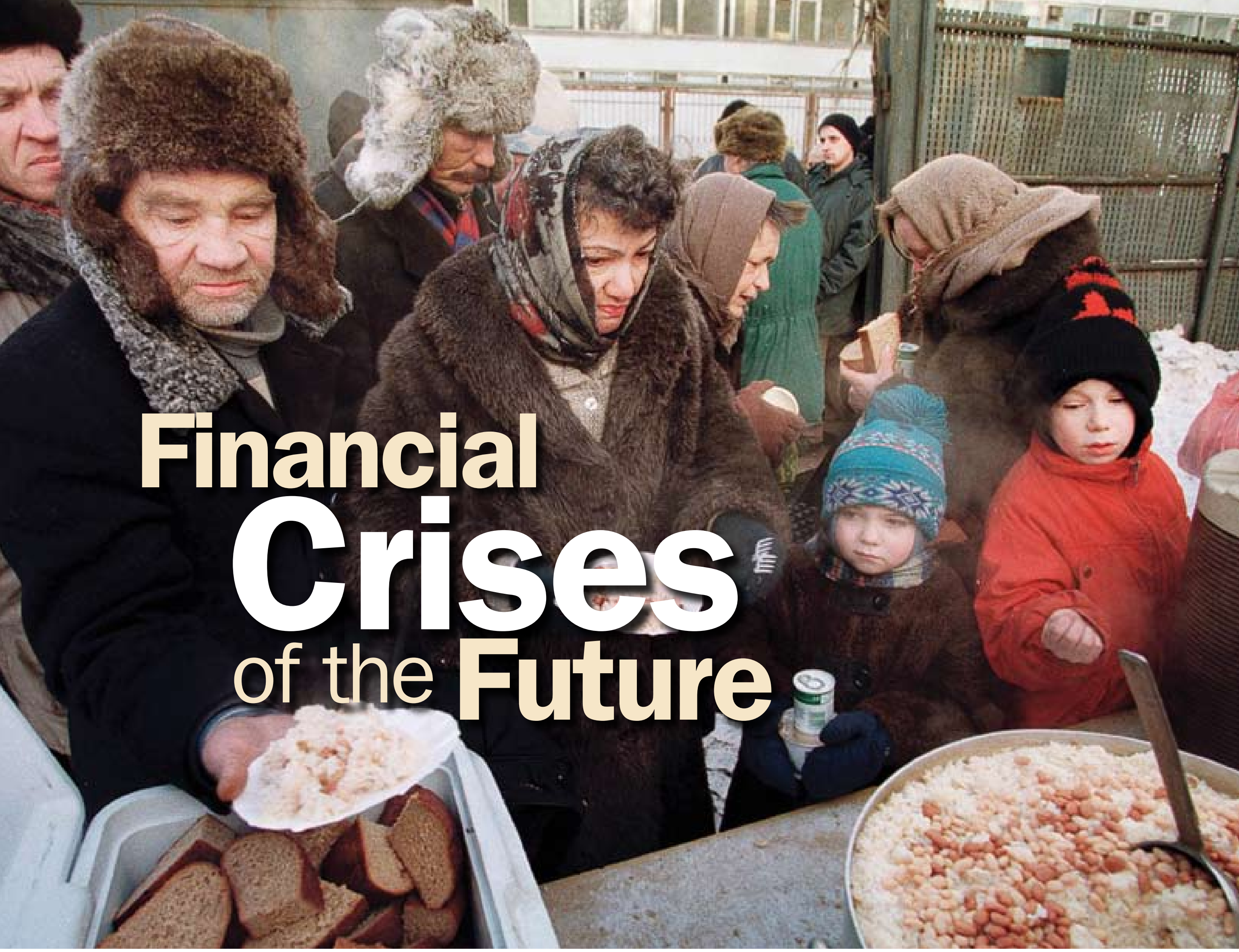


Financial Crises of the Future

Homeless Russians affected by the economic crisis of 1998.

Paolo Mauro and Yishay Yafeh

Will they resemble the contagious crises of the 1990s or the country-specific crises of the 1890s?

