

**The Globalization of International Financial Markets:
What Can History Teach Us?***

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1. Introduction

Globalization has become the buzz word of the new millennium. It is viewed as the cause of many of the world's problems as well as a panacea. The debate over globalization is manifest both in public demonstrations against the WTO in Seattle in the Fall of 1999 and the IMF and World Bank earlier. It also has led to a spate of scholarly and not so scholarly books on the subject.¹

Until three years ago the consensus view among economists on the issue of the international integration of financial markets was very positive. The benefits of open capital markets stressed include: optimal international resource allocation; intertemporal optimization; international portfolio diversification and discipline on policy makers.² However, the recent spate of crises in Latin America and Asia has led some to argue that the costs of complete liberalization of financial markets for emerging countries may outweigh the benefits.³

The paper focuses on the globalization of financial markets from the historical perspective of the past 120 years. In Section 2, I summarize the empirical evidence on the international integration of financial markets from 1880 to the present primarily based on my research with Barry Eichengreen and that of Maurice Obstfeld and Alan Taylor. This research shows that globalization has followed a U-shaped pattern for both stocks and net flows of foreign investment relative to GDP over the period 1880 to 1998. The ratios of both the stocks and net flows of foreign investment relative to GDP in the period before World War I was comparable to or even higher than today, collapsing to almost negligible magnitudes in the interwar and post

¹ See e.g. Friedman (1999), Soros (1998), Rodrik (1997), O'Rourke and Williamson (1999) and Gallman and Davis (2000).

² See Obstfeld (1999).

World War II periods, until a recovery from the early 1970's to the high levels observed today.

In Section 3, I consider the issue whether indeed the globalization of financial markets is much more pervasive today than pre 1914 – that although net flows relative to GDP may be less today than pre 1914 – the markets are broader and deeper. The greater extent of globalized capital markets today largely reflects institutional innovations overcoming the barriers of asymmetric information.

The flip side of open capital markets for emerging economies is the problem of financial crises – the pattern of lending booms and busts, massive capital inflows and equally massive reversals. This was a problem in the earlier golden age of liberal capital markets and is once again today. In Section 4, I examine the evidence on the incidence and severity of financial crises (currency crises, banking crises and twin crises) before 1914 and since 1973. The record suggests that crises are slightly worse on average for today's emergers than those of the past, although there were several famous episodes where the collapse in output greatly exceeds the recent experience of the Asian tigers. Explanations for this pattern include the international monetary regime followed (the classical gold standard) and institutional differences (the advent of lenders of last resort and the International Financial Institutions).

Crises in both golden ages led to international rescues. In the earlier period they were arranged between advanced country central banks by private investment bankers whereas today by international financial institutions. In addition to a change in the character of the lenders, as I discuss in Section 5, the nature of the loans has changed from relatively small amounts to cover temporary current account shortfalls to today's much larger packages to cover massive capital

³ Rodrik (1998), Cooper (1998, 1999).

outflows.

An offshoot of the recent crisis problem is a backlash in favor of shutting off or slowing down the process of capital market liberalization. This is discussed in Section 6. Many have argued for the reimposition of capital controls (some on inflows, others on outflows) while others favor the sequencing of liberalization for those countries which are still not completely open. The evidence, both contemporary and historical on the effects of capital market liberalization/controls on growth and welfare is mixed.

The debate over capital controls is part of the more general debate on globalization. O'Rourke and Williamson (1999) provide comprehensive and convincing evidence that the integration of capital, labor and goods markets in the 1870-1913 period, led to factor price equalization and the convergence of real wages and real per capita incomes in the Atlantic economy. This process led to a political backlash in the early decades of the twentieth century in Europe and the Americas in the form of tariff protection, restrictions on migration and growing nationalism. A backlash against capital movements followed in the 1930's in an attempt to protect monetary sovereignty. The question arises whether similar forces are at work today.

The paper concludes with some policy lessons from the historical record. The benefits of financial market integration are long run while the costs of financial crises are short-run phenomena. The role for policy is to provide an environment for markets to work efficiently and to allow private capital flows to seek their best use in an unfettered manner. Such an environment can mitigate the incidence of crises but not prevent them entirely. In that eventuality there may be a role for the emergency provision of liquidity on classical Bagehotian lines.

2. The Dimensions of Capital Market Integration

In this section I review the empirical literature on financial market integration from 1880 to the present.

2.1. Stocks

Recently Obstfeld and Taylor (1998) have compiled the existing data on the stocks of foreign assets relative to world GDP as well as foreign liabilities relative to GDP at benchmark years over the period 1825 to the present. The sample of countries covered before 1914 are many of today's advanced countries and a number of other countries. The picture portrayed by this data, although it is fragmentary for the early years, is of a U-shaped pattern. At its pre 1914 peak the share of foreign assets to world GDP was approximately 20%. It declined from that level to a low point of 5% in 1945 with the pre 1914 level only being reached by 1985. Since then it has risen to 57%. A similar picture emerges from the ratio of liabilities to world GDP.⁴

The British held the lion's share of overseas investments in 1914, 50%, followed by France at 22%, Germany at 17%, the Netherlands at 3% and the U.S. at 6.5%. This compares with the U.S. holding of global foreign assets in 1995 at 24%. These funds in turn represented up to one half of the capital stock of one of the major debtors (Argentina) and close to one fifth for Australia and Canada.

Finally, the gross asset and liability positions were very close to net positions before 1914, in contrast to today where for example the U.S. is both a major creditor and debtor. This reflects the prevalence of uni-directional long-term investment from the core countries of Europe

⁴ Obstfeld and Taylor present two versions; the ratio of assets (liabilities) to world GDP and the ratios to single GDP. The latter reflects an adjustment for the smaller sample of countries (7) with foreign investment data than countries with GDP data. The adjusted ratio, which is an upper bound estimate, is greater than 50% in the years just

to the countries of new settlement.

2.2 Net Capital Flows

The 50 years before World War I saw massive flows of capital from the core countries of western Europe to the overseas regions of recent settlement (mainly the rapidly-developing Americas and Australasia).⁵ At its peak, the outflow from Britain reached 9 percent of GNP and was almost as high in France, Germany, and the Netherlands (Bairoch and Kozul-Wright 1996).⁶ Private capital moved essentially without restriction. Much of it flowed into bonds financing railroads and other infrastructure investments and into long-term government debt.⁷ Figure 1 shows five-year moving averages of the mean absolute value of the ratio of the current account balance to GDP for 12 countries.⁸ Figure 2 shows current account balances for one large capital exporter, the United Kingdom, one large capital importer, Canada, and the largest “emerging market,” the United States.⁹ A striking feature of this data is the size and persistence of current account deficits in the pre-1914 period, especially in Australia, Canada, Argentina, and the

before 1914, it falls to a low of 12% in 1945 and then rises to 54% in 1995.

⁵ Extensive international financial market integration began well before 1880. Neal (1990) documents the integration that occurred in northwest Europe after 1700. Capital flows from Britain to the United States, Latin America and the British colonies accelerated in the years after the Napoleonic wars (Zevin 1992).

⁶ This compares with the peaks in Japan's and Germany's current account surpluses in the mid- and late 1980s of 4-5 percent of GDP.

⁷ Although there was also significant direct foreign investment.

⁸ The countries in this sample which are labelled Group 1 are Argentina, Australia, Canada, Denmark, Finland, France, Germany, Italy, Japan, Norway, Sweden, United Kingdom, United States. However, Finland was not included in Figure 1. All of these countries except Argentina graduated from emerging country status to advanced country status. For explanations for Argentina's retardance see e.g. Taylor (1997). Argentina was kept in the sample past World War II even though it clearly belongs with the Group 2 countries discussed below because of its major importance as a capital recipient before 1914.

⁹ Recently the standard series on current account balances have been revised by Jones and Obstfeld (1998) to account for nonmonetary gold flows under the pre-1914 and the interwar gold standards. The problem with the standard sources, as Jones and Obstfeld explain, is that their designers did not distinguish monetary gold exports, which are capital account credits, from non-monetary gold exports, which are properly included in the current account. Jones and Obstfeld adjust for these discrepancies, and this is the data we present in Figures 1 and 2. See Bordo, Eichengreen and Kim (1998) Appendix Figure 1 for the individual country data.

Nordic countries and of the current account surpluses of the UK and France.¹⁰

For comparison, Figure 3 shows the mean absolute value of the ratio of current account to GDP for 23 of today's emerging markets (countries whose GDP exceeded 30 billion dollars and were classified as indebted countries by the World Bank) using data from the International Monetary Fund's *International Financial Statistics* for the period 1949 to 1996.¹¹ These countries have been running current account imbalances under the recent managed float averaging 4.1 per cent of their GDPs, which is similar to the average for the prewar sample of 3.9 per cent which includes both capital importers and exporters.¹²

Capital flows for the 13 prewar countries are also considerably less variable (the standard deviation in 1880-1913 was 2.7 per cent versus 4.1 per cent under the managed floating regime). In the interwar period Group 1 countries' current account ratios were about as variable (standard deviation of 3.8 per cent) as for the Group 2 countries under the float (standard deviation of 4.1 per cent)¹³

2.3 Savings-Investment Correlations

A widely-used measure of financial integration is the correlation between national savings and investment rates. In a 1980 article, Feldstein and Horioka argued that if international capital markets are well integrated, this correlation should be low because investment can be

¹⁰ The United States exhibited current account deficits comparable to these countries earlier in the nineteenth century. Evidence for persistence is based on the Phillips-Perron Z Statistic. See Bordo, Eichengreen and Kim (1998).

¹¹ The individual country data for this sample labelled Group 2 are in Bordo, Eichengreen and Kim (1998) Appendix Figure 1. The countries are: Algeria, Brazil, Chile, China, Colombia, Egypt, Hungary, India, Israel, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Phillipines, Poland, Romania, South Africa, Thailand, Turkey, and Venezuela.

¹² For a sample of just capital importers, the ratio was 4.4 per cent. (See Tables 1 and 2 in Bordo, Eichengreen and Kim (1998) which show the mean and the standard deviation of the data for each country across 4 exchange rate regimes from 1880 to the present.)

