probably contributed to the Brazilian short, sharp improvement (which did not occur for the Portuguese bonds), supporting an expectation that Pedro would accede to the Portuguese throne. The general expectation was that Pedro would assume both thrones. Immediately on 21 March 1826, *The Times* [of London] published an editorial analyzing Pedro's options for claiming sovereignty over Brazil and/or Portugal that anticipated that Pedro would abandon claims on Portugal.

³³ In response to a drawn-out succession dispute between the emperor of Brazil and his brother for the throne of Portugal (which escalated to a Portuguese civil war), in 1828, the Brazilian Treasury suspended the redemption and loan payments it had accepted as part of the terms for diplomatic recognition. The Portuguese envoy in London attributed a 20% decline on the price of Portuguese bonds to uncertainty

The London financial press strongly opined that the obligations should have been well within the capacity of borrowers.³⁴ Stories of weak governance, fiscal reliance on unreliable customs revenues, and retaining initial reserves in London without provisions for future obligations were common characteristics that the Mexican debt shared with other Spanish American republics.³⁵ They were politically fragile and fiscally weak; but it is unclear that specific events in the borrowing states provided the proximate events to their defaults.³⁶

A group of actors distinct from borrowers and investors (though often overlapping with investors) were instrumental in the trajectories of the Spanish American defaults. These were the bankers – or more accurately, the intermediaries responsible for selling bonds to investors. Flandreau and Flores find that the sovereign defaults followed, rather than preceded, the bank failures that were the hallmarks of the 1825/26 crisis.³⁷ During this period, weak sovereign borrowers relied – or tried to rely – on their bankers for short-term help in making dividend payments.³⁸ *The Times* published on 15 and 16 February 1826, “rumours that a house connected with North and South America was in difficulty, there was a general rush to sell the securities of the newly-formed states in that quarter of the world. Colombian bonds and Mexican bonds

about their status. (ANTT PT/TT/MFE Livro 483: 12 May 1828 (Palmella to unidentified recipient.) Short-term reversals of the Brazilian advantage reflected periods of Brazilian political unrest.

³⁴ “The Money Market” column of *The Times* referred to the Peruvian obligation as “a trifling sum, indeed, for a country the wealth of which is proverbial” and for the whole of Latin America, the obligations were “a very small sum for those rich countries, if anything like prudence or common honesty is to be found in them.” “The Money-Market.” *Times* [of London] 14 April 1826 and 20 April 1826, respectively.

³⁵ On Peru see Alfonso W. Quiroz, *Domestic and Foreign Finance in Modern Peru, 1850-1950: Financing Visions of Development*, Pitt Latin American Series (Pittsburgh: University of Pittsburgh Press, 1993). On Argentina see Samuel Amaral, “El Empréstito De Londres De 1824,” *Desarrollo Económico* (1984); DCM Platt, “Foreign Finance in Argentina for the First Half-Century of Independence,” *Journal of Latin American Studies* 15, no. 01 (1983).

³⁶ Further, the one natural experiment at the time, suggested the possibility of avoiding complete default.

³⁷ Flandreau and Flores, 659. Dawson and Marichal both observe the same timing. The contribution of Flandreau and Flores is to draw the larger implications of the sequence of events.

³⁸ Salvucci, 101-05; Michael P Costeloe, *Bonds and Bondholders: British Investors and Mexico's Foreign Debt, 1824-1888* (Praeger Publishers, 2003). Costeloe states that most of the bankers issuing Spanish American bonds were not among the prominent London firms. With the exceptions of N.M. Rothschild and Baring Brothers, they had short lives (p.xix)

were offered for sale at prices far below those of the market at the time.” The following day’s news announced the failure of “the eminent house of Messrs. B.A. Goldschmidt & Co.”³⁹ Barclay Herring & Richardson, the bank issuing Mexico’s second loan in 1825 (and Guatemala’s attempted loan) also failed in 1826. In contrast, Rothschild, Brazil’s bankers, continued to support its dividend payment obligations with short-term loans to meet dividend payments.⁴⁰ Rothschild and Thomas Wilson & Co. (the successor to the failed issuers of the Brazilian 1824 loan) later converted these bridge loans into an equivalent amount of long-term bonds – the loan of 1829. Doing so transferred the bankers’ individual short-term risk to a larger pool of lenders for thirty years.

By the first half of 1830, all of the sovereign bonds had realized strong recovery, as demonstrated by the troughs of their risk premia and consol yield (Table 3 and Figure 1.) Within weeks after the consol reached its lowest yield, the healthy European borrowers followed in January and February of 1830. The Latin American (and Portuguese) bond risk assessments realized their maximum improvement did not occur until late April/early May, and they clustered within a shorter timeframe than the European improvement (Table 3.) The arrival of transatlantic political news does not seem to explain the nearly simultaneous timing of the end of improving trends; rather, market improvement was the closest proximate event to this change.

This exploration of the newly independent Latin American states in their first years as international borrowers suggests that large and detrimental consequences to these borrowers

³⁹ *The Times* [of London] 15 and 16 February 1826. For its part, *The Times* opined that “it is remarkable how extremely slight the influence on late political events on the value of foreign securities,” citing Portugal, Brazil and Buenos Aires as specific examples. (22 March 1826.) Salvucci (103) refers to rumors that Baring Bros. (which had taken up the role of agent for the Mexican loan) would honor the payment on which Mexico defaulted.

⁴⁰ Evidence suggests that Rothschild lending to support Brazilian dividend payments may have begun as early as January 1826. (RAL XI 65/OB, 6 January 1826. It is also interesting that, immediately prior to Brazilian suspension of payments on the Portuguese obligation, the Treasury representative in London commissioned Rothschild to purchase Portuguese bonds. (RAL XI 65/1B 27 February 1828.)

from relatively small disruptions in the global capital market compounded the effects of domestic instability. The stressed debtors did what they could to avoid default – borrowing from their bankers and piecing together minimal payments. These methods were not new. The Spanish American sovereigns began to default when, following the London crisis of 1825, their bankers failed and the costs of compliance became very high, as demonstrated by the risk premia of the following months. The differences between Brazil and the Spanish Americans may have included that N.M. Rothschild & Co., Brazil's banker, survived and the cost to the Brazilian state of consolidating legitimacy was lower than for its neighbors.

While all of the Latin American states suffered from political instability and very weak fiscal bases that depended overwhelmingly on customs revenues, the timing of the defaults reflected the state of financial markets in London. Investors deemed Brazilian bonds to be more stable than the Spanish Americans, as measured by the standard deviation of risk premium change. Further, changing risk assessment of all borrowers, except Buenos Aires and Austria, was closely associated with market risk (measured by the bivariate correlation of change.) Rather than Latin American states creating a financial crisis, in this instance, effects from the domestic London market strongly determined the results for the Latin American states. Even in default, their bonds continued to trade with increases of premia that reflected their newly risky assessments.