THE damaging financial crises of the 1990s—originating in Mexico in 1994, Asia in 1997, and Russia in 1998—spread quickly across emerging markets, prompting calls for reform of the financial architecture. That was a decade ago, however. The only major, full-blown emerging market crisis of this century—in Argentina in 2001—led to little spillover, or "contagion," except in neighboring Uruguay. In recent years, commentary in the financial press and in publications by investment banks and rating agencies has often emphasized an apparent decline in international contagion risk.

That is not to say that investors are not occasionally reminded of the issue of contagion: recent episodes of financial market turbulence include the drop in equity prices in emerging markets in May–June 2006, the global equity sell-off that began with an unwinding of positions on the Chinese stock market in February–March 2007, and the most recent woes that began in mid-2007, triggered by developments in the subprime mortgage markets in the United States.

On the whole, however, over the past few years emerging markets have enjoyed abundant liquidity, low bond spreads, and surges in capital inflows. Moreover, a very long-term perspective suggests that the contagious crises of the 1990s were not the norm but an unusual phenomenon. During the last period of financial globalization—the half century prior to World War I—the world witnessed several crises, but essentially no contagion. Even the most famous financial collapse of the period, the Barings crisis that originated in Argentina in 1890, did not have much impact outside the borders of that nation.

Will future crises look more like those of the 1990s or of the 1890s? Was the Argentine crisis of 2001 a harbinger of a return to self-contained crises? And if international spillovers remain possible, are there implications for global governance in the area of financial markets? To shed light on these questions, it is useful to analyze the historical record.

A tale of two eras

The 1870–1913 period of financial globalization—characterized by free trade, nearly unrestricted migration, large international capital flows, and sophisticated financial markets—resembles, and in some respects surpasses, globalization as we know it today. The London market for bonds issued by the "emerging economies" of the day was large (with an overall capitalization amounting to more than half of Britain's GDP), liquid (with bond spreads fluctuating considerably and reported daily in the newspapers), and supported by timely and reliable information (with political and economic news about emerging economies widely available in the British press). The typical portfolio of a British investor around the turn of the 20th century was probably more internationally diversified, and included a far larger share of emerging market securities, than that of his great-grandchild living at the beginning of the 21st century.

This global integration came to an abrupt end with the outbreak of World War I and the subsequent upheaval of the Great Depression and World War II. International financial flows resumed in the 1970s, but only in the final years of the 20th century did financial globalization achieve a level and a form reminiscent of the pre-1914 period. In particular, reliance on tradable emerging market bonds was jump-started by the Brady deals of the early 1990s, which repackaged the defaulted bank debt of the 1970s and early 1980s into bonds.

Despite these similarities in scale and reliance on bond finance, a striking difference between the 1870–1913 era and the 1990s relates to the extent that asset prices—specifically, sovereign bond spreads—moved together. Sovereign bond spreads are defined, for the historical period, as the yields on emerging market countries' bonds issued in pounds sterling on the London Stock Exchange, minus yields on British consols; and, for the modern period, as the yields on emerging market countries' bonds issued in U.S. dollars, minus yields on long-term U.S. treasury bonds. Whereas bond spreads followed country-specific trajectories during the pre-1914 era (see Chart 1), emerging market bond spreads tended to move in tandem to a much greater extent in the 1990s (see Chart 2). The message is similar when one focuses on comovement in times of crisis: sharp increases in sovereign bond spreads (of, say, more than 200 basis points) often took place simultaneously in several emerging markets in the 1990s, but they were typically restricted to one country in the pre-1914 period.

Changing influences on asset prices

What explains the observed differences in the extent of comovement of asset prices between the two periods? The evidence (based on event studies and econometric analysis of data on asset prices, macroeconomic variables, and contemporary newspaper articles) shows that the determinants of asset prices were different. Bond spreads a century ago were driven primarily by country-specific events such as droughts, rebellions, wars, other changes in the political climate, and economic fundamentals. In particular, episodes of politically motivated violence had the most visible impact on bond spreads. By contrast, in the 1990s, country-specific macroeconomic data and events, while still relevant, had more limited power in explaining individual-country bond spreads, with developments in the overall emerging market indices (and, especially, contagious emerging market crises) playing a greater role.