¹³ See Bordo, Eichengreen and Kim (1998) Tables 1 and 2.

financed by foreign capital flows. Their regression results for the 1960s and 1970s found a high coefficient from regressing the investment rate on the savings rate for a cross section of OECD countries.¹⁴ They interpreted this as evidence of low capital mobility in a period when conventional wisdom posited the opposite. An enormous literature followed, some of it historical.¹⁵ Bayoumi (1990) extended the Feldstein-Horioka approach to the classical gold standard, finding a much lower correlation and inferring from this that capital markets were better integrated prior to 1913. Similar results are provided by Zevin (1992). Eichengreen (1992) uses a larger sample of countries and concludes in favor of lower overall capital mobility than Bayoumi, although even in his extended data set the correlation of national savings and investment rates is significantly below that reported by Feldstein and Horioka.¹⁶

Recent research by Taylor (1996) and by Obstfeld and Taylor (1998) goes some way toward reconciling these findings for different periods and samples. Using data for 12 countries from 1850 to 1992, Taylor's estimated coefficients trace out an inverted U shape over time. On this basis he concludes that capital markets were well integrated before 1914, that they then ceased being so except in the short period of time during which the interwar gold-exchange standard prevailed, and that they have become gradually more integrated since 1950s, with coefficients in the 1990s again reaching the levels of the pre-1914 period (See Figure 4).¹⁷

2.4 Covered Interest Parity

Another indicator of capital mobility is a comparison between interest rates on assets in

¹⁴ Using data averaged for five-year periods.

¹⁵ A recent review of the literature is Coakley, Kulasi and Smith (1998).

¹⁶ These conclusions have recently been affirmed by Jones and Obstfeld using their revised data.

¹⁷ Taylor (1994) presents supporting evidence explaining some of the anomalous coefficients by omitted demographic

different financial centers.¹⁸ Marston (1993, 1995) presents evidence based on this approach for key advanced countries following the demise of the Bretton Woods System. Obstfeld and Taylor (1998) apply his methods to the longer period 1870-1990 for the U.S. and UK. As reproduced in Figure 5, their results based on 60 day bank bills and other instruments indicate a negligible differential in the years before 1914. A similar pattern is observed under Bretton Woods in the 1960s and again in the most recent decade.¹⁹

Thus, these results are consistent with the null of relatively high levels of financial integration both prior to 1914 and recently.

2.5 Real Interest Parity

A more stringent test is real interest parity, which requires both uncovered interest parity and purchasing power parity (Obstfeld 1995). A recent study by Lothian (1995) of divergences in ex post short-term and long-term real interest rates for a panel of 10 countries from 1880-1995 finds low divergence under the classical gold standard, Bretton Woods and the recent float alike, but the lowest divergence is in the most recent 10 years of the float.

Deviations from real interest parity are shown in Figure 6a, which plots the dispersion (standard deviation) of annual ex post real long-term bond yields for our sample of 12 countries from 1870 to 1994.²⁰ Figure 6b presents a similar calculation using monthly data on the ex ante

variables. Taylor (1996) also uses an error correction methodology to distinguish between short-run shocks and the long-run equilibrium.

¹⁸ Among other things, this comparison rules out pure country risk.

¹⁹ For supporting evidence on uncovered interest parity for the U.S. and U.K. in the gold standard period 1879-1914, see Calomiris and Hubbard (1996). These studies test for arbitrage in short-term financial securities. Bordo and Rockoff (1996) focus on the yields on long-term securities for 9 capital importing countries in the period 1890-1914. They show marked convergence in the nominal yields of both gold and paper securities after 1900 to the yield on British consols. Before 1900 gold yields moved closely with the consols yield.

²⁰ Argentina was omitted from the calculation because its experience of high and variable inflation since World War II

real interest rate for short-term securities (3 month bank bills) for the four core countries of the gold standard (UK, US, France, Germany).²¹ A similar pattern is observed for long-term securities. Both figures show clear evidence of capital market integration before World War I and in the most recent decade, bracketing a period of massive disintegration.

2.6. Other Dimensions of Financial Market Integration

2.6.1 Gross Versus Net Flows

While integration measured in terms of net capital flows as a percentage of GDP is quite similar in the post-1975 and pre-1914 periods, gross flows are greater today. Bank for International Settlements data on turnover in the foreign exchange market suggest that gross flows are in the range of \$1.25 trillion a day, or more than \$250 trillion a year.²²

2.6.2 Short-Term Versus Long-Term Capital Flows

It is not possible to compile the data to give us a clear picture of the long-run pattern of the breakdown between short-term and long-term capital flows. According to Bloomfield (1963) and Wilkins (1998) based on very limited data of commercial bank foreign obligations as well as official reserve movements, short-term capital flows, while crucial to the adjustment mechanism of the classical gold standard, were small relative to the long-term capital movements. In the interwar, limited data in United Nations (1949) and Nurkse's (1944) narrative suggests that short-term capital movements during the turbulent years of the 1930s swamped long-term movements. In the postwar Bretton Woods period in the presence of capital controls, private short-term capital flows were limited. Of greater importance were changes in official reserves to

made its real interest rate considerably more volatile than that typical of countries in Group 1.

²¹ For an explanation of how this series was calculated, see Bordo, Eichengreen and Kim (1998).

accommodate balance of payments disequilibrium. Since 1971 short-term capital movements, especially bank loans, have increased in size and importance (Kregel, 1994). However, because many short-term bank credits are routinely rolled over it is difficult to make the distinction between short-term and long-term.

2.6.3. The Composition of Foreign Investment

Although data on the composition of pre-1914 portfolio investment are incomplete, probably the best (though still limited) estimates are those for Great Britain, the leading creditor of the period. (British investors held about 50 per cent of the stock of long-term foreign investments outstanding in 1913 according to conventional estimates. In terms of composition, there is no reason to think that Britain is grossly unrepresentative.) These suggest that, circa 1913, fully 30 per cent of British overseas investments in quoted securities was in the issues of governments and municipalities, 40 per cent in railways, 10 per cent in resource-extracting industries (mainly mining), and 5 per cent in public utilities.²³

Fishlow (1985) summarizes the conventional wisdom on this subject as follows. In the overseas regions of recent settlement to which the bulk of European lending flowed, external resources were invested in infrastructure projects which enhanced the borrowing country's capacity to export. Foreign funds were used to construct port facilities, railway networks and

²² See BIS (1997).

²³ These estimates, from Royal Institute for International Affairs (1937), are based on the earlier work of Herbert Feis. Davis and Gallman (1999), focusing on the "19th century emerging markets," find that nine of every ten pounds of British investment in Argentina, Australia, Canada and U.S. between 1865 and 1890 went into railroads and government bonds. According to their estimates, the fraction ranges from 86 per cent in Australia to 92 per cent in Canada (Davis and Gallman, 1999, p.7). Davis and Huttenback (1986) provide comparisons with domestic investment in quoted securities. Their Chart 2.8 confirms the picture of a pattern of overseas portfolio investment concentrated in agricultural and extractive activities (especially in the Empire), in transportation, and in public utilities. Domestic portfolio investment, in contrast, was disproportionately concentrated in manufacturing and in the commercial and financial sectors.

other “internal improvements.” At the same time, the lending countries (particularly Britain) provided open markets for the raw materials and agricultural commodities produced and exported by these newly settled regions.²⁴ In this way, foreign borrowing generated a stream of export revenues sufficient to service and repay the borrowed funds.

Governments too had voracious appetites for external finance. A non-negligible share of public spending took the form of subsidies for the construction of railways and infrastructure projects, but governments which borrowed abroad typically did so, as Fishlow emphasizes, not to finance public investment but to underwrite public consumption.

Data for portfolio capital flows to emerging markets in the 1990s paint a different picture. Bordo, Eichengreen and Irwin (2000) tabulated these by recipient sector for both bank lending and bonds from Capital Data’s Bankware, respectively (see Table 1). Admittedly, one way of reading these figures is “the more things change, the more they remain the same.” But to many readers they will suggest the growing importance of lending to the financial-services sector (banks etc.), to enterprises producing commercial services, and to manufacturing.

2.6.4 Debt Versus Equity

The relative importance of debt and equity has changed, reflecting the recent expansion of “emerging” stock markets. The most recent issue of the World’s Bank’s *Global Development Finances* estimates that stocks and bonds are now of roughly equal importance. Prior to 1913, the vast majority of portfolio capital flows took the form of bonds, not equity.

2.6.5. Portfolio Versus Direct Investment

²⁴ Note that even for the United States, the most industrialized of the regions of recent overseas European settlement, commodity exports (gold, silver and agricultural commodities, and later petroleum) were the dominant source of export revenues throughout this period (Wright 1990).

The balance between portfolio and direct foreign investment has changed. Whereas today direct investment is as important as portfolio investment, this was not the case before 1914. According to O'Rourke and Williamson (1999), 79% of British investment to Latin America was in this form, and 85% to Australia and North America. In contrast, since World War II direct investment has consistently exceeded portfolio investment. While securities markets have grown explosively in recent years, around half of all capital flowing to emerging markets is still in the form of direct investment.

2.6.6. The Nature of Direct Foreign Investment

The nature of direct foreign investment has changed. Before 1914, according to Wilkins (1998), DFI was undertaken mainly by free standing companies--companies incorporated in the U.K., France, Belgium, and a few other Western European countries for the purpose of investing and doing business in an emerging market.²⁵ These enterprises proliferated in mining, agriculture and transportation, as in the cases of, inter alia, Rio Tinto and the Suez Canal Company. Today, in contrast, DFI is done through multinational enterprises, whose operations involve the extension across borders not just of financial capital but of the firm's pre-existing managerial and productive capabilities.²⁶

3. Explanations For The Historical Pattern of Financial Market Integration

²⁵ According to Wilkins, 'classic' multinational enterprises in which firms maintained operations in many countries became an increasingly important conduit for foreign direct investment over the period being discussed here.

²⁶ It is not possible to put together a complete record of the global composition of foreign investment between portfolio and foreign direct investment for the world for our century of experience. Twomey (1998) and Kregel (1994), however, have assembled some of the data. Twomey presents a breakdown into portfolio and direct investment for the world from 1900 to 1938 which shows a significant increase in the share of foreign direct investment (FDI) in the total from 1914 to 1938 from 31% to 48%. For developing countries FDI represented two-thirds of foreign investment until World War II. Since then FDI to LDCS has declined significantly relative to the industrialized nations. According to Kregel, FDI increased relative to portfolio investment during the post-WWII Bretton Woods period but since the 1980s there has been a resurgence of portfolio investment.

Three salient features of the record need explanation: the high level and persistence of capital flows before 1914; the U-shaped pattern from 1914 to the present; and whether indeed we are back to the future.

3.1. The High Level And Persistence Of Capital Flows Before 1914

A number of factors could explain the larger size and greater persistence of current account imbalances in the pre-1913 period.²⁷ One is the greater credibility of policymakers' commitment to stable monetary and fiscal policies as manifested in adherence to the gold standard. The gold standard provided a signal that the borrowers followed the same rules as lenders in the metropolitan centers and hence were unlikely to default on their debts. Bordo and Rockoff (1996) evaluate this hypothesis for nine recipients of British capital in the period 1870-1914 and find strong evidence that good gold standard adherents paid lower interest rates on sovereign debt than those with spottier records. Flandreau, Le Cacheux and Zeumer (1998) find similar results for a different panel of European peripheral countries, as do Sussman and Yateh (1998) for Japan. Insofar as the gold standard proxied for fiscal rectitude and for adherence to similar norms among the capital recipients as well as the senders, the failure of the international monetary system to support equally persistent deficits after World War I may reflect a shift to less credible policies.