INTERIM YEARS: JULY 1830-1844

For the long interim from mid-1830 through 1844, the global financial benchmark remained relatively stable. The long duration of this period, relative to the others in this paper, render it inappropriate for detailed empirical analysis of the bond series' fluctuations. In summary, the level and relative stability (standard deviation of weekly change) of Brazilian risk premium remained notably lower and more stable than for the Spanish American bonds (Table

2A.) All of the defaulted borrowers, as well as non-compliant Brazil, engaged in efforts to stabilize their financial positions, and resolve their international debt situations.⁴¹ The risk premia attached to Latin American bonds followed major political events and renegotiation efforts of each nation and demonstrated wide diversity.⁴²

The Brazilian state experienced two disruptions during these years, which appeared in its risk premium trend. In 1831, the emperor of Brazil returned to Portugal, exerting his claim on the Portuguese crown. This episode occurred immediately after the only political debate within the Brazilian legislature with respect to possible default on the London loan.⁴³ Brazilian bonds required a significantly increased risk premium simultaneously with the news of the emperor's abdication, followed by a slow 2-year improving trend that returned to approximately the level prior to the episode. Subsequently, private creditors who had supported bond dividend payments capitalized their private loans into long-term bonds in 1839, with only a modest disruption (about 30 basis points) to the trend of the risk premium on the 1824/25 loan.⁴⁴ Non-compliance with its sinking fund obligations continued throughout these years. In 1841, the Brazilian Treasury ministry publicly and explicitly stated that it did not believe that coming

⁴¹ Stabilizing international financial positions proceeded in tandem with a wide array of other state-building efforts in each newly independent territory. These efforts have formed the bulk of nineteenth century political historiography.

⁴² To trace specific efforts, see Charles Fenn, *Fenn's Compendium of the English and Foreign Funds, Debts and Revenues of All Nations: Banks, Railways, Mines, and the Principal Joint Stock Companies: Forming an Epitome of the Various Objects of Investment and Speculation Which Are Negotiable in London* (London: E. Wilson, 1855), 138-43, 90-210, 91.

⁴³ *The Times* of 2 June 1831 reported on the abdication; but news of the debate over a potential default seems to have not reached London, at least through the newspapers. While the failure of this debate may have contributed to the decision to return to Lisbon (Summerhill., Chapter 4,) the Emperor had plenty of motivation in the desire to keep whole the Bragança empire and to quell anti-foreign rebellions by removing himself in favor of his Brazilian-born son. (Roderick J. Barman, *Brazil: The Forging of a Nation, 1798-1852* (Stanford, Calif.: Stanford University Press, 1988).

⁴⁴ In an indirect sense, capitalizing the private loans demonstrated a reputational strength that the Brazilians had, and others did not. Private lenders were willing to advance funds to the Brazilian Treasury to meet the dividend obligations, and they were also able to convert the loans to long-term bonds. None of the Spanish American borrowers were able to find similar support to keep them afloat.

current on these payments would affect its ability to access loans in London;⁴⁵ in other words, the cost of re-negotiating the debt would not benefit Brazil. Nevertheless, after the 1842 agreement with Portugal to settle political and financial claims (which included a new debt issue of £0.6 million in 1843 to complete the personal indemnification agreement of 1825) and the beginning of comprehensive fiscal reforms in 1844,⁴⁶ the cost of sovereign risk declined on a sustained trajectory.

The strongest association between bond series occurred between Brazil and Portugal. Both sets of bonds experienced large swings in prices (and hence, premia) from the late 1820s through the 1840s. However, fluctuation was stronger for the Portuguese bonds.⁴⁷ Notably abrupt spikes for Portugal in 1836 and 1842 reflected uncertainties about the resolution of the Portuguese civil war and Brazilian resumption of Portuguese debt. They demonstrated investors' recognition that redemption of the Portuguese obligation rested with Brazilian compliance. Even so, as early as 1833 Brazilians also seemed to believe that they also paid a price for the uncertainty of the Portuguese situation, with the Treasury Minister citing it as one reason that prices for Brazilian bonds remained low.⁴⁸

Risk assessments for the Spanish American borrowers were similarly responsive to their circumstances from 1830 through 1844. Agreement between investors and representatives of

⁴⁵ MFR1843: 14.

⁴⁶ Fiscal reforms from 1844 to 1846 included restructuring customs levels and collection with the expiration of the first Anglo-Brazilian Commercial treaty, providing for debt payments, consolidating domestic public debt, legislating new taxes and attempting monetary reform. (Liberato Castro Carreira, *História Financeira E Orçamentária Do Império Do Brasil*, 2 vols. (Brasília and Rio de Janeiro: Senado Federal; Fundação Casa de Rui Barbosa, MEC, 1980 [1889]).-1847; Thiago Fontelas Rosado Gambi, *O Banco Da Ordem : Política E Finanças No Império Brasileiro (1853-1866)* (São Paulo, SP: Alameda Casa Editorial, 2015); Brasil. Ministério da Fazenda, "Relatório Apresentado Ao Presidente Da República Dos Estados Unidos Do Brasil Pelo Ministro De Estado Dos Negócios Da Fazenda," (Rio de Janeiro: Imprensa Nacional, various years).

⁴⁷ One result of these sharp anomalies is the higher standard deviation of risk premium change for Portuguese bonds (Appendix Table.) A hypothesis for these anomalies is that they correspond to the Portuguese Civil War and succession struggle that took place during these years. However, that hypothesis requires a deeper dive into Portuguese political history than this paper allows.

⁴⁸ MFR 1833: 9; MFR 1834: 8-9

the Mexican treasury in late 1836 occurred simultaneously with the secession of Texas. Controversy within Mexico delayed the bond exchange that signified the agreement until late 1839. Default was immediate; investors were not surprised and disruption to the risk premium was short-lived. Mexican bonds continued to follow the trajectory of its civil wars.⁴⁹ In Peru, the slow consolidation of a national government and the commercialization of guano deposits contributed to improving expectations after 1840.⁵⁰ Two additional restructurings were notable, even with even with little data or information. The debt of Gran Colombia devolved in 1834 to its successor states of New Grenada, Ecuador and Venezuela, without any of them resolving their financial and fiscal problems. A notable exception to the drift of other Spanish American experience was Chile's successful renegotiation in 1842. With early resolution of the Chilean default, its bonds had begun to trade in the same range (level and fluctuation) as the Brazilian. Although other borrowers were unable to resolve their problems, they continued to demonstrate a readiness to work towards resolution and investors remained willing to trade in the bonds.⁵¹

One reflection of the increased weight of individual circumstance in determining sovereign bond risk during these years was the occurrence of only one event of clustering of peak premia among the Latin American bonds. In late October/early November 1831, Mexico,

⁴⁹ For more details on this controversy see Salvucci, Chapter 3.

⁵⁰ Debt re-negotiations that specified one-half of guano earnings as the security for Peruvian debt occurred as early as 1842. (Mathew, 83. *The Times* (London) 12 February 1848)

⁵¹ By 1830, Committees of Bondholders began to form as a means to represent bondholder interests in re-negotiating defaulted debt. The Committee of Mexican Bondholders later consolidated with investors' committees attempting to restructure Spanish American sovereign defaults. These committees, with stronger persuasive than statutory powers, took increasingly strong roles in renegotiations. As influential bankers, merchants and large-scale bondholders,, the members' purposes to represent the interests of all bondholders, as compared to the interests of committee members was often challenged. But by the late 1840s they gained effectiveness in both the Mexican and Peruvian negotiations. (Costeloe, Chapter 4; Alfonso W. Quiroz, "Public Debt and the Domestic Financial Structure in Peru, 1850-1914," in *La Deuda Pública En América Latina En Perspectiva Histórica: The Public Debt in Latin America in Historical Perspective*, ed. Reinhard Liehr (Madrid; Vervuert: Iberoamericana, 1995); Flandreau, *Anthropologists in the Stock Exchange: A Financial History of Victorian Science*.