> "It is difficult to predict the nature of financial crises in the 21st century, but it is quite likely that they will incorporate features from both the more distant past and the 1990s."

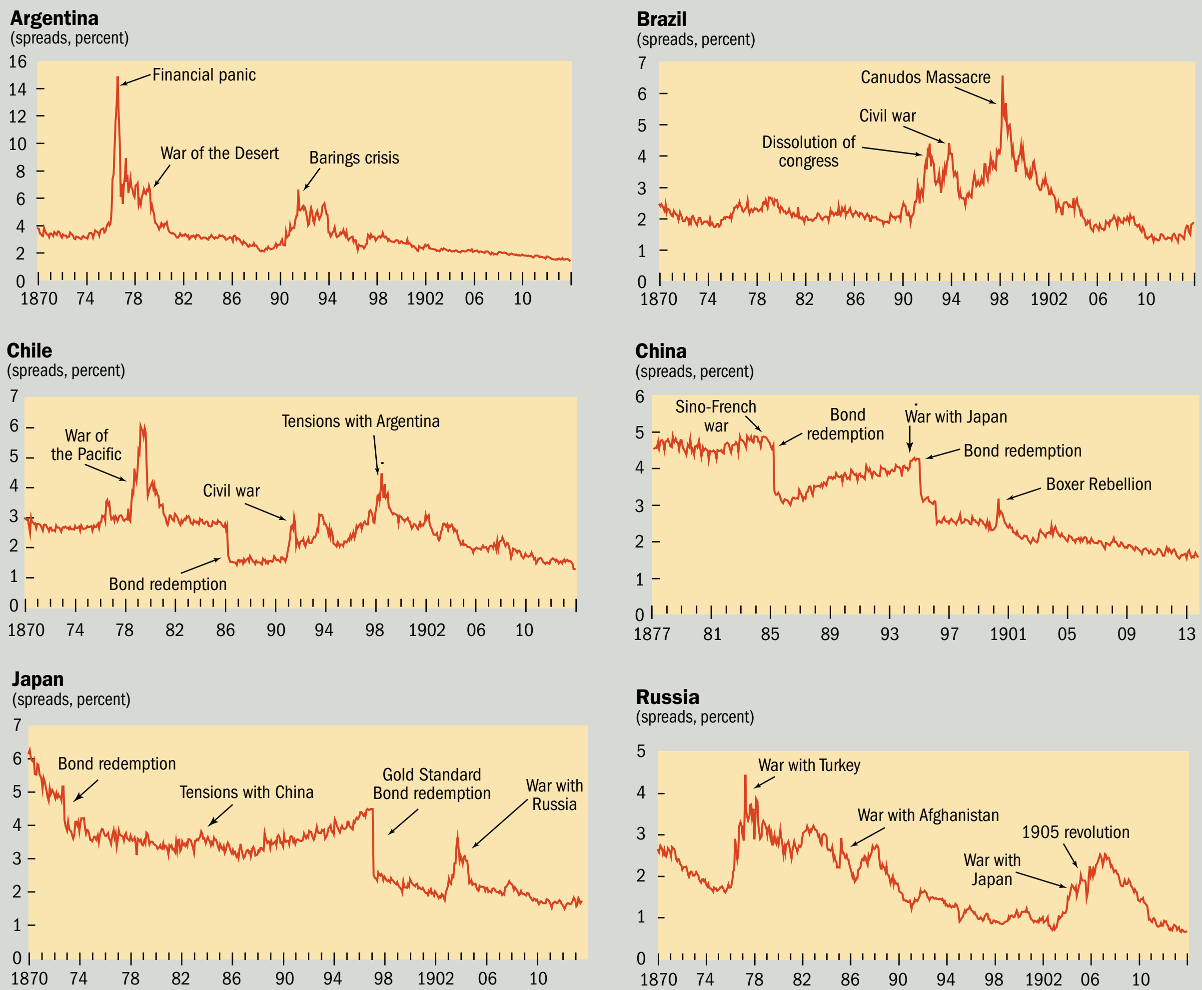
To some extent, the greater degree of comovement of emerging market bond spreads in modern times than in the past is explained by greater similarity in the economic structures of emerging market economies today. Before World War I, these economies tended to be very specialized (for example, Argentina produced wheat and wool and Brazil produced coffee and rubber). Now, they are better diversified and, as a result, engage in more similar economic activities, so that their economic fundamentals tend to move together to a greater extent than they did a century ago. Nevertheless, the increased similarity in the economies of today's emerging markets cannot fully account for the rise in asset price comovement and shared crises.