A related and possibly important determinant of the extent and persistence of British capital exports was the fact that most British investment went to former colonies where the British heritage was strong. These countries (e.g., the U.S., Canada and Australia) shared a

²⁷ Also see O'Rourke and Williamson (1999). They emphasize three factors as key determinants of the high degree of financial integration before 1914; technology; financial institutions, especially the gold standard and favorable political factors.

common language, culture, legal system, and accounting system. British capital also went to countries like Argentina and Uruguay where Britain had long had a strong commercial presence and considerable political influence, or to colonies under direct British control. The French also directed their lending to countries where they had a strong political influence and close cultural ties, e.g. Italy, Spain, and Russia (see Fishlow (1985) and Flandreau (1998)). By comparison, today's capital recipients tend to be very different in the above respects from the capital exporters. It follows that the latter may be less willing to maintain foreign investment in the face of adverse shocks.

Another explanation may lie in the nature of the investment itself. Much of the capital flowing to the New World went to finance railroads and other infrastructure. This investment required a long-term commitment because of its very nature: because the returns accrued only when the project was completed, rendering it costly to terminate early. Although there is considerable infrastructure investment in today's emerging countries, it does not dominate to the same extent.

Moreover, insofar as prewar investment, and British investment in particular, was investment in traded-goods-related sectors--as emphasized by Fishlow (1985), it went into export-related infrastructure and natural-resource related projects that in the normal course of events generated a stream of foreign exchange revenues sufficient to pay the money back--it did not give rise to balance-of-payments problems. And the fact that pre-World War I lending took place in an environment of relatively free multilateral trade allowed countries that engaged in significant amounts of external borrowing to expand their exports as needed to amortize those debts.

A final explanation may lie in the flexibility of 19th century economies. Insofar as their markets were less structured and institutionalized and adjustment was less constrained by policy and powerful interest groups, a shift in capital flows which implied the need to reallocate resources between sectors producing traded and nontraded goods could be accommodated easily. Bayoumi and Eichengreen (1996) and Calomiris and Hubbard (1996) provide econometric evidence consistent with this interpretation.

3.2. The U-Shaped Pattern of Financial Market Integration

The U-shaped pattern of global financial market integration documented in Section 2 has been well explained by Obstfeld and Taylor (1998) in terms of the policy trilemma between open capital markets, pegged exchange rates and independent monetary policy. Only two of the three elements hold at the same time.

The golden age of financial market integration and capital mobility described above was also the era of the classical gold standard. In that regime, member countries (most of the world) were locked together by making their currencies convertible into gold. Credible gold standard adherence, in the sense of subsuming domestic monetary and fiscal policy to the dictates of gold convertibility, was enforced for the emerging countries by the desire to have access at favorable terms to the capital markets of the core countries of Western Europe (Bordo and Kydland 1996). Credible adherence to gold also meant that short-term capital movements would be stabilizing. The classical gold standard era not only was characterized by free capital mobility but also mobility of labor and goods.

The golden age ended with World War I. The belligerents imposed capital and exchange controls in order to pursue expansionary financial policies and still maintain their parities. The

war also changed the political economy of many countries in favor of democracy and the interests of labor – factors which would make it difficult to always subsume domestic policy goals to the dictates of external balance (Eichengreen 1992).

After a period of extreme monetary instability in Europe, the gold standard was restored as a gold exchange standard with full capital mobility. But flaws in its architecture (too low a price for gold, maldistribution of gold) and the fact that key members (the U.S. and France) followed policies inconsistent with long-run external balance meant that the trilemma was stretched. Nevertheless capital flows did resume in the 1920s with the U.S. succeeding the U.K. as principal lender.

The Great Depression, caused by inappropriate U.S. policies in the deflationary environment of the restored gold standard, spread between countries joined by the links of gold. Adherence to gold also prevented policy makers from following expansionary policies in the world of open capital markets. As a consequence some countries left the gold standard and allowed their currencies to float, while others imposed capital controls but kept their parities.

By the end of the 1930s capital controls and exchange controls were nearly universal and this development was reinforced during World War II. After the war, the Bretton Woods system of 1944 was based on pegged exchange rates with an indirect link to gold, activist stabilization policies and continued capital controls.

It was only by the late 1960s that private capital flows resumed as a consequence of the restoration of current account convertibility. This development revived the trilemma and, in the face of massive speculative attacks led to its resolution by the abandonment of the par value system in 1973. Since then capital controls have been eliminated in the advanced countries and

reduced considerably in the emerging nations. Floating exchange rates are compatible with monetary independence and an open capital account.

3.3. Back To The Future Or Beyond?

The evidence presented in Section 2 suggests that in some respects international financial markets may have been at least as much or more integrated before 1914 than today and that we are in a back to the future scenario.²⁸ On the other hand in many other respects international financial markets are clearly more integrated now than before 1914. These include; the greater depth of the markets seen in the number and variety of lenders and borrowers and in the much wider range of securities traded and sectors financed. The vast majority of bonds sold before 1914 were railroad bonds and governments. Today industry, finance and the service sector in emerging markets are all important candidates for foreign portfolio investments. A second important development is the shift from debt to equity. Finally foreign direct investment has expanded considerably from the free standing companies of the earlier era.

These differences in the scope of market integration were consequences of information asymmetries, contracting problems, and macroeconomic risks that limited the extent of capital and commodity flows prior to 1914 and that continue to limit them, albeit to a lesser extent, today.²⁹ By information problems is meant the difficulty of determining product, project, and borrower quality. By contracting problems is meant difficulties of detecting fraud and of

²⁸ This view has been expressed by several prominent economists. Zevin (1992, p. 43), for example, believes that “while financial markets have certainly tended toward greater openness since the end of the Second World War, they have reached a degree of integration that is neither dramatic nor unprecedented in the larger historical context of several centuries.” Sachs and Warner (1995, p. 5) argue that “the reemergence of a global, capitalist market economy since 1950, and especially since the mid-1980s, in an important sense reestablishes the global market economy that had existed one hundred years earlier.” Rodrik (1998, p. 2) concludes that “in many ways, today’s world falls far short of the level of economic integration reached at the height of the gold standard.”

attaching collateral. By macroeconomic risks is meant mainly exchange risk.

3.3.1. Information Problems

Any discussion of information flows must start with the communications technology of the day. The transatlantic cable was laid in the 1860s, coming into operation in 1866. Prior to its opening, it could take as long as three weeks for information to travel from New York to London.³⁰ With the inauguration of the cable, this delay dropped to one day. By 1914 the time for cable transmission was down to less than a minute. Garbade and Silber (1978) compare the London and New York prices of US bonds four months before and four months after the cable and find a significant decline in the mean absolute difference. There is every reason to think that the cable had a comparable impact on other markets.³¹

The radio telephone was the next breakthrough. Like the telegraph, it first linked the national financial center (London or New York) to the hinterlands and regional exchanges before linking up those centers internationally (linking Europe with North America by 1900). It should be apparent why this information and communications technology translated into a smaller volume of short-term capital flows. Today currency traders respond almost instantaneously to minute-to-minute changes in currency values. Prior to 1870, when it might take weeks for this information to cross the Atlantic, and even after the advent of the cable and the radio telephone, news arrived at longer intervals.

Long-term lending to manufacturing, commercial and financial concerns was deterred not

²⁹ See Bordo, Eichengreen and Irwin (2000).

³⁰ Garbade and Silber (1978), p.826.

³¹ The cable reached Buenos Aires in 1878 and Tokyo in 1900.

so much by the limitations of the communications technology as by the difficulty of assembling and evaluating the information to be communicated. Lenders were reluctant to lend because of the difficulty of distinguishing good and bad credit risks. This information asymmetry created adverse selection (where the average credit quality of the pool of borrowers declines with increases in the interest rate) and therefore credit rationing. Overseas investors were further deterred by the difficulty of monitoring and controlling management's actions ex post -- of detecting malfeasance and rent dissipation and preventing owner-managers whose downside risk was truncated by limited liability from devoting borrowed funds to riskier projects'

Several already-noted characteristics of late-19th century international capital markets are explicable in terms of obstacles to information flows. For example, asymmetric information can explain the disproportionate share of railway bonds in foreign investment portfolios. The manufacturing, financial and commercial sectors of the U.S. economy were growing every bit as fast as transportation, but foreign investment in these sectors was less; information asymmetries explain this fact. It was relatively easy to monitor the actions of a railway company's management: investors could verify how much track had been laid, where it had been laid, and how much traffic it carried more easily than they could verify and evaluate the investment decisions of managers of concerns in these other sectors.

Obstacles to the flow of information can also explain the disproportionate importance of debt as opposed to equity in foreign investment portfolios (Baskin 1988), since debt reduces the risk to investors when imperfect information creates agency problems. The pattern persists today

(see e.g. Eichengreen and Mody, 1998), but a century ago it was if anything more pronounced.³²

Information asymmetries can explain the disproportionate importance of family groups (the foreign branches of the Rothschild and Morgan families, for example) and of the merchant and investment banks that grew out of them, which underwrote foreign bond issues and served as conduits for foreign investment, acting as delegated monitors and emitting signals of borrower credit worthiness. They can explain the well-known “Kuznets cycle pattern” in which immigration and financial capital tended to flow in the same direction (what Hatton and Williamson 1992) refer to as the tendency for capital to chase after labor), as the migrants provided the European sending countries with valuable information about local conditions. They can explain the sovereign credit rating departments” established by intermediaries like Credit Lyonnais (Flandreau 1998). They can explain the development of investment trusts (the 19th century analog of modern mutual funds), to whom investors delegated information-gathering and analysis functions. They can explain the explosive growth of insurance companies, investments in which were attractive to households partly because they could offer an attractive rate of return as a result of their comparative advantage in gathering information from far-flung regions (Snowden 1995). They can explain the popularity of specialized publications like *The Investor’s Monthly Manual*, *Burdett’s Stock Exchange Official Intelligence*, *Poor’s Manual of Railroads*, and *Herapath’s Railway Journal*. They can explain the practice by established railroads of guaranteeing the bonds of feeder lines.