Argentina and Brazil shared a localized peak (Table 3.) No political or financial market news at this time seemed to explain this timing.

By the middle of the 1840s, Latin American borrowers faced a general environment of declining risk assessment. With much unevenness, a general trend of declining risk attached to Latin American debt was discernible by the mid-1840s (Figure 1.)

DISRUPTION: 1845-1848

Following the period of market tranquility during which Latin American bonds responded to their own sovereign fortunes, the broader markets in London passed through a period of upheaval in the late 1840s. Economic and political conditions disrupted the core of the global financial market. Within Britain, an earlier boom in capital formation to finance railroads combined with the pressures of crop failures to produce a market crisis, including Bank of England intervention in September through October 1847.⁵² Subsequently, “political conditions on the continent,” beginning with a French Revolution in February 1848,⁵³ riled the market. The financial press attributed the short period of increasing risk assessments across all borrowers and heavy trading in London to these political crises.⁵⁴ The standard deviation of the weekly change for the consol was significantly higher than the previous and subsequent periods (Table 2A.) The sharp deterioration (increase yield) of the benchmark clustered with all of the sovereign bonds from mid-October to mid-November (Table 3.)

The rapid correction proved to be of short duration. The market yield peaked again on 7

⁵² Rudiger Dornbusch and Jacob A. Frenkel, "The Gold Standard and the Bank of England in the Crisis of 1847," in *A Retrospective on the Classical Gold Standard, 1821-1931*, ed. Michael D. Bordo and Anna J. Schwartz (Chicago: University of Chicago Press, 1984); C. N. Ward-Perkins, "The Commercial Crisis of 1847," *Oxford Economic Papers* 2, no. 1 (1950).

⁵³ Miles Taylor, "The 1848 Revolutions and the British Empire," *Past & Present*, no. 166 (2000). On 19 February 1848, *The Times* referred to a “glut on the money market” resulting from uncertainty on the continent. Such a glut could have been caused by London-based investors liquidating their continental investments or by continental capital flowing to the relative safety of London. This topic is beyond scope of the current study.

⁵⁴ *The Times* [of London] 3 February, 15 February, and daily from 15 February.

April 1848 (3.73 percent);⁵⁵ but market returns then declined at least until the end of 1852. Brazil and Mexico also peaked on the same date (5.53 percent and 31.99 percent, respectively.) Peru's peak occurred a few weeks earlier on 17 March, at 30.00 percent. By the end of 1848, the Latin American debt resumed the trend of improving risk premia that had begun in the early 1840s. The return to the earlier trend continued at least for the next four-and-a-half years, through 1852. With political improvement and serious renegotiations, especially in comparison to the "revolutions" plaguing continental Europe in 1848, the prospect for Spanish American sovereign debt turned brighter.

Political and financial circumstances within Latin America did not closely track fluctuations in their bonds' risk premia. Perhaps most notably, a major financial disruption for Mexico resulted from the Mexican-American War (1846 to 1848) explains the run-up in the cost of risk. But, the war's resolution did not generate comparable improvement (Figure 1.)⁵⁶ News of the treaty ending the Mexican-American War arrived in London on 7 April 1848; and suddenly Mexican bonds were "the only security in the foreign market that maintain[ed] any degree of steadiness" in the face of general market uncertainty.⁵⁷ Even so, the Mexican risk premium reached a local high at that time, along with the other Latin American (and Portuguese) bonds. In comparison with Mexico, the effects of financial disruption in London were attenuated in Brazil. Just as the political narrative associated with Mexico did not correspond with the trajectory of its London bonds, neither did Brazilian circumstances explain the timing fluctuation. A stable conservative government that focused on fiscal reform gained power and

⁵⁵ On 22 October 1847 the consol yield reached a slightly higher level (3.77percent.)

⁵⁶ *The Times* [London] 14 March 1848. The original loans of 1824 and 1825 had been guaranteed by Mexican territory. The Committee of Spanish American Bondholders took the position that ceding territory to the U.S. carried the obligation to honor its mortgage by repaying the loans. (Costeloe, 72.) Notwithstanding the optimistic environment these events projected, the Mexican debt re-negotiation was not resurrected until 1849. The collapse of re-negotiated debt agreement in 1847 had little effect on Mexican yields. (An earlier attempt to renegotiate, in 1836, had similarly been interrupted by Texas's declaration of independence from Mexico. (ibid., 65-75; Salvucci.)

⁵⁷ *The Times* [of London] 7 April 1848.

longevity in Brazil in May 1848.⁵⁸ Although the Brazilian government was able to implement significant economic and fiscal reform, its outcome was very uncertain in its first years, and one last major local political uprising occurred in November 1848. Brazilian risk premium improvement anticipated domestic circumstances. The Peruvian loan of was re-negotiated to include contractual guarantees of payment from guano revenues during 1847 and 1848; but it was not signed until January 1849.⁵⁹ Knowledge of these events did not arrive in London in time to the timing of the clustered peaks or the subsequent sustained declining trend.

RESOLUTION: 1849-1852

After 1848, the London market for sovereign bonds returned to stability quickly, as denoted by lower risk assessments and improved stability (standard deviations of weekly change, Table 2A.) During these years, the major Latin American sovereign debt defaults were resolved.⁶⁰ Mexico, Peru and Brazil invoked very different strategies to accomplish this outcome, and each required sustained efforts that began in the mid 1840s. From 1842, the Peruvian government attempted to renegotiate its debt, based on guano revenues, but did not find the will to do so for another six years. Despite Mexican efforts to renegotiate as early as 1830 and 1837, successful restructuring of the debt occurred in 1850 and relied heavily on the commitment of proceeds from the settlement of the Mexican-American War in 1849.⁶¹ Brazil did not benefit from a similarly exogenous windfall. Slow fiscal restructuring allowed its Treasury to become current on the delayed sinking fund obligations and to resume payments that reorganized the Portuguese obligations with loans in 1843 and 1852.

⁵⁸ The Conservative government led by Eusébio Queirós lasted until 1853, in contrast to the quick succession of six Liberal Cabinets from February 1844 to September 1848. Jeffrey D. Needell, *The Party of Order: The Conservatives, the State, and Slavery in the Brazilian Monarchy, 1831-1871* (Stanford, Calif.: Stanford University Press, 2006), 108.

⁵⁹ Mathew; Vizcarra.

⁶⁰ In Argentina, the defeat of Manuel Rosas in 1852 prepared the way for confederating the Argentine Republic in 1853 and settling the debt in 1857 (Marichal, Table 2.)

⁶¹ This restructuring only lasted until 1856. The best English-language summary of the restructuring in Marichal (61-67.)