Changes in investor behavior and the way in which international investment is organized and undertaken also contribute to greater comovement of asset prices in modern times. During the 1990s, losses incurred at the outset of a crisis in a given country induced large investment funds (including mutual funds and hedge funds) to sell assets in (initially) unaffected countries to maintain certain liquidity and risk profiles. For example, when open-end mutual funds foresaw future redemptions after a shock in one country, they raised cash by selling assets they held in other countries. Similarly, leveraged investors, such as banks and especially hedge funds, faced regulatory requirements, internal provisioning practices, or margin calls that led them to rebalance their portfolios by selling

Chart 1

Moving on their own merits

During the 50 years before World War I, spreads on sovereign debt changed in response to country-specific events.



Source: Mauro, Sussman, and Yafeh (2006).

Note: Spreads are the yields on the emerging market country's bonds issued in pounds sterling on the London Stock Exchange minus yields on British consols (British bonds that have no specified maturity date and pay a coupon forever).

their asset holdings in countries that were initially unscathed. By contrast, investors in the past operated primarily as individuals at a time when trading technologies were also slower. In times of impending crisis, investors may have responded to trouble in one emerging market by buying assets in another, thus shifting assets rather than selling them en masse.

The strange case of Argentina

Why was there a near absence of contagion in the case of the Argentine crisis of late 2001 (only Uruguay was affected, mainly because of withdrawals by Argentines who had deposits in its banking system)? Here too investor behavior is the key. Whereas the crises of the 1990s took many investors by surprise, the Argentine crisis was widely expected and market players had ample opportunities to adjust their exposure. Data on international mutual funds reveal a major decline in Argentine holdings throughout 2001. By the time the Argentine currency board collapsed in December, such holdings were extremely low. At a more technical level, a timely reduction of Argentina's weight in the Emerging Markets Bond Index tracked by many market participants may have facilitated an orderly shift of investment positions out of Argentina into other emerging markets.

Although there are some who argue that the 2001 Argentine crisis indicates that contagion may have permanently "vanished," the anticipated nature of this crisis casts doubt on that view. On the contrary, the generalized surge of capital inflows into emerging markets observed in recent years is consistent with the view that in some cases investors fail to discriminate sufficiently among emerging markets, based on fundamentals.

Trouble in the core and on the periphery

An additional factor determining whether contagion occurs has to do with whether financial market players in the "core" advanced countries are adversely affected by developments in the country in which a crisis originates. Indeed, in many of the best-known contagious emerging market crises, advanced-country financial institutions played a role in transmitting the initial shock to countries on the "periphery." For example, losses incurred by advanced-country banks and other financial institutions were an important transmission channel of contagion during the Asian crisis.

The debacle of Long-Term Capital Management was a key factor in the spread of the Russian crisis of August 1998 to other emerging market economies. And the most recent woes that began with developments in the subprime market in the United States caused concern, though not a full-blown crisis, in a number of emerging markets. In fact, prompt liquidity provision by the central banks of the main advanced countries—while obviously aimed squarely at restoring confidence domestically—may also have reduced the likelihood of contagion to the emerging markets. The importance of liquidity provision by central banks in the core financial markets has not changed much since the previous era of financial globalization. Prompt action by the Bank of England is often credited with averting international contagion that might otherwise have emanated from the collapse of the investment house of Barings in 1890.