Finally, information asymmetries can explain the surprisingly limited importance of FDI

³² The 1997 issue of the World Bank’s *Global Development Finance* suggests that stocks and bonds are now of roughly equal importance in international portfolio capital flows to emerging markets, after a long period in which debt instruments (bonds and bank loans) dominated purchases of equities.

prior to 1914 and the importance of the free standing company as the vehicle for foreign direct investment. A considerable majority of foreign investment prior to 1914 took the form of portfolio investment, whereas direct investment and portfolio investment are of roughly equal importance today.³³ And whereas 19th century FDI was undertaken mainly by free-standing companies (companies incorporated in Britain, France, Belgium and other Western European countries for the sole purpose of investing and doing business in an emerging market), it takes place today through the agency of multinational enterprises that establish foreign branches and foreign subsidiaries.³⁴ Free standing companies, in the words of Wilkins (1998, p.13), “were structured to solve the problem posed earlier; business abroad was risky; it was hard to obtain adequate and reliable information about firms in distant lands; returns were unpredictable; but there were clearly opportunities abroad; a company organized within the source-of-capital country, with a responsible board of directors, under source-of-capital country law, to mobilize capital(and other assets) and to conduct the business in foreign countries could take advantage of the opportunities, while reducing the transaction costs by providing a familiar conduit.”

3.3.2. Contracting Problems

Information problems may have been the key explanation for the relatively limited scope of late-19th century capital flows. But they were not the entire story. Beyond the immediate problem of geographical ignorance, distance made for problems of control. It was hard to

³³ Bloomfield (1968), pp.3-4

³⁴ See Wilkins (1998). Free standing companies became increasingly important as British investors gradually diversified beyond investments in railroads and government bonds into farming, ranching, mining and brewing and they sought to surmount the agency problems associated with the attempt to control far-distant American management.

monitor actions taken by management thousands of miles away when round-trip communication could take a month.

Foreign investors were also deterred by the uncertain legal security of their claims. For example, because the United States was a federation, corporations were chartered by the states, not the federal government, and governed by the laws of the state in question. States prohibited foreigners from serving as directors of the corporations chartered there. In response, some British investors hired American citizens to represent them on the board, but this extra layer between ownership and control had the predictable effect of adding principal-agent slack.

Foreign investors also had reason to fear that they would not be treated fairly under American bankruptcy law. They worried that companies might be wound up and their assets sold off to other claimants to the detriment of foreign investors.

Thus, America's experience before 1914 points up the importance for emerging markets seeking to attract foreign investment of transparent and equitable bankruptcy laws. This of course was the attraction of investing in the colonies, where bankruptcy law was familiar and creditor rights were relatively secure. Direct investment through free standing companies was another solution. Wilkins emphasizes not only the difficulty of obtaining "adequate and reliable information" but also the advantages of establishing the country doing business abroad under "source-of-capital country law" to minimize contracting problems. British shareholders could be confident of their rights because the free standing company was subject to British law.

3.3.3. The Absence of Adequate Accounting Standards

While difficulties of contract enforcement may have been a significant deterrent to foreign investment, asymmetric information was the overwhelming important obstacle to

international capital flows.³⁵ And these information problems were compounded by the inadequacy of prevailing auditing and accounting standards. In particular, British investors were deterred from investing in the United States by the underdevelopment of American accounting practices.

In the U.S. case both market discipline and regulatory intervention were needed for the adoption of generally-accepted accounting principles. Market discipline was applied by British investors, who insisted on the transfer to the United States of accounting practices accepted in Britain. Their preferred agent for the transfer was the British chartered accountancy firm. Another source of market discipline was the New York Stock Exchange, which from the turn of the century required the publication of standardized balance sheets by all entities whose securities were accepted for listing.

But market discipline was not enough. In addition there was the need for regulatory intervention, starting with the Interstate Commerce Commission, which required the railroads it regulated to provide information using standardized accounting practices from the 1880s, and culminating in the regulations imposed by the Securities and Exchange Commission in 1933.

The United States' own experience suggests that the development of a uniform, transparent accounting standard is no mean task. It suggests that market discipline and government intervention are both needed to yield the desired result. International investors can be an important source of that market discipline, and international accounting firms can be efficient agents of technology transfer. But until that transfer is effected, the integration of the domestic financial markets with their foreign counterparts will necessarily remain incomplete.

³⁵ As also emphasized by Davis and Gallman (1999).

3.3.4. Macroeconomic Risks

A number of observers emphasize exchange risk, unstable and uncertain monetary and fiscal policies, and political risk as factors limiting pre-1913 international investment flows. Madden (1985, p.255) emphasizes the importance of a stable standard of value, stating that it is “of course common knowledge” that British investors viewed securities issued by countries not on the gold standard as riskier than those of countries that were. Many foreign securities issued in London were denominated in sterling and specified that principal and interest were payable in sterling (or in foreign currency convertible into sterling at a fixed rate of exchange), but in this case exchange rate fluctuations created credit risk instead of currency risk. (Currency depreciation might push the borrower into bankruptcy by raising the value of his debt service payments relative to his income stream.³⁶) In the case of government bonds, the fear was that governments off gold would succumb to the temptation to live beyond their means. For example, Baring’s had unusual difficulty in placing U.S. government bonds in the second half of the 1860s, since investors feared that profligacy of the government operating under a fiat money regime would precipitate a financial crisis and force it to repudiate the debt. The Bland Bill of 1877, which raised the specter of large-scale silver coinage, similarly caused British investors to liquidate their U.S. government securities in favor of colonial bonds with interest and principal guaranteed in sterling. Again in the early 1890s, the possibility of free silver coinage led foreign investors to liquidate their holdings of U.S. securities and to a rise in the premia on U.S. bonds and foreign exchange. Bordo and Rockoff (1996) (1998) find that the effect was general: loans

³⁶ This phenomenon will be familiar to observers of the Asian crisis. There, banks which were prohibited from maintaining open foreign positions and which therefore offset their foreign-currency liabilities by making foreign-currency loans to domestic corporations simply substituted credit risk for currency risk.

to countries with a fluctuating standard of value commanded significantly higher interest rates in both the 1870-1914 gold standard and 1925-1931 gold exchange standard periods.

4. Financial Crises Then and Now

The recent experiences of international crises in emerging markets in Latin America and Asia leads to the impression that financial crises are a phenomenon of the current age of globalizing capital markets. In fact this is not the case, the world has seen waves of crisis since the advent of capitalism and the earlier era of globalization before 1914 witnessed similar patterns of capital inflows, lending booms, followed by capital outflows and lending busts.

4.1. Historical Narrative

The classic case with resonance for today is Latin America's experience with lending booms and busts prior to 1914 (Marichal 1989). The first wave of British capital flows to the new states of the region to finance infrastructure and gold and silver mines ended with the crisis of 1825. British investors had purchased Latin American stocks and bonds, some of which were in nonexistent companies and even countries, with gay abandon (Neal 1997). The boom ended with a stock market crash and a banking panic. The new countries defaulted on their debts and lost access to international capital markets for decades, until they renegotiated terms and began paying into arrears (Cole, Dow and English 1995.)

The second wave of foreign lending to Latin America in the 1850's and 1860's was used to finance railroadization and ended in the 1873 financial crisis. Faced with deteriorating terms of trade and a dearth of external finance, countries defaulted on their debts.

The third wave in the 1880's involved massive flows from Britain and Europe generally to finance the interior development of Argentina and Uruguay; it ended with the crash of 1890,

leading to the insolvency of Baring's the famous London merchant bank. Argentine state bonds went into default, a moratorium was declared, and flows to the region dried up for half a decade. In the wake of the Baring Crisis, financial distress in London and heightened awareness of the risks of foreign lending worsened the capital-market access of other "emerging markets" like Australia and New Zealand. The next wave of capital flows to emerging markets started up only after the turn of the century, once this wreckage had been cleared away.

Latin experience may be the classic, but the United States also experienced lending booms and busts.³⁷ The first wave of British capital in the 1820's and 1830's went to finance canals and the cotton boom. It ended in the depression of 1837-1843 with defaults by eight states, causing British investors to shun U.S. investments for the rest of the decade.

The second wave followed the U.S. Civil War and was used to finance westward expansion. The threat that the country would abandon gold for silver precipitated capital flight in the mid-1890's but, unlike the Latin case, did not lead to the suspension of convertibility or an extended reversal of capital flows.

Financial crises in this period were precipitated by events in both lending and the borrowing countries.³⁸ A number of crises began in Europe due to harvest failures. On several such occasions (1837, 1847, 1857) the Bank of England raised its discount rate in response to an external drain of gold reserves. This had serious consequences for capital flows to the New World. Thus, the 1837 crisis spread to North America via British intermediaries that financed the export of cotton from New Orleans to Liverpool, leading to the suspension of specie

³⁷ See DeLong (1999).

³⁸ See Bordo and Murshid (2000) for evidence on the international transmission of financial crises and contagion

convertibility by the United States and to bank failures across the country.

Not all crises originated in the Old World. Some emanated from Latin America, where they were precipitated by supply shocks that made it impossible for commodity-exporting countries to service their debts, and by expansionary monetary and fiscal policies adopted in the effort to protect the economy from the consequences. Some were triggered by financial instability, especially in the United States, a country hobbled by a fragile unit banking system and lacking a lender of last resort. These crises in the periphery in turn infected the European core. Classic examples include the Argentine crisis of 1889-90 and the U.S. crises of 1893 and 1907.

A fourth wave of flows to emerging markets (and to the “re-emerging markets” of Europe) occurred in the 1920’s after leadership in international financial affairs shifted from London to New York. (Bordo, Edelstein and Rockoff 1999). It ended at the end of the decade with the collapse of commodity prices and the Great Depression. Virtually all countries, with the exception of Argentina, defaulted on their debts. Private portfolio capital did not return to the region for four decades.

These interwar crises were greater in both severity and scope. They were tied up with the flaws of the gold-exchange standard. Compared to the pre-war gold standard, the credibility of the commitment to gold convertibility was weak, and capital flows were not as stabilizing. This fragile system came under early strain from changes in the pattern of international settlements, reflecting the persistent weakness of primary commodity prices and the impact on the current account of reparations and war-debt payments.

Hence, when the Great Depression hit, banking panics spread via the fixed exchange rates

effects from 1880 to the present.

of the gold-exchange standard. Countries were only spared the ravages of depression when they cut the link with gold, devaluing their currencies and adopting reflationary policies.

The Bretton Woods System established in reaction to the problems of the interwar period placed limits on capital mobility. In response to the interwar experience with banking crises, governments created elaborate systems of regulation to reduce risk-taking in the domestic financial sector and constructed a financial safety net in the form of deposit insurance and lenders of last resort. The result was virtually no banking crises for the better part of four decades.

Crises under Bretton Woods were strictly currency crises, in which speculators attacked countries that attempted to defend exchange rates inconsistent with their domestic macroeconomic and financial policies. These attacks ended either in devaluation or, on occasion, in a successful rescue mounted by international authorities (the IMF and the G-10). This contrasts with the Victorian Era, when there were fewer “pure currency crises” (unaccompanied by banking crises) except at the outbreak of wars.