Resolution of these three important sovereign debt delinquencies occurred within the 1849-1852 period. Declining and relatively stable risk premia characterized their international debt experience from 1849 through 1852.⁶² Peru and Chile, the states that most strongly improved their political and financial stability at least for a few years,⁶³ saw their sovereign risk decline to approximately the levels of the Brazilian bonds. They did not improve beyond that level. Further, incremental lending, beyond restructuring the original loans, did not occur.

Decreased correlation between national risk premia fluctuations and the market coincided with both rapidly declining (improving) Latin American premia and the resolution of debt servicing irregularities.⁶⁴ Risk premia for all of the Latin American bonds became more independent of the market; the timing of yield improvement and effects of market stress caused little disruption. Further, by 1849-1852, the risk premia fluctuation was independent of the market yield (Table 2B,) suggesting that investors had “learned” how to assess sovereign risk in an increasingly sophisticated manner.

CONCLUSION

This paper generates three conclusions with respect to the first modern global sovereign debt cycle. First, the timing of default and resolution more strongly reflected market dynamics than they did country-specific events. Detailed chronology of the fluctuating cost of sovereign risk for Latin America borrowers over the twenty-eight years of their first borrowing cycle demonstrates that periods of market deterioration easily overcame the individual circumstances

⁶² Marichal, 59-60 and Chapter 3. On Peru, see also Mathew, 93; Quiroz, "Public Debt and the Domestic Financial Structure in Peru, 1850-1914." Quiroz attributes the influence of domestic creditors in motivating the Peruvian settlement in London.

⁶³ The Argentine yield stabilized at a notably higher level, and the Mexican yield remained lower than previously with significant periods of fluctuations.

⁶⁴ As in the period from 1825 to 1829, Brazilian yield fluctuation responded more strongly to market shocks than did the Mexican or Peruvian series. This remains a finding looking for an explanation.

of individual borrowers. Market improvement had less impact on the weaker, newly independent sovereigns than did market deterioration.

Second, falling into irremediable problems occurred within a very short period; coming out of them required almost three decades. While the failures of the banking houses that were responsible for the transactions to service the bonds may have contributed to the timing of Spanish American defaults, they do not explain the prolonged period that the defaulting sovereigns required to resolve the defaults. All of the Latin American states re-negotiated their international debt. Over the long-term, and in non-linear fashion, doing so could be interpreted as a sign of having established credibility and legitimacy. By the late 1850s, a very active global capital market was newly receptive to Latin American sovereign borrowing for purposes of both refinancing and infrastructure construction.⁶⁵ Return to creditworthiness (however fleeting for some borrowers) required expanded global trade, with active participation by Latin Americans, and domestic consolidation of governance and fiscal systems. But nothing motivated a return to creditworthiness without renewed expansion of London capital markets, beginning in the mid-1840s; i.e., a coming together of the global and the local was necessary. While this conclusion sounds straightforward, it also carries the implication that fiscal rectitude and willingness are not sufficient for sovereign access to global capital markets.

The trajectory and clustering of risk premium fluctuations, combined with the general trend of declining bi-variate correlation between yield and risk premium change, across all bonds, suggests that important learning took place to allow increasingly independent and

⁶⁵ Marichal, Appendix A.

rigorous sovereign risk analysis. This relationship imposes methodological strictures⁶⁶ also highlights different treatment for “emerging” and “healthy” borrowers.

The paper’s third conclusion is that one of the most important features of the global financial markets was in operation from its beginning: after optimistic assessments that underpinned the extension of credit, creditors punished weak debtors in larger doses than they did healthy borrowers. The healthy Europeans were not buffeted by the vicissitudes of market variation. The paper cannot address the question of whether the Spanish American states could have avoided default in the absence of the London crisis of 1825/26 and the failure of their bankers. Brazil offered a metric of “success” for Spanish American debt, in terms of its level, stability and response to market forces, and resolved defaults did not lower risk premia below the level of Brazilian bonds. However, the Brazilian trajectory differed in magnitude, not in nature. More generally, the dynamics that have come to define the global sovereign financial market for emerging economies in the twentieth and twenty-first centuries were operative at the beginning of the nineteenth century.

⁶⁶ The earlier version of this paper, attempting to separate the effects of market change from changing risk assessment, did give glimmers of evidence that market risk could easily outweigh emerging sovereign risk in a deteriorating market, but did not do so in an improving market.

DATA APPENDIX: CONSTRUCTION OF BOND PRICE TIME SERIES

British consol: 3% consol entire period

Brazil: the 1824 & 1825 bonds, which were traded interchangeably, as one series, throughout the period 1824-1852. Other bonds (1829, 1839 and 1843) were not regularly traded and were not replacements for the 1824/25 bonds.

Buenos Aires: Reported as a continual series 1824-1852. No additional bonds issued prior to 1852; dividend payments resumed in 1857.

Chile: Reported as a continual series 1822-52. Dividend payments resumed in 1842, with a new bond issued to meet dividend arrears.

Colombia: Series was spliced together to reflect interim renegotiations: as follows

Colombia22_6	traded from	10May22	to	15Oct24
Columbia24-5		22Oct24		17Jul46 - then de-listed

Time series reflects the reapportionment of original bonds at the end of 1834, transferring 50% of the principle to Ecuador and Venezuela (both immediately in default, so they are not included. – see Committee of Spanish American Bondholders Annual Report, p 17) Colombia's remaining bond was de-listed 17July1846 (& is removed from the index.)

Mexico: Series was spliced together, reflecting interim renegotiations, as follows

Mexico24_5	traded from	30April24	to	11Nov25
Mexico25_5		18Nov25		1Nov39
Mexico37_5		8Nov39		10Jul46
Mexico46_5		17Jul46		18Jun52
Mexico46_3		25Jun52		

NB: unsuccessful renegotiations are not included here.

Peru: Series was spliced together, reflecting interim renegotiations, as follows:

Peru24&25_6	traded from	9Apr24	to	8Jun49
Peru49_4		15Jun49		29Mar50
Peru49_4.5		5Apr50		28Mar51
Peru49_5		4Apr51		26Mar52
Peru_6		2Apr52		

Austria: Last date listed 16Mar49

Denmark: Series was spliced as follows:

Denmark22_5	traded from	8Mar22	to	18Nov25
Denmark25_3		25Nov25		20Jul49
Denmark49_5		27Jul49		

Portugal: A continual series 1823-52

Russia: Series was spliced as follows

Russia22_5	traded from	31May22		29Mar50
Russia50_4.5		5Apr50		

Sovereign bond issues that were not actively traded (or quickly failed) therefore not included: Greece 1824 & 1825; Guatemala 1825 & 1836; Naples 1824; Spain 1823 & 1835.