The future of contagion

The likelihood of contagious financial crises and high comovement across global financial markets in the future is reinforced by the entry and increased importance of new financial instruments and new players on international financial markets:

Hedge funds have grown tremendously in recent years and manage assets in excess of $1 trillion. As seen in the 1990s and in the recent crisis in subprime mortgages, hedge funds' operations have often added to asset price comovement. Some commentators, however, have suggested that hedge funds may also occasionally mitigate the severity of financial crises by trading "against" the market when prices fall too low for investors with lower risk appetite.

"Although some observers have suggested forms of regulation of international financial flows, attention will probably be focused on the possible need for additional transparency and data provision, and refinements to existing prudential regulations."

Private equity funds affect comovement and the nature of financial crises, but how they do so is less clear. Private equity funds are typically long-term investors, so their presence might mitigate crises and contribute to stability. But were they to unwind a large position suddenly, the opposite would occur. Moreover, private equity funds occasionally have shorter investment horizons, which lead them to invest in fashionable sectors in several countries at the same time, contributing to comovement across countries.

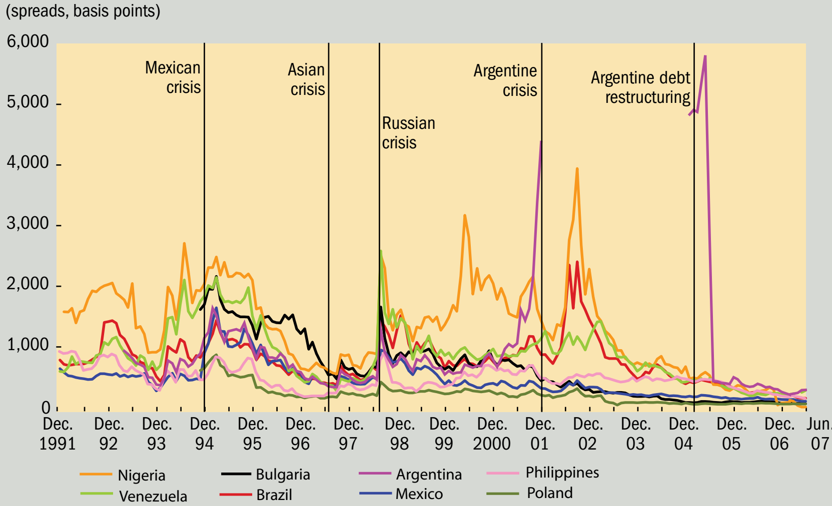
Sovereign wealth funds are sparking new interest, although they have been investing sovereign nations' international reserves for years. The sudden interest has been kindled by various factors: these funds have grown rapidly in the past decade, attaining a vast scale; they have acquired large stakes in both emerging market and advanced country corporations and financial institutions, occasionally raising concerns about the perceived strategic importance of the target companies; and several of them do not make their investments public. By some estimates, sovereign funds manage assets well in excess

Chart 2

Moving in tandem

Since 1990, bond spreads in emerging market countries have moved together, with a handful of exceptions.

(spreads, basis points)



Source: Mauro, Sussman, and Yafeh (2006).

Note: Spreads are the yields on the emerging market country's bonds issued in U.S. dollars minus yields on long-term U.S. treasury bonds. A basis point is 1/100th of a percentage point.

of $1½ trillion, with most of this amount accounted for by a handful of such funds. Although most have used conservative and long-term investment strategies, in principle they could play a destabilizing role if they reversed a position abruptly, particularly one in a small emerging market country.

Beyond the emergence of new players, new investment vehicles for individual investors also have the potential to increase asset price comovement across countries. For example, the rise and growing popularity of index-based investing—through index mutual funds and, more recently, exchange-traded funds—leads to investment in aggregate country or regional indices rather than in individual securities (or countries). Exchange-traded funds are open-end mutual funds that typically seek to replicate a well-established market index. Flows into and out of them may cause all underlying securities to move together, with limited regard for country-specific information. On the other hand, the introduction of new financial instruments, such as exchange-traded funds, may help investors diversify their portfolios and increase market liquidity, contributing to investors' willingness to invest in individual stocks and bonds. The growth in cross-border banking has no doubt also played a role in increasing the potential for international transmission of financial and other shocks.