4.2. Incidence and Severity of Crises

How does the record of recent emerging market crises compare with that of earlier times? Bordo and Eichengreen (1999) provide an answer to that question. They show the behavior of real GDP growth in a window five years before a crisis and five years after a crisis for 15 emerging countries and 6 advanced countries in the period 1880-1913--a period when capital flowed as freely as it does today³⁹ – compared to a sample of 10 emerging market countries

³⁹ The countries, which include many of today’s advanced countries, are: Argentina, Australia, Brazil, Canada, Chile, Denmark, Finland, Greece, Italy, Japan, Norway, Portugal, Spain, Sweden, and Switzerland.

experiencing crises in the past 25 years.⁴⁰

Crises are defined as both currency and banking crises⁴¹ that were identified from historical narratives. In addition, as an alternative indicator of a currency crisis, Bordo and Eichengreen used an index of exchange market pressure.⁴² They included 22 crises in emerging market countries (and 7 in their advanced industrial counterparts) prior to 1914. For the period since 1972, they identified 30 crises in 10 emerging market countries.

The incidence of emerging market crisis today is considerably higher than in the earlier period, at 11.5% per country year versus 4.3% for the earlier period.⁴³

The measure of the severity and duration of a crisis was the extent to which the annual GDP growth rate deviated from trend on its account and then recovered. Specifically, for each country Bordo and Eichengreen calculated the growth rate in the crisis year relative to its trend

⁴⁰ The countries are: Argentina, Brazil, Chile, Indonesia, Korea, Malaysia, Mexico, Philippines, Singapore, and Thailand.

⁴¹ For an episode to qualify as a banking crisis, there had to be either bank runs, bank failures and the suspension of convertibility of deposits into currency (a banking panic), or else significant banking-sector problems (including failures) that are resolved by a fiscally-underwritten bank restructuring.

This allowed Bordo and Eichengreen to distinguish between liquidity crises before 1914 in which lender-of-last-resort intervention was either absent or unsuccessful, and events (like those typical of more recent years), where a lender of last resort or deposit insurance was in place and the main problem was bank insolvency. In fact, however, a number of banking crises which occurred in Europe before 1914 did not involve panics and in this respect were not dissimilar from episodes occurring more recently. For an episode to qualify as a currency crisis, there had to be a forced change in parity, the abandonment of a pegged exchange rate, or an international rescue.

⁴² It is calculated as a weighted average of the percentage change in the exchange rate with respect to the core country (the UK before 1914, the US thereafter), the change in the short-term interest rate differential with respect to the core country, and the difference in the percentage change in reserves of a given country and the percentage change in reserves of the core country.

This builds on the exchange-market-pressure model of Gorton and Roper (1977), following the methodology of Eichengreen, Rose and Wyplosz (1995, 1996).

An episode is counted as a currency crisis when it shows up according to either of these indicators.

⁴³ Note however that the post-1972 sample was not selected randomly; the 10 countries considered were selected as the subjects of well-known crises. Using a similar chronology, that underlying Chapter IV of the World Economic Outlook, May 1998, for a larger sample of 30 emerging countries, the incidence is somewhat higher than ours. This reflects a larger number of crises in the WEO sample. However, the incidence of twin crises in our sample greatly exceeds that in the larger WEO sample.

over the five years preceding the crisis, crisis-year growth relative to its three-year trend preceding the crisis; the difference between crisis-year growth and the preceding year's growth rate; the difference between growth the year following the crisis and the crisis-year growth rate; the difference between the three-year trend growth rate following the crisis and the crisis-year growth rate; and finally the difference between the five-year trend growth rate following the crisis and the crisis-year growth rate.

Table 2, adapted from Bordo and Eichengreen (1999), presents summary statistics of cross-country averages of the growth rates calculated as described above for the emerging market countries for the pre-1914 and post-1972 periods. (Also see Figure 7). A key fact is that the output effects of banking and financial crises in emerging market countries were somewhat more severe in the recent period compared to the pre-1914 period. Whereas growth declined by 3 percentage points relative to trend in the typical post-1972 crisis, the comparable number for emerging markets in the pre-1914 period was 2 percentage points. The contrast is sharpest for twin crises (combinations of both banking and currency crises), which have been exceptionally disruptive since 1972 (when the average decline in the growth rate was 5 per cent) but were less so prior to 1914 (when the average drop was again "only" 2 percent). Whatever the contrast, however, these differences are not large.⁴⁴

By these measures, the fall in output in the recent Asian crisis was especially steep: Korea's growth rate declined 7 percentage points below its pre-crisis five-year-average growth rate, 8 percentage points below its three year pre-crisis average and 7 percentage points from the

⁴⁴ While crises may have been somewhat less severe on average before 1914 than today, t-tests of the differences of means do not permit us to reject the null that the severity of downturns was the same across periods.

year preceding the crisis. Indonesia's performance was similar, while Thailand's was the worst (at minus 13, 13, 11 percentage points respectively). The severity of these countries' crises in 1997-1998 is well known; the point here is that their recessions were dramatic relative to the typical crisis in emerging markets prior to 1914.

How does recent Asian experience compare with the worst of the pre-1914 era? The two most infamous pre-World War I crises in emerging market countries, the US in 1893 and Argentina in 1890, were even worse than Asian crises in recent years.⁴⁵ For the US, growth during the crisis year declined by 9 percentage points relative to its previous five-year trend, 12 percentage points below its three-year pre-crisis trend, and 14 percentage points from the pre-crisis year. For Argentina the numbers are even more dramatic if the conventional statistics are to be believed: minus 17%, 20%, 24%, with recovery in growth not complete after 5 years.⁴⁶

The experience of the six advanced countries in the pre-1914 period in general was much more peaceful than that of the emerging market countries, with the exceptions of currency crises in Germany in 1903 and 1907 associated with large drops in growth relative to trend, and severe twin crises in France in 1889 (Bordo and Eichengreen 1999, Table 1).

Table 2 also suggests that emerging market countries recovered more quickly from currency crises before 1914 than after 1972. Before 1914, the growth rate rose by 2 percentage

⁴⁵ Categorizing the United States as an emerging market is likely to be controversial. Our categorization follows Eichengreen (1992), which classes the U.S. as a "peripheral" country prior to 1913 on the grounds that it was dependent on capital imports for much of the period, lacked a lender of last resort to backstop domestic financial markets, and was not fully committed to the maintenance of gold convertibility, and thus not the recipient of stabilizing capital flows. For a contrasting interpretation, see Bordo and Schwartz (1996).

⁴⁶ Two other famous emerging financial crises associated with serious real effects were those in Australia in 1893 and the US in 1907-08. The exceptional severity of these episodes should serve as a warning that generalizations about the pre-1914 period must be drawn cautiously, since that period appears to have featured a small number of extraordinarily severe crises along with numerous milder episodes. This is another way of understanding why it is difficult to reject the null that the severity of crises was the same across periods; the standard deviation of the fall in

points between the crisis year and the three years following; after 1972, the growth rate failed to rise at all. In contrast, the recovery from banking crises starts earlier in the modern period, in the first post-crisis year as opposed to the second or third. This is true whether or not banking crises were accompanied by currency crises.

Explanations for these contrasts between the pre-1914 and post-1972 era refer to a number of factors. Faster recovery before 1914 could be attributable to adherence, or attempted adherence, to the gold standard rule. Prior to 1914, countries driven off the gold standard generally intended to restore convertibility at the previously-prevailing exchange rate once the crisis passed. While investors who held domestic-currency-denominated assets suffered losses when the exchange rate collapsed, they anticipated gains as the currency recovered to its traditional parity (Miller (1996 ,1998). To put the point another way, insofar as the authorities were committed to reestablishing the previous rate of exchange, there was little reason to fear that abandoning the currency peg would unleash uncontrolled inflation. Hence, devaluation did not incite persistent capital flight. Rather, gold and capital began flowing back in at a relatively early date, stabilizing the economy and stimulating recovery.⁴⁷

The slower recovery from banking crises in the early period may reflect the absence of effective lenders of last resort, capable of restoring depositor confidence, stabilizing supplies of money and credit, and sustaining the provision of financial services to the economy. The US crises of 1893 and 1907, which were greatly aggravated by the absence of last-resort lending

output was large, reflecting the aforementioned heterogeneity, relative to the mean, both before 1914 and after 1972.

⁴⁷ See DeLargy and Goodhart (1999).

(leading in turn to the establishment of the Federal Reserve), make this point.⁴⁸

One could also argue that regulatory forbearance and central bank bailouts have adverse long-term effects by weakening market discipline and leading to a less efficient allocation of capital. Indeed, there is some suggestion of this in the data: while recovery from banking crises is initiated earlier in the post-1972 period, the subsequent expansion accelerates less dramatically and is sustained less successfully, as if market discipline and the efficiency with which credit is allocated are less pronounced (than in comparable episodes a hundred years ago).

This comparison ignores the fact that profound banking problems in the recent crisis countries had not been resolved when, according to the data, recovery began, e.g., Mexico, Korea, Thailand.

Finally, the fact that the decline in real growth was greater on average in today's crises may just reflect the presence of the safety-net provided by the IMF and other IFI's. The belief that emerging market countries would be bailed out may have encouraged more capital to flow in than would have been the case in the absence of the safety net. Hence the reversal of capital flows and their effects on the real economy became more serious.⁴⁹

The interwar years, as is well known, were notoriously crisis-prone: the incidence of crisis per country-year was ten percent. The drop in output following crises was exceptionally sharp, for both advanced and emerging market countries, exceeding that for emerging market countries today. The difference between the interwar and the two aforementioned periods (pre-

⁴⁸ So does the fact that recovery from banking crises and twin crises was on average initiated earlier in the advanced countries than in the prewar emerging market countries, given the fact that lender-of last resort capacity was more highly developed in the center

⁴⁹ Indeed, Bordo and Eichengreen (1999) show that the swings in capital flows were larger in the recent compared to the earlier crises.

1914, and post-1972) was the exceptional severity of the banking and twin crises of the 1930s. This was of course Friedman and Schwartz's (1963) explanation for the severity of the Great Depression in the United States, which they attributed to the failure of the Federal Reserve to act as a lender-of-last-resort, in conjunction with the disappearance of the private lifeboat operations by the clearing house associations that were so important before the war. The twin-crises version is the explanation for the exceptional depth of the global slump elaborated by Bernanke and James (1991). The crises of the interwar period however were not crises associated with globalization--lending booms and busts. They were crises of global macro instability and a flawed exchange rate.