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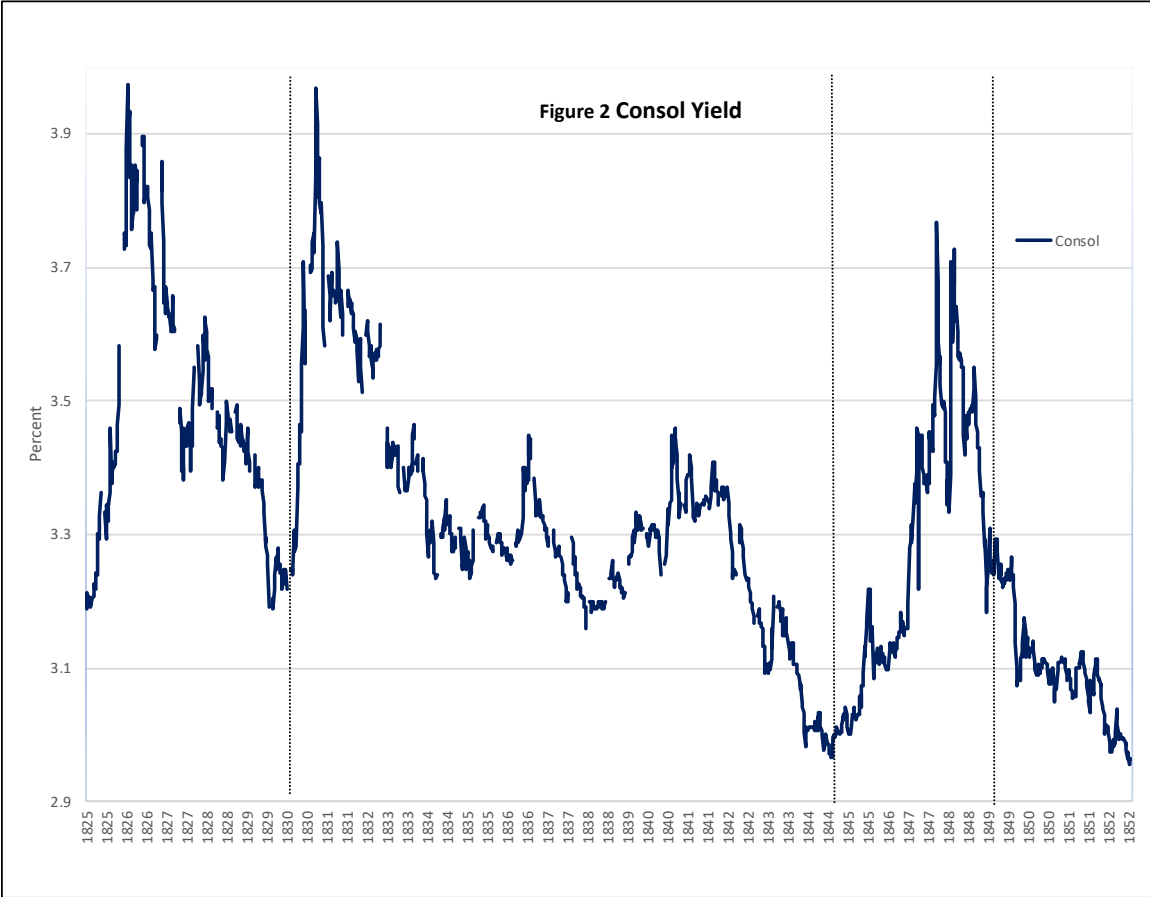
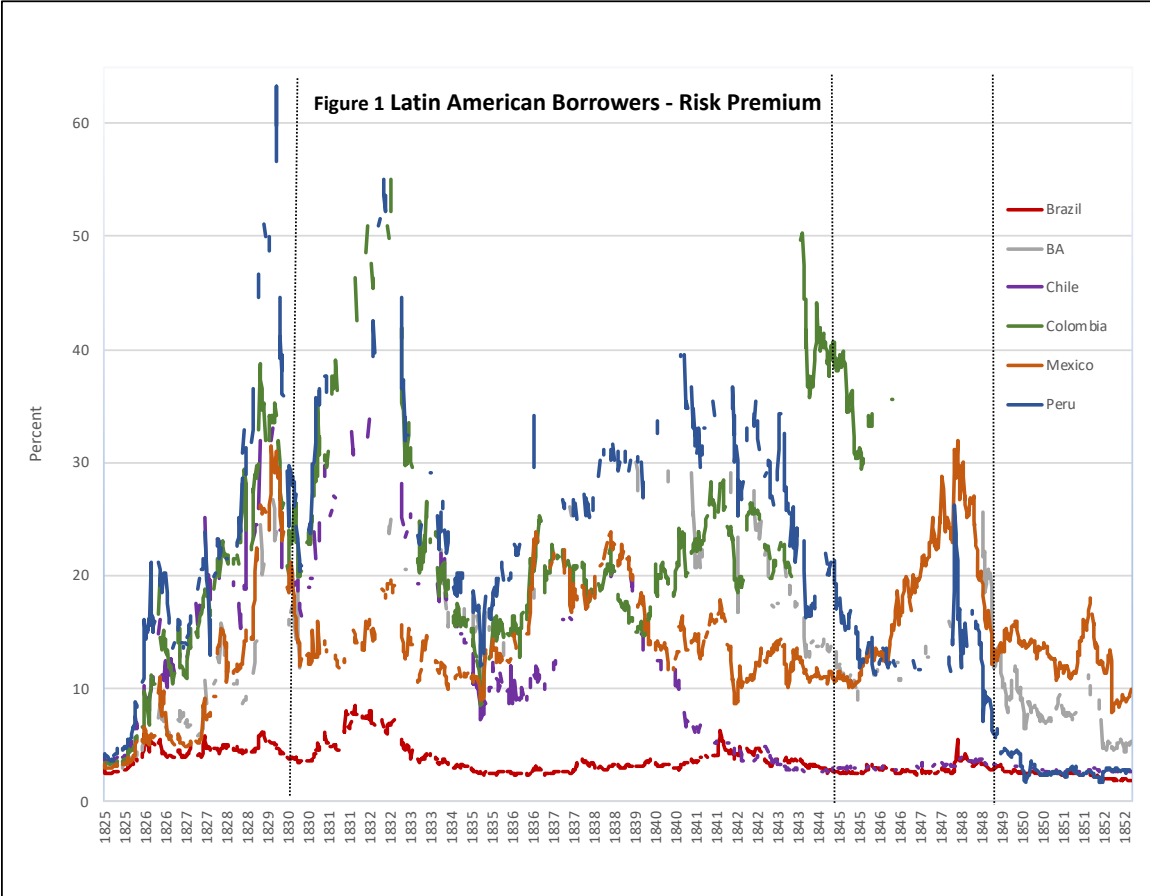
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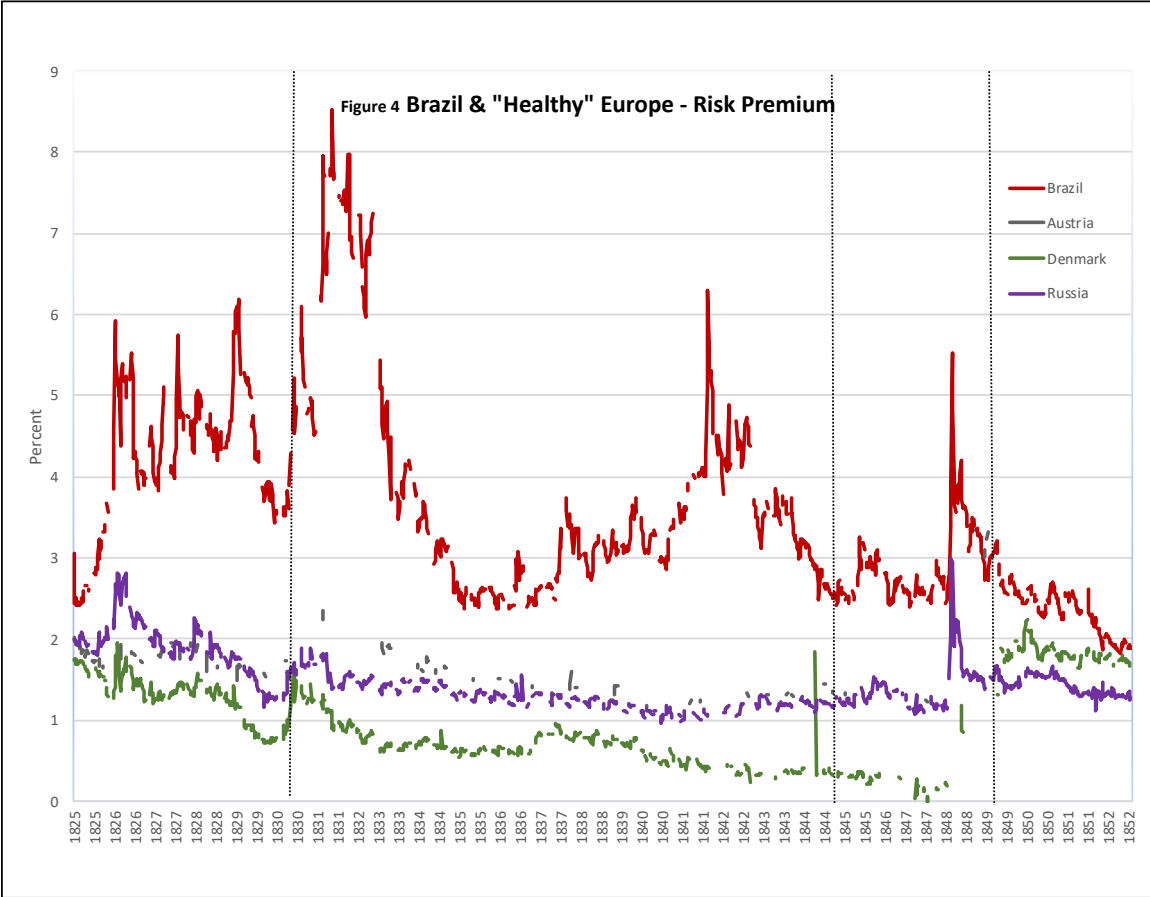
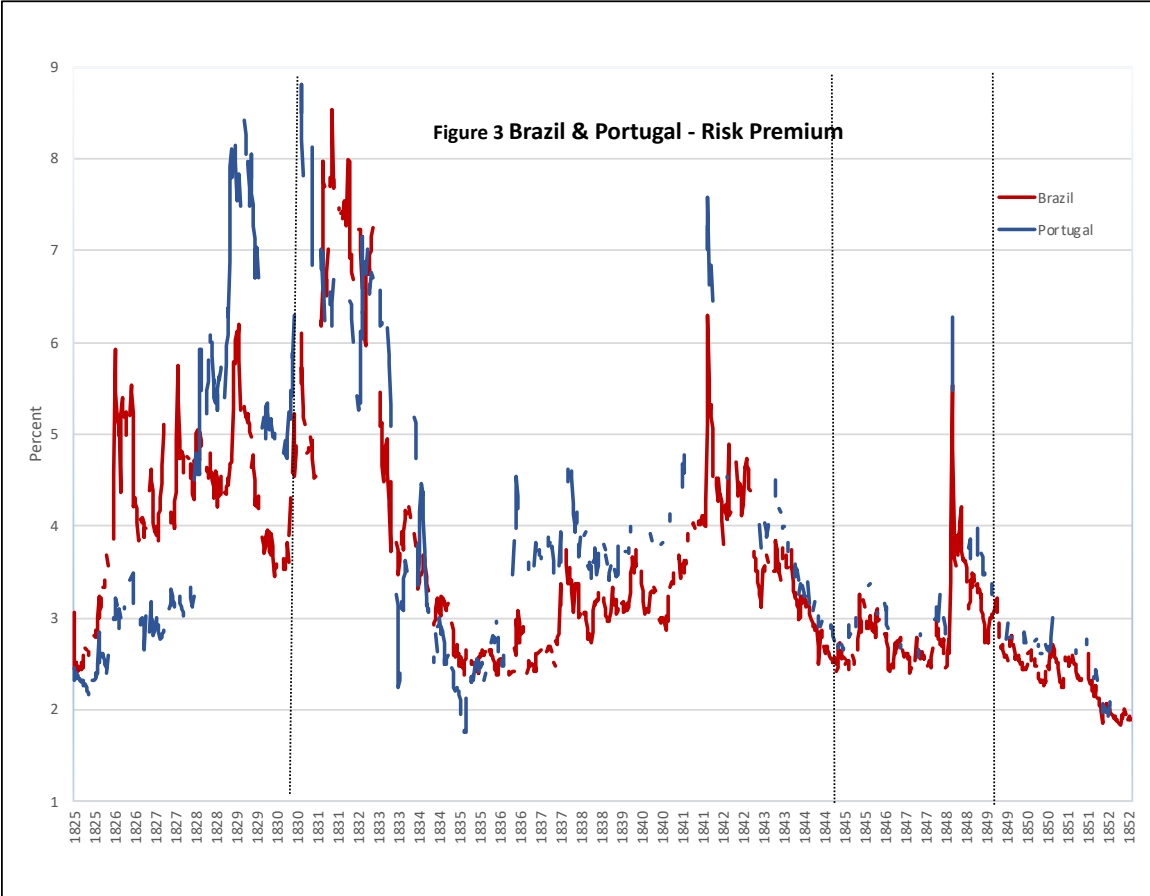