Prepare for the future

It is difficult to predict the nature of financial crises in the 21st century, but it is quite likely that they will incorporate features from both the more distant past and the 1990s. Financial crises in the pre–World War I era occurred against the background of macroeconomic difficulties, but were typically triggered by such events as wars or other episodes of politically motivated violence, reflecting institutional deficiencies and political instability. Macroeconomic policies have improved in many emerging markets. But, in some, institutional weaknesses remain, so future crises may well also be triggered by political upheaval. And today's greater financial linkages—including those generated by the activities of new players—may lead to the rapid transmission of crises to other countries, much as happened in the 1990s.

A prudent working assumption, then, would be that contagion is likely to reemerge, suggesting the need to be prepared at both the domestic and the international level. At the domestic level, many countries have taken steps—including improved macroeconomic policies and debt management—aimed at reducing their vulnerability and at softening the blow in the event of a crisis. At the international level, to the extent that market failures and externalities require global governance and coordination, the debate has focused on the possible role of international financial or other supranational institutions, for example, in establishing mechanisms committed to providing liquidity in a crisis. Regional groups of countries have arranged to pool their international reserves to provide a backstop in case of a crisis.

Beyond increased stockpiles of official sector liquidity—whether through self-insurance in the form of international reserves, or international arrangements among countries or with international institutions—are there additional implications for global governance in the area of international financial flows? The debate is likely to concentrate on whether the official sector should increase its scrutiny of private financial market players. Although some observers have suggested forms of regulation of international financial flows, attention will probably be focused on the possible need for additional transparency and data provision, and refinements to existing prudential regulations. This will include a discussion of whether gaps were uncovered by the recent turmoil originating in the subprime market.

The implications of newly important players, such as hedge funds, private equity funds, and sovereign wealth funds, are not yet fully understood, and reasonable arguments can be made for whether—on a net basis—each of these players is likely to foster stability or volatility. Regardless, it is not difficult to imagine scenarios in which these players would be a source of volatility and contagion; a careful discussion of how to avoid such scenarios seems warranted. In particular, the policy debate is likely to concentrate on whether these players should provide additional information about their strategies and investments (that is, greater transparency), and on the possibility that new (voluntary) codes of conduct will be conceived for these new players. Progress in these areas will require identifying exactly what information is needed to permit effective prudential regulation and to facilitate informed decisions by investors without unnecessarily hampering the operation of the financial system.

What seems clear is that both advanced and emerging market countries will pay close attention to this debate. Traditionally, the importance of good governance and transparency has been emphasized with regard to avoiding hidden liabilities, and related vulnerabilities, in crisis-prone emerging markets. The focus on transparency in emerging markets has shifted to the asset side, with frequent calls for greater transparency in the operations of emerging market sovereign wealth funds. However, the financial turmoil that began during the summer of 2007 has shined the spotlight on issues related to transparency of advanced-country financial institutions and the importance of preserving stability in the core financial markets—not only for the well-being of domestic investors, but also to avoid harmful international contagion. The debate on these issues is likely to become more prominent still in the years ahead. ■

Paolo Mauro is a Division Chief in the IMF's Fiscal Affairs Department, and Yishay Yafeh is a Visiting Scholar in the IMF's Research Department from the Hebrew University of Jerusalem and the Center for Economic Policy Research.

References:

Mauro, Paolo, Nathan Sussman, and Yishay Yafeh, 2006, Emerging Markets and Financial Globalization: Sovereign Bond Spreads in 1870–1913 and Today *(London: Oxford University Press).*

Didier, Tatiana, Paolo Mauro, and Sergio Schmukler, 2006, "Vanishing Financial Contagion?" IMF Policy Discussion Paper 06/1 (Washington: International Monetary Fund).