Under Bretton Woods, crises were mild. There were no banking crises in our sample, reflecting the restrictions imposed on banking systems in response to the disasters of the 1930s. While currency crises continued to occur despite the adoption of restrictions on capital mobility, their output effects were mild by the standards of the pre-1914 and interwar periods. This plausibly reflects the more limited scope for capital flight in the controlled financial environment of the 1950s and 1960s, and the greater scope for central banks to continue pursuing policies to sustain output and demand behind the shelter of controls. Those recessionary effects were more pronounced in emerging market than advanced economies, but the contrast is less than in either of the preceding periods, plausibly reflecting the prevalence of capital controls and the quiescence of international financial markets.⁵⁰ Thus, like the interwar, crises in this period were

⁵⁰ Bordo and Eichengreen (1999) also examine the behavior of a number of ancillary variables: net exports; money growth; and real interest rates across the four regimes. In general the evidence for these variables supports that of DeLargy and Goodhart (1999) that adherence to the resumption role of the classical gold standard did make a difference for countries facing a currency crisis – the current account reversed more quickly and real interest rates spiked more quickly compared to the recent spate of crises.

not a product of the open capital markets of globalization but were related to the flaws of the adjustable peg regime.

5. International Rescues

Many of the currency crises of the past ended with a devaluation of the currency, on some occasions countries held sufficient reserves to successfully stave off the attack, while some crises were averted by international rescues.

In the period before World War II, rescue loans to central banks and sovereign governments were often arranged by or intermediated by private investment banks, such as Rothschilds, Barings, and J.P. Morgan. Since World War II, all of the rescues have been arranged by official monetary authorities, or international agencies, the IMF, BIS, and the World Bank.

5.1. The Classical Gold Standard

In the century before World War I, frequent short-term loans were made to central banks and other monetary authorities to relieve pressure on their reserves during financial crises (Bordo and Schwartz, 1990). The recipients of these loans were primarily the advanced countries of Western Europe, with rare exception the emerging countries were not rescued. In virtually every case, rescue loans were made on commercial terms to central banks that had a record of solvency and of credible adherence to specie convertibility. The loans were regarded as a supplement to or, in some case, as a substitute for other remedial actions designed to replenish the monetary authorities' reserves, such as raising the discount rate and credit rationing. In many cases the loans were made on a reciprocal basis. Thus in the period from 1825 to 1914, on many occasions the Banque de France established temporary credits to the Bank of England and vice versa

(Bordo and Schwartz 1999).

Two episodes from the pre 1914 era with resonance for today are the Baring Crisis of 1890 and the U.S. silver crisis of 1895. The Bank of England averted a panic following the failure of the House of Barings in November 1890 resulting from a debt default in Argentina, whose securities it had underwritten, by arranging a 'lifeboat' operation, whereby the government guaranteed loans by London banks to recapitalize Barings. The Bank's share in the rescue would have depleted its gold reserves sufficiently to threaten convertibility. In addition to raising the discount rate, the Bank protected its reserves by borrowing £2 million in gold from the Banque de France, the Rothschilds acting as intermediaries. Subsequently, it borrowed a further £1million. The Imperial Bank of Russia also agreed to provide £1.5 million of German gold coins. British Exchequer bonds served as a collateral for each of the loans. The news as much as the fact of the loans restored confidence.

In the second episode, a U.S. budget deficit after 1890 and the issue of legal tender Treasury Notes of 1890, redeemable in silver coin, that the Sherman Silver Purchase Act of 1890 mandated, created uncertainty about the convertibility of the U.S. dollar into gold. In January 1895, a run on gold in exchange for legal tenders reduced the Treasury's reserve to \$45 million. In February 1895, the Treasury secretary contracted with the Belmont-Morgan banking syndicate, to market a 4% bond issue, and provide the Treasury with a 6-month short-term interest-free gold credit to restore the gold reserve. During the five months after the contract was signed, no gold was withdrawn from the Treasury.

5.2 The Interwar

The regime that was restored from 1924 to 1936 was a gold exchange standard that

differed profoundly from the pre-1914 gold standard. Flaws in the structure and inappropriate policies by its members meant that whatever attempts at rescues that were made when crises struck in 1931 were doomed from that start.

A rescue package from the Bank for International Settlements was insufficient to stem the crisis facing Austria after its bailout of the insolvent Credit Anstalt in May 1931. A second rescue attempt by the Bank of England also followed. The crisis then spread to Germany. The Reichsbank then sought and obtained an international loan of \$100 million (\$24 million each from the Bank of England, Banque de France, Federal Reserve Bank of New York, and the BIS) on June 25. The loan proved insufficient to stem the speculative attack. A second loan for \$1 billion foundered in the face of opposition by both the Banque de France and the Federal Reserve. The external drain was finally halted by the announcement of a standstill agreement on July 20 and the imposition of exchange controls.

The final act of the crisis was a speculative attack on sterling. The combination of the continental banking crisis, which froze debts payable to British banks, and a worsening current account deficit and growing budget deficit placed mounting pressure on the Bank of England's gold reserves. Bank rate was raised twice in July from 2.5% to 4.5%. In the final week of July 1931, the Bank of England obtained matching credits of £25 million from the Banque de France and the Federal Reserve Bank of New York. The amount was inadequate to halt the run. Further loans to Britain of \$200 million each from a syndicate formed by J.P. Morgan in New York and a syndicate in Paris also proved inadequate. With reserves dwindling, the Government suspended convertibility on 19 September.

5.3 Bretton Woods

The framers of the Bretton Woods agreement in July 1944 established an international monetary framework that would overcome the perceived problems of the interwar period, especially the perceptions that capital flows (hot money movements) were a key source of the instability of the 1930s and that international cooperation had failed. Free capital mobility was not encouraged. The International Monetary Fund was established to provide temporary assistance to countries with current account imbalances. A precedent to IMF lending was the U.S. Treasury Exchange Stabilization Fund established in 1934. ESF stabilization loans date from 1936, initially to Latin American countries (e.g. Mexico 1936, 1938)⁵¹

The Bretton Woods era was marked by currency crises that affected countries with parities inconsistent with domestic policies and competitive trends. The crises were resolved either by devaluations, revaluations, or by IMF or G-10 rescue loans. In two instances (sterling, November 1967, and the dollar, August 1971) currencies that were under attack succumbed, despite rescue loans for the former and varied devices to protect US gold reserves. In several other instances (the Canadian dollar, June 1962, the lira, March 1964), the rescue loans were successful. As the resources required for rescues mounted, the Bretton Woods system fell apart, a dissolution that the policies of the US, the center country compelled (Bordo and Schwartz 1999).

5.4. Recent Rescues

Rescue loans before the 1990s were made in an attempt to prevent a devaluation or the abandonment of a pegged exchange rate by the core advanced countries. They were temporary loans, at commercial market rates, limited in magnitude, but sufficient to offset a current account

⁵¹ According to Gold (1988), the IMF is an offshoot of the ESF. Many of its procedures were developed there.

deficit.

Rescue loans in the 1990s have been extended to emerging market countries (Mexico 1994, Thailand, Indonesia and Korea 1997-8) and to Russia, a country in transition from a command economy.⁵² The loans have been multiples of the amounts that were granted in the past (see Bordo and Schwartz 2000). The recent loans are intended to offset a capital account outflow, the effect of which was to endanger repayment of the lenders. The size of the loan was enough to provide the wherewithal to repay foreign and domestic lenders of foreign currency, involving a wealth transfer from the recipient taxpayers to wealthy investors. In this sense they represent bailouts and not simply rescue loans.

The chief indictment of the bailout model of international lending is that it promotes moral hazard. In the crisis countries, investors believed that there was an implicit government guarantee against failure of banks. If banks were threatened because depositors wanted foreign exchange for domestic deposits, governments would provide it until their foreign exchange reserves were exhausted. When foreign bank deposits were no longer guaranteed, investors decamped (Dooley 1997). International loans then replaced government guarantees. Lenders presumed that, whether or not the resources they provided were put to prudent use, they were not at risk. Borrowers presumed that, if there were a reversal of the conditions that invited the inflow of funds, their debts would be repaid by others or drastically discounted. Indeed, the rescues of the second golden age differed from those of the earlier one not primarily because the lender changed from private banks to international financial institutions but because the underlying

⁵² The debt crisis of the 1980s is not a precursor to the bailout loans of the 1990s. In the 1980s US money center banks were saved from closures by the actions of the IMF and the US monetary authorities but they were not bailed out in the sense that they were not saved from major losses on their loans to the emerging market countries.

environment changed. It changed from one where insolvent borrows were allowed to default and insolvent banks to fail to one where “too big to fail” is the norm.

Have the recent rescues been successful? Some argue the Mexican rescue (as well as Thailand and Korea) was successful because the IMF and other creditors are being repaid and growth is recovering quickly to pre crisis levels. Yet the debt burdens to be serviced by the taxpayers of these countries are immense. Moreover recent empirical evidence suggests that, on average over the 1973-1998 period, that countries receiving IMF assistance in financial crises fared no better in terms of real growth, the level of real per capita GDP, or real consumption, than comparable countries which were not rescued (Bordo and Schwartz 2000). This comparison accounts for the self-selection bias that countries which turn to the Fund have special characteristics distinguishing them from those that do not.

The question then arises whether, with the resurgence of the international financial markets in recent years described in Section 2 above, why can't the private capital markets handle the rescues of emerging countries through e.g. advance lines of credit (Feldstein 1998). Moreover if countries knew that they were not to be rescued, or that the amounts forthcoming would be insufficient to cover both interest and principal, then why wouldn't they hold large reserves as did Taiwan or make other arrangements.

6. Globalization, Crises and Backlash

The recent spate of financial crises has led to cries by some for capital controls and the slowing down of the integration process. Others argue that at the very least, the liberalization of countries that still have significant barriers to free capital mobility should not be encouraged until significant financial sector reforms involving greater transparency, and adequate supervision and

regulation facilities are instituted. It is argued that the benefits to economic welfare and growth of liberalization may not be worth the costs of the crises.

The recent case for reimposing controls to prevent crises is based on the argument that asymmetric information fosters lending booms which can suddenly collapse in the face of a sudden change in market sentiment, which may or may not reflect fundamentals (Rodrik 1998). Herding behavior creates a massive capital flow reversal. In turn contagion effects lead to massive capital flows from neighboring countries facing similar economic problems and even from emerging countries which do not.

The case against imposing controls in general is that it prevents the optimal allocation of resources, it prevents optimal portfolio diversification, it encourages irresponsible macro policy and it leads to corruption (Cooper 1998).

The proposals for controls range from preventive controls on outflows to alleviate balance of payments pressure before a crisis; temporary controls on outflows (curative controls) imposed during a crisis, e.g. Malaysia; and controls on capital inflows to prevent a crisis, e.g. Chile (Edwards 1999).