Table 1 **Loans Issued in London to "New" Borrowers, 1820s**

	<u>Borrower</u>	<u>Amount of Loan (£ million)</u>			<u>Coupon Rate</u>	<u>Issue Price</u>	<u>Agent</u>
		<u>Contracted</u>	<u>Issued</u>	<u>Realized</u>			
1822	Chile	1.00	0.93	0.70	6	70	HullettBros
1822	Colombia	2.00	2.00	1.68	6	84	HerringGraham& Powles
1822	Denmark	3.00	2.00		5	77.5	AFHaldimand&Sons
1822	Peru	1.20	0.45	0.40	6	88	ThomKidder&Co
1822	Russia	6.45	3.55		5	82	Rothschild
1823	Austria	3.50	3.50		5	82	Rothschild
1823	Portugal	1.50	1.50		5	87	Thomas&W.King
1824	Brazil	1.69	1.69	0.90	5	75	BaylettFarquhar&Co;Alexander&Co; WilsonShaw&Co
1824	Buenos Aires	1.00	1.00	0.85	6	85	BaringBors
1824	Colombia	4.75	4.75	4.20	6	88.5	BAGoldschmidt
1824	Greece	0.80	0.80		5	59	ALaughman
1824	Mexico	3.20	3.20	1.86	5	58	BAGoldschmidt
1824	Naples	2.50	2.50		5	92.5	Rothschild
1824	Peru	0.75	0.75	0.62	6	82	ThomKidder&Co
1825	Brazil	2.00	2.00	1.70	5	85	Rothschild
1825	Denmark	5.50	3.50		3	75	ThomWilson&Co
1825	Greece	2.00	2.00		5	56.5	Ricardo&Co
1825	Guatemala	1.43	0.16	0.12	6	63	Barclay,Herring,Richardson&Co
1825	Mexico	3.20	3.20	2.87	6	86.75	Barclay,Herring,Richardson&Co
1825	Peru	0.62	0.62	0.48	6	78	ThomKidder&Co
1828	Spain	0.60	0.60		5	NA	
1829	Brazil	0.80	0.80	0.40	5	54	Rothschild; ThomWilson&Co

Sources: Castaing, John. *Course of the Exchange*. London: 1822-1843 (various.)
Dawson (1990) Appendix Table.
Marichal (1989) Tables 1 & 2.

Table 2

Weekly Change; Standardized Measures

		2A. Standard Deviation of Change				
		<u>1825-1852</u>	<u>Jan.25-June30</u>	<u>July30-Dec.44</u>	<u>Jan.45-Dec.48</u>	<u>Jan.49-Dec.52</u>
Consol Yield		0.0080	0.0089	0.0065	0.0122	0.0051
Risk Premium:						
Brazil		0.0426	0.0488	0.0396	0.0565	0.0258
BA		0.0715	0.0737	0.0698	0.0430	0.0758
Chile		0.0662	0.0851	0.0646	0.0341	0.0219
Colombia		0.0517	0.0648	0.0471	0.0282	
Mexico		0.0505	0.0672	0.0463	0.0425	0.0473
Peru		0.0767	0.0784	0.0618	0.1097	0.0743
Portugal		0.0469	0.0424	0.0526	0.0410	0.0321
Austria		0.0328	0.0372	0.0295	0.0221	0.0057
Denmark		0.1294	0.0506	0.1185	0.3668	0.0263
Russia		0.0433	0.0402	0.0362	0.0709	0.0366

		2B. Bivariate Correlation of Change between Risk Premium and Consol				
		<u>1825-1852</u>	<u>Jan.25-June30</u>	<u>July30-Dec.44</u>	<u>Jan.45-Dec.48</u>	<u>Jan.49-Dec.52</u>
Consol Yield		1.000	1.000	1.000	1.000	1.000
Risk Premium:						
Brazil		0.189 **	0.347 **	0.254 **	0.013	0.063
BA		0.147 **	0.181	0.327 **	0.156	0.021
Chile		0.089	0.233 *	0.158	-0.451 **	-0.293
Colombia		0.368 **	0.368 **	0.381 **	0.113	NA
Mexico		0.255 **	0.331 **	0.263 **	0.310 **	0.056
Peru		0.250 **	0.228 **	0.400 **	0.423 **	-0.114
Portugal		0.225 **	0.278 **	0.248 **	0.135	-0.053
Austria		-0.106	-0.175	0.076	-0.535	0.277
Denmark		-0.255 **	0.282 **	0.067	-0.817 **	-0.349 **
Russia		-0.018	0.281 **	0.049	-0.292 **	-0.011

Bivariate Correlation: Pearson coefficient, two tail

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

NA Cannot be computed because at least one of the variables is constant.

Source: See Data Appendix and Appendix Table.

Table 3

Clustering of Sharp Changes in Direction of Risk Premia/Consol

Peaks			Troughs		
Date	Primary	Secondary	Date	Primary	Secondary
1826			Jul1829-Jun30		
Feb.10	Braz		Nov27,1829		Consol
Feb.17	Consol		Jan15,1830	Consol	
Mar.3	Den,Rus	Consol	Jan22,1830	Rus	
Apr.14	Peru		Feb12,1830	Den	
May12	Aus		Feb26,1830	Aus	Rus
Jul7		Peru	Mar19,1830		Den
Jul.14	BA.,Chil,Col,Mex	Consol,Braz,Peru, Portugal	Apr23,1830	Brazil	Consol
Jul28	Portugal		Apr30,1830	Port	
1831			May7,1830	BA,Col,Peru	
Jan14	Port		May14,1830	Mex	
Mar4		Consol	May21,1830	Chile	
Mar18	Consol	Aus	July44-June45		
Apr8	Den		Aug2,1844	Chile	
Apr15	Rus		Aug23,1844	Rus	
Aug12	Aus		Dec20,1844	Consol	
Aug26	Per		Mar14,1845	Peru	
Sep16	Chil,Col		Mar21,1845	Brazil	
Oct28	Mex		Mar28,1845	Den	
Nov4	BA	Mex	May16,1845	Port	
Nov11	Braz		Jun6,1845	Mex	
1847			Jun27,1845	BA, Col	
Apr23	Den,Rus				
Jun25	Aus				
Oct15	Braz				
Oct22	Consol				
Oct29	Chile, Peru	Mex			
Nov5		Braz, Port,Aus,Den			
Nov12	Mex				
Dec3	Port				
1848					
Mar17	Peru				
Mar31	Rus				
Apr7	Consol,Braz,Mex,Port	Peru,Rus			
Apr14		Arg			
Jun23	Col				
Sep1	BA				

Peaks and troughs of risk premia and consol yield for selected periods.

Selection based on particularly sharp changes of direction in risk premia and consol change.

Primary Peak/Trough: Highest/lowest risk premium (or consol yield) for the time period.

Secondary Peak/Trough: second highest/lowest risk premium (or consol yield) for the time period.

"Clusters" are defined as a peak or trough occurring within sequential weeks among borrowers and are outlined.