What is the evidence on the effectiveness of capital controls? Edwards (1999) presents a convincing case based on the Latin American experience that preventative controls on capital outflows are largely ineffective because they are easily evaded, lead to corruption and to bad policies. Curative crisis controls also were associated with unsatisfactory GDP growth following the crisis (Edwards 1999 p. 9).

The most prominent recent example of controls on capital inflows is that of Chile which on two occasions in the past two decades has required foreigners wishing to invest in the country

to hold non-interest bearing deposits at the central bank. According to Edwards (1999) the controls were successful in lengthening the maturity structure of foreign indebtedness and hence reducing vulnerability to sudden reversals, but that this was achieved at the expense of a higher cost of capital especially to small and medium sized firms. The controls also did give the monetary authorities extra independence to pursue policies that could help insulate the domestic economy from external shocks but the evidence on how protected Chile's financial markets were from contagion during the recent Asian crisis is mixed: the volatility in stock prices declined but not the volatility of short-term interest rates.

What about the effects of the liberalization of capital controls on growth? According to Rodrick (1998) based on a panel regression for 23 countries 1993 to 1996, "capital controls are essentially uncorrelated with long-term economic performance once we control for other determinants."⁵³ The historical evidence is mixed. Bordo and Eichengreen (1998) based on a panel regression, found that the hypothetical removal of capital controls during the Bretton Woods period 1959-1973 would have had negligible effects on the growth rates of industrial countries but weak positive effects on the growth of emerging countries.⁵⁴ Moreover the historical pattern of growth rates, financial crisis incidence and the presence or absence of controls is also mixed. In the pre-1914 period, a regime without any capital controls, the incidence of currency crises in both advanced and emerging countries was considerably less than under Bretton Woods, (a regime with capital controls and twice the growth rate) (Bordo and

⁵³ Edwards (1999) criticizes the IMF index of capital controls used in the study as too general to pick up country specific restrictions.

⁵⁴ Also see Klein and Olivei (1999) who present evidence for a panel of advanced and emerging countries for the past two decades showing that capital account liberalization raised growth rates via a financial deepening effect for the advanced countries but not for the emerging countries.

Eichengreen (1999)).

In summary, more research is needed to determine whether the incidence of crises affects long-term growth and whether using controls to suppress them really matters one way or the other. Indeed the problem may not be the capital inflows to emerging countries at all but what is done with them, whether they are used to finance productive investment, conspicuous consumption or somewhere in between. This is related in turn to the structure of the financial system including its regulation and supervision. Financial crises are more likely to happen in unsound financial environments. Whether this implies an orderly sequencing of reforms before capital markets are opened, or opening the capital markets and allowing the domestic financial system to be exposed to the light of day with a crisis as a wake-up call for reform, is another matter.

The argument over capital controls to prevent the crisis consequences of international financial market integration is part of a more general debate on globalization – whether its benefits to aggregate economic welfare may be outweighed by disruptive distributional effects. O’Rourke and Williamson (1999) provide comprehensive and convincing historical evidence on this issue from their analysis of the earlier golden age of globalization before World War I.

In that golden age, unprecedented mobility of goods, labor and capital contributed to rapid real growth. The growth of international trade reflected a reduction in tariff barriers in the third quarter of the nineteenth century and declining transportation costs throughout the century. Labor moved freely in waves of mass migration from the Old World to the New to take advantage of higher real wages. Capital, as discussed above, moved from the capital abundant regions of Western Europe to take advantage of the higher real returns in the resource rich lands

of New Settlement.

The consequence of trade and factor mobility in the Golden Age was the convergence of real wages and per capita real incomes between the core countries of Western Europe and much of the periphery. According to O'Rourke and Williamson (1999) and Williamson (1996) this reflected the operation of classical trade theory. Both factor flows and goods flows fostered factor price equalization. Most of the convergence in real wages (70%) is explained by factor movements, especially by labor mobility, (with mobile capital as a minor player); the rest (30%) according to the Hecksher-Ohlin theorem, by international trade.

These forces had important effects on the distribution of income. The massive migrations in the 1870-1914 period reduced the returns to land owners in the land scarce, labor abundant countries of Europe and at the same time worsened the income distribution in the countries of New Settlement, as unskilled immigrants competed with more established workers for jobs.

A political backlash ensued in each region. In the Old World, landowners successfully lobbied for the increased tariff protection of agriculture in the last two decades of the nineteenth century. In the New World, in the U.S., Canada, Australia and Argentina, labor was ultimately successful in closing the doors to migrants by the second decade of the twentieth century. The backlash to globalization in turn may have fanned the flames of nationalism and been a key cause of World War I.

As detailed in Section 3 above, the turbulent interwar period witnessed the virtual termination of capital mobility as nation states turned to protect their monetary sovereignty in the face of the Great Depression.

Today is another golden age of globalization. Should we worry about a backlash like that

which killed the first one. Compared to the earlier age, international labor mobility is not of great importance, whereas capital flows and trade are of significantly greater importance.

Moreover Williamson (1996) viewed capital flows in the pre-1914 period as partial substitutes for labor mobility in explaining the convergence of real wages. Thus there are some tendencies which could augur a back to the future backlash scenario.

On the other hand, the growth of international trade is more widespread than pre-1914 and hence the groups that may be harmed are outweighed by those that benefit from it. Moreover today there are more escape valves in trade legislation to relieve trade pressure than earlier (Bordo, Eichengreen and Irwin 1999). Also unlike in the pre-1914 era, trade disputes can be resolved by multinational agencies such as the WTO which were not present then (Irwin 1993). Finally most countries in recent years have learned to pursue stable macroeconomic policies in sharp contrast to the unstable macro environment which led to the shutting down of the capital markets in the interwar period.

7. Conclusion

What are the lessons from history from our survey of the record on the globalization of international financial markets?

First, financial market integration has followed a U-shaped pattern, declining in the middle years of the twentieth century from the high levels achieved before 1914 to similar or higher levels today. It took the restoration of macro stability by the advanced countries in the 1970's and 80's and specifically the resolution of the policy trilemma with the advent of floating exchange rates to allow the resurgence of capital mobility to take place. This record makes a

strong case for a floating exchange rate regime for the advanced countries. This does not rule out regional exchange rate arrangements like the ERM or emerging countries adopting a currency board or dollarization to establish credibility. The historical record, however, as developed here and in Obstfeld and Taylor (1998) makes the case for intermediate arrangements harder to defend.

Secondly, financial market integration is broader and deeper today than pre-1914. This largely reflects financial innovations to overcome barriers to asymmetric information. Also at work have been improvements in communications and government regulations to encourage transparency in financial markets.

Third, financial crises have always been part of the scene. They may be the product of asymmetric information. They most likely reflect shocks and inconsistent fundamentals. The effects of crises are and were worse in emerging countries (with the exception of the interwar period). This is the case because they: are financially underdeveloped; have thinner markets; have less diversified portfolios; have less effective supervision and regulation; have less well defined property rights and bankruptcy codes; and a greater proclivity to follow unstable macro policies. All of these features make them more prone to asymmetric information problems, lending booms and busts and banking crises.

This was the case in some emerging market countries before 1914. The U.S. is a stellar example. It was prone to periodic financial crises because of the unsound state unit banking system which prevented interregional portfolio diversification and because it did not have an effective lender of last resort, (although private arrangements such as the clearinghouses in many cities, did on occasion alleviate banking panics).

The lesson from the experience of emerging countries like the U.S., Australia, Canada and the Scandinavian countries that graduated to advanced status is to allow financial markets to develop and mature. This requires a set of rules including secure property rights, an effective lender of last resort and a sound macro policy environment. Some of these attributes can be imported by allowing financial institutions from advanced countries to operate freely in the emerging countries. Other develop with time.

Finally the case for an international lender of last resort to manage today's crises is not an obvious one. Today with extensive open private capital markets, many countries in distress can borrow what they need at market interest rates. There is less need for international rescues.

In the past, the international lender of last resort function was only a partial function, because then (as today) no international institution could issue high powered money. Before 1914 international rescues involved temporary loans between central banks on the basis of sound collateral, on commercial terms (Bordo and Schwartz (1998)). In the twentieth century, until the past two decades, rescues have been made by groups of countries, the IMF and the BIS, to countries facing temporary current account reversals. Today in the face of capital account reversals, the size of the rescues has increased dramatically as has the risk of moral hazard. In today's environment of open global capital markets the only role for an international crisis manager should be to provide liquidity to countries that cannot access the private capital markets, and then to lend short-term on the basis of sound collateral and at a penalty rate.

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Table 1

Bank and Bond Market Lending to Emerging Markets				
Functional Sectors	Number of Bonds	Value of Bonds (in US millions)	Number of Loans	Amount of Loans (in US millions)
Central Bank	77	18155.85	147	24897.091
Other Government	368	128080.44	294	39121.941
Infrastructure Investment	385	67695.01	879	110844.658
oil/coal/gas	153	28047.07	315	56226.715
energy-utility	107	21951.1	233	30414.017
others	125	17623.31	331	24203.918
Mining	10	664.04	87	10717.272
Finance (banks, etc)	1302	161610.12	1769	132049.471
Manufacturing	415	38504.02	946	66996.553
Service	241	26261.95	867	76545.381
TOTAL	3183	508592.91	5868	572017.017

Source: see Bordo, Eichengreen and Irwin (1999)

Table 2

**Fluctuations in Annual Growth Rates Around the Time of Crises:
Summary Statistics 1880-1913, 1973-1998: Emerging and Advanced Countries**

All Crises: mean (number of crises)

	15 Emerging Countries	10 Emerging Countries
	1880-1913 (22)	1973-1998 (30)
$g_{\text{crisis}} - g_{(-5)}$	-0.02	-0.03
$g_{\text{crisis}} - g_{(-3)}$	-0.01	-0.03
$g_{\text{crisis}} - g_{(-1)}$	-0.02	-0.03
$g_{(+1)} - g_{\text{crisis}}$	-0.02	0.02
$g_{(+3)} - g_{\text{crisis}}$	0.01	0.02
$g_{(+5)} - g_{\text{crisis}}$	0.03	0.03

Twin Crises: mean (number of crises)

	15 Emerging Countries	10 Emerging Countries
	1880-1913 (9)	1973-1998 (14)
$g_{\text{crisis}} - g_{(-5)}$	-0.02	-0.05
$g_{\text{crisis}} - g_{(-3)}$	-0.02	-0.05
$g_{\text{crisis}} - g_{(-1)}$	-0.02	-0.05
$g_{(+1)} - g_{\text{crisis}}$	-0.00	0.03
$g_{(+3)} - g_{\text{crisis}}$	0.01	0.05
$g_{(+5)} - g_{\text{crisis}}$	0.02	0.05