	Descriptive Statistics								Bivariate Correlation					
	Level				Change				Level		Change		N	
	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation	Correlation Coefficient	Correlation Coefficient	Level	Change		
1825-1852														
Consol Yield	2.96	3.97	3.3078	0.20	-0.07	0.07	-0.0003	0.0080	1.000	1.000	1287	1245		
Risk Premium:														
Brazil	1.83	8.53	3.5247	1.21	-0.23	0.35	-0.0008	0.0426	0.680 **	0.189 **	1136	974		
BA	2.98	36.56	13.3827	7.24	-0.45	0.17	-0.0115	0.0715	0.137 **	0.147 **	563	334		
Chile	2.54	53.49	10.1860	8.42	-0.30	0.40	-0.0035	0.0662	0.495 **	0.089	610	323		
Colombia	3.04	55.07	22.8085	10.05	-0.18	0.28	0.0022	0.0517	-0.224 **	0.368 **	815	714		
Mexico	2.91	47.65	14.2468	5.57	-0.46	0.30	0.0006	0.0505	0.097 **	0.255 **	1158	1037		
Peru	1.68	63.29	18.4937	12.69	-0.52	0.45	-0.0051	0.0767	0.395 **	0.250 **	802	588		
Portugal	1.75	8.81	3.9549	1.55	-0.34	0.26	-0.0011	0.0469	0.372 **	0.225 **	702	439		
Austria	1.09	7.47	1.6746	0.55	-0.09	0.13	0.0022	0.0328	0.306 **	-0.106	310	93		
Denmark	0.00	2.25	0.9740	0.52	-1.73	1.91	-0.0008	0.1294	0.088 **	-0.255 **	893	654		
Russia	0.94	2.99	1.4738	0.33	-0.36	0.33	-0.0003	0.0433	0.603 **	-0.018	1050	851		
Jan25-Jun30														
Consol Yield	3.19	3.97	3.4857	0.19	-0.03	0.03	-0.0004	0.0089	1.000	1.000	231	220		
Risk Premium:														
Brazil	2.41	6.19	4.2864	0.85	-0.23	0.26	0.0006	0.0488	0.493 **	0.347 **	216	193		
BA	2.98	26.62	9.4652	5.93	-0.41	0.17	-0.0031	0.0737	-0.144	0.181	153	100		
Chile	3.38	33.54	14.2305	7.91	-0.25	0.40	0.0094	0.0851	-0.017	0.233 *	145	95		
Colombia	3.04	38.68	16.9064	9.45	-0.18	0.28	0.0078	0.0648	-0.154 *	0.368 **	216	193		
Mexico	2.91	31.40	11.1354	7.90	-0.31	0.30	0.0029	0.0672	-0.290 **	0.331 **	221	201		
Peru	3.58	63.29	19.6162	12.64	-0.33	0.31	0.0035	0.0784	-0.071	0.228 **	178	140		
Portugal	2.16	8.42	4.2646	1.86	-0.13	0.26	0.0021	0.0424	-0.232 **	0.278 **	196	166		
Austria	1.48	2.05	1.7875	0.14	-0.09	0.13	0.0009	0.0372	0.212 *	-0.175	109	47		
Denmark	0.71	1.95	1.3090	0.28	-0.22	0.25	-0.0023	0.0506	0.437 **	0.282 **	213	189		
Russia	1.17	2.82	1.9108	0.33	-0.18	0.19	-0.0004	0.0402	0.770 **	0.281 **	224	207		
Jul30-Dec44														
Consol Yield	2.97	3.97	3.3175	0.17	-0.04	0.03	-0.0004	0.0065	1.000	1.000	639	608		
Risk Premium:														
Brazil	2.37	8.53	3.7536	1.32	-0.17	0.19	-0.0010	0.0396	0.683 **	0.254 **	579	502		
BA	3.73	36.56	20.0334	5.66	-0.34	0.15	-0.0161	0.0698	0.477 **	0.327 **	194	84		
Chile	2.65	53.49	12.3938	8.59	-0.30	0.31	-0.0123	0.0646	0.724 **	0.158	293	154		
Colombia	8.56	55.07	24.1015	9.31	-0.18	0.22	0.0006	0.0471	0.118 **	0.381 **	550	480		
Mexico	8.70	47.65	14.3424	3.69	-0.17	0.23	0.0003	0.0463	0.163 **	0.263 **	527	433		
Peru	12.03	56.44	28.0431	8.42	-0.22	0.20	-0.0061	0.0618	0.655 **	0.400 **	329	203		
Portugal	1.75	8.81	4.2015	1.46	-0.34	0.18	-0.0030	0.0526	0.688 **	0.248 **	360	212		
Austria	1.09	2.36	1.5329	0.27	-0.05	0.10	0.0028	0.0295	0.618 **	0.076	167	39		
Denmark	0.23	1.84	0.6935	0.25	-1.73	0.29	-0.0052	0.1185	0.651 **	0.067	457	324		
Russia	0.94	1.88	1.3072	0.18	-0.21	0.22	0.0007	0.0362	0.649 **	0.049	489	363		

Appendix
Table (cont.)

Descriptive Statistics of Consol Yield and Risk Premia

	Descriptive Statistics								Bivariate Correlation			N		
	Level				Change				Level	Change	Level	Change		
	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation	Correlation Coefficient	Correlation Coefficient				
Jan45-Dec48														
Consol Yield	3.00	3.77	3.2773	0.21	-0.07	0.07	0.0006	0.0122	1.000	1.000		209	209	
Risk Premium:														
Brazil	2.29	5.53	2.8983	0.49	-0.20	0.35	0.0030	0.0565	0.550	**	0.013	167	133	
BA	8.29	26.52	13.9317	5.30	-0.16	0.04	-0.0180	0.0430	0.819	**	0.156	62	27	
Chile	2.80	4.00	3.1901	0.31	-0.07	0.08	0.0029	0.0341	0.737	**	-0.451	**	87	43
Colombia	29.40	39.85	34.3136	3.25	-0.08	0.03	-0.0051	0.0282	-0.184		0.113		49	41
Mexico	10.03	31.99	18.6424	6.08	-0.15	0.24	0.0014	0.0425	0.940	**	0.310	**	206	203
Peru	7.12	26.30	14.1436	2.88	-0.52	0.31	-0.0198	0.1097	0.421	**	0.423	**	105	71
Portugal	2.57	6.27	3.1137	0.62	-0.14	0.09	-0.0066	0.0410	0.484	**	0.135		81	31
Austria	1.13	7.47	1.7695	1.53	-0.02	0.03	0.0007	0.0221	0.450	*	-0.535		28	4
Denmark	0.00	1.83	0.3590	0.32	-1.09	1.91	0.0387	0.3668	0.228	*	-0.817	**	89	44
Russia	1.07	2.99	1.4118	0.34	-0.36	0.33	-0.0022	0.0709	0.478	**	-0.292	**	153	113
Jan49-Dec52														
Consol Yield	2.96	3.36	3.1108	0.09	-0.02	0.02	-0.0006	0.0051	1.000	1.000		208	208	
Risk Premium:														
Brazil	1.83	3.26	2.4188	0.33	-0.11	0.07	-0.0053	0.0258	0.867	**	0.063	174	146	
BA	4.34	20.53	8.6755	3.50	-0.45	0.15	-0.0139	0.0758	0.805	**	0.021	154	123	
Chile	2.54	3.38	2.8364	0.21	-0.05	0.04	-0.0081	0.0219	0.753	**	-0.293	85	31	
Colombia									NA		NA			
Mexico	7.94	18.02	12.9315	2.18	-0.46	0.08	-0.0021	0.0473	0.615	**	0.056	204	200	
Peru	1.68	9.22	3.3105	1.59	-0.26	0.45	-0.0048	0.0743	0.694	**	-0.114	190	174	
Portugal	1.92	3.71	2.7038	0.45	-0.06	0.07	0.0003	0.0321	0.846	**	-0.053	65	30	
Austria	3.01	3.31	3.1235	0.12	0.01	0.02	0.0181	0.0057	0.518		0.277	6	3	
Denmark	1.22	2.25	1.8064	0.15	-0.09	0.11	-0.0009	0.0263	-0.094		-0.349	**	134	97
Russia	1.11	1.67	1.4360	0.11	-0.23	0.20	-0.0014	0.0366	0.498	**	-0.011	184	168	

Bivariate Correlation: Pearson coefficient, two tail

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

NA Cannot be computed because at least one of the variables is constant.