Table 2 Continued

Part C: Banking Crises: means (number of crises)

	15 Emerging Countries	10 Emerging Countries
	1880-1913 (8)	1973-1998 (5)
$g_{\text{crisis}} - g_{(-5)}$	-0.02	-0.03
$g_{\text{crisis}} - g_{(-3)}$	-0.02	-0.03
$g_{\text{crisis}} - g_{(-1)}$	-0.03	-0.02
$g_{(+1)} - g_{\text{crisis}}$	-0.03	0.02
$g_{(+3)} - g_{\text{crisis}}$	0.00	0.02
$g_{(+5)} - g_{\text{crisis}}$	0.05	0.01

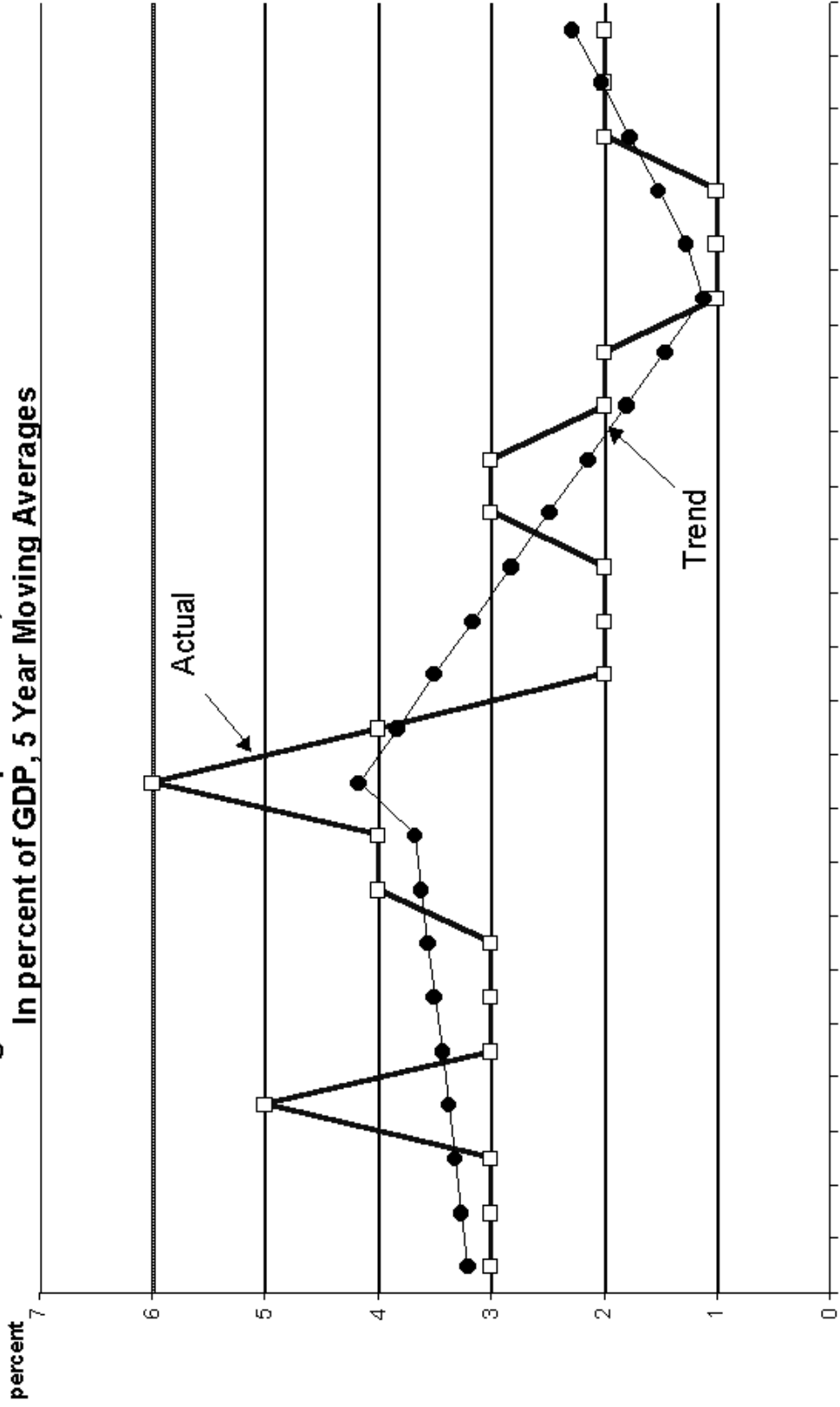
Currency Crises: means (number of crises)

	15 Emerging Countries	10 Emerging Countries
	1880-1913 (5)	1973-1998 (11)
$g_{\text{crisis}} - g_{(-5)}$	0.00	-0.02
$g_{\text{crisis}} - g_{(-3)}$	0.03	-0.01
$g_{\text{crisis}} - g_{(-1)}$	-0.01	-0.00
$g_{(+1)} - g_{\text{crisis}}$	-0.03	0.01
$g_{(+3)} - g_{\text{crisis}}$	0.02	0.00
$g_{(+5)} - g_{\text{crisis}}$	0.00	0.01

Note: g_{crisis} is the annual growth rate of real GDP at the crisis year. $g_{(N)}$ is the average annual growth rate of real GDP N years before (-) or after (+) the crisis.

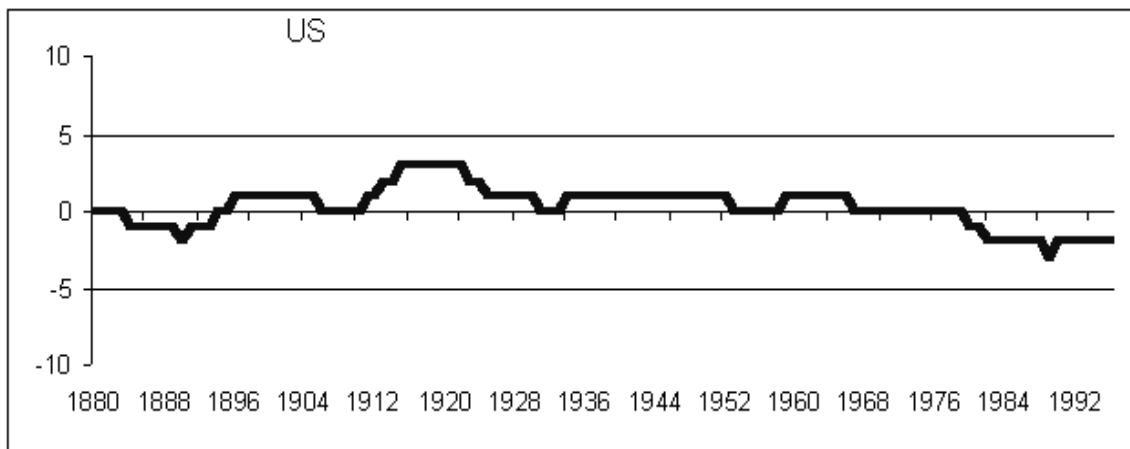
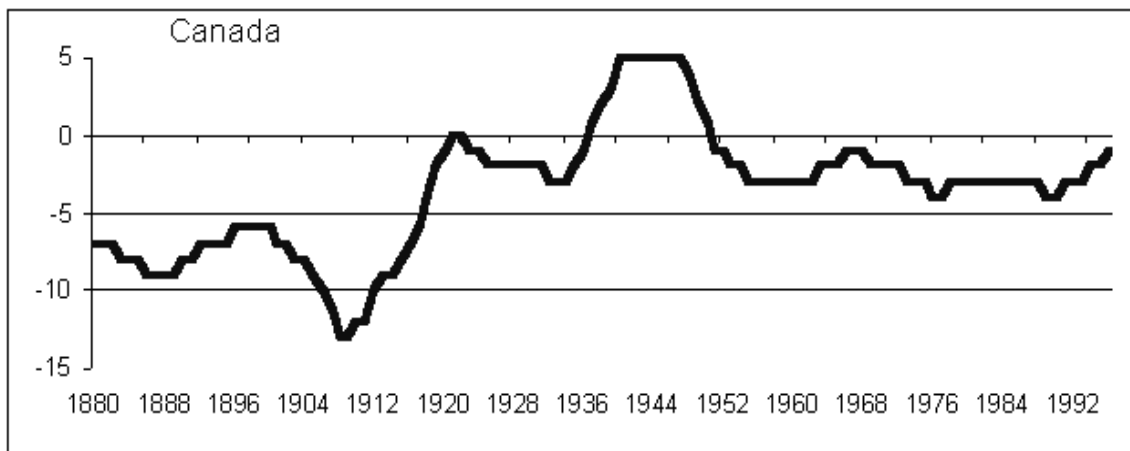
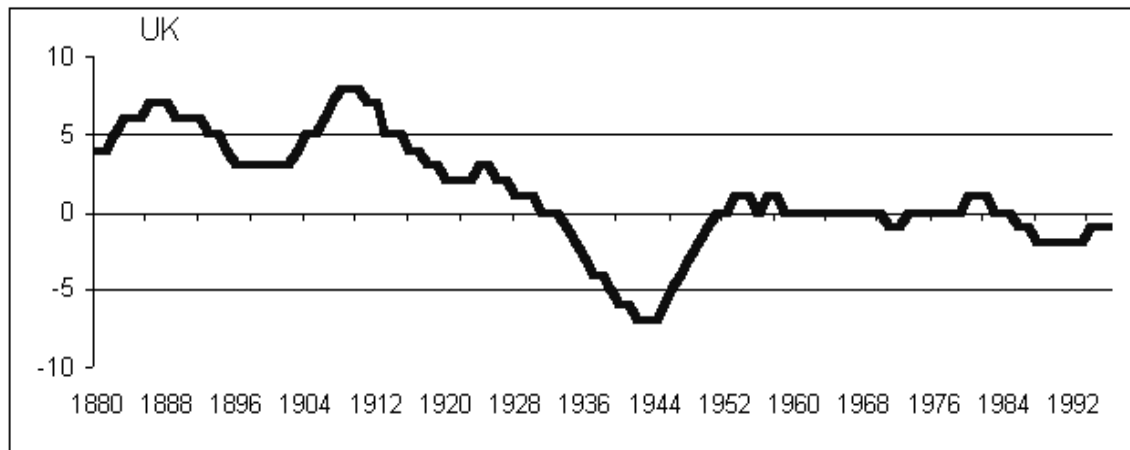
Data Sources: Bordo and Schwartz (1996) data base, IFS CD-ROM (1999).

**Figure 1. External Capital Flows, Selected Countries
In percent of GDP, 5 Year Moving Averages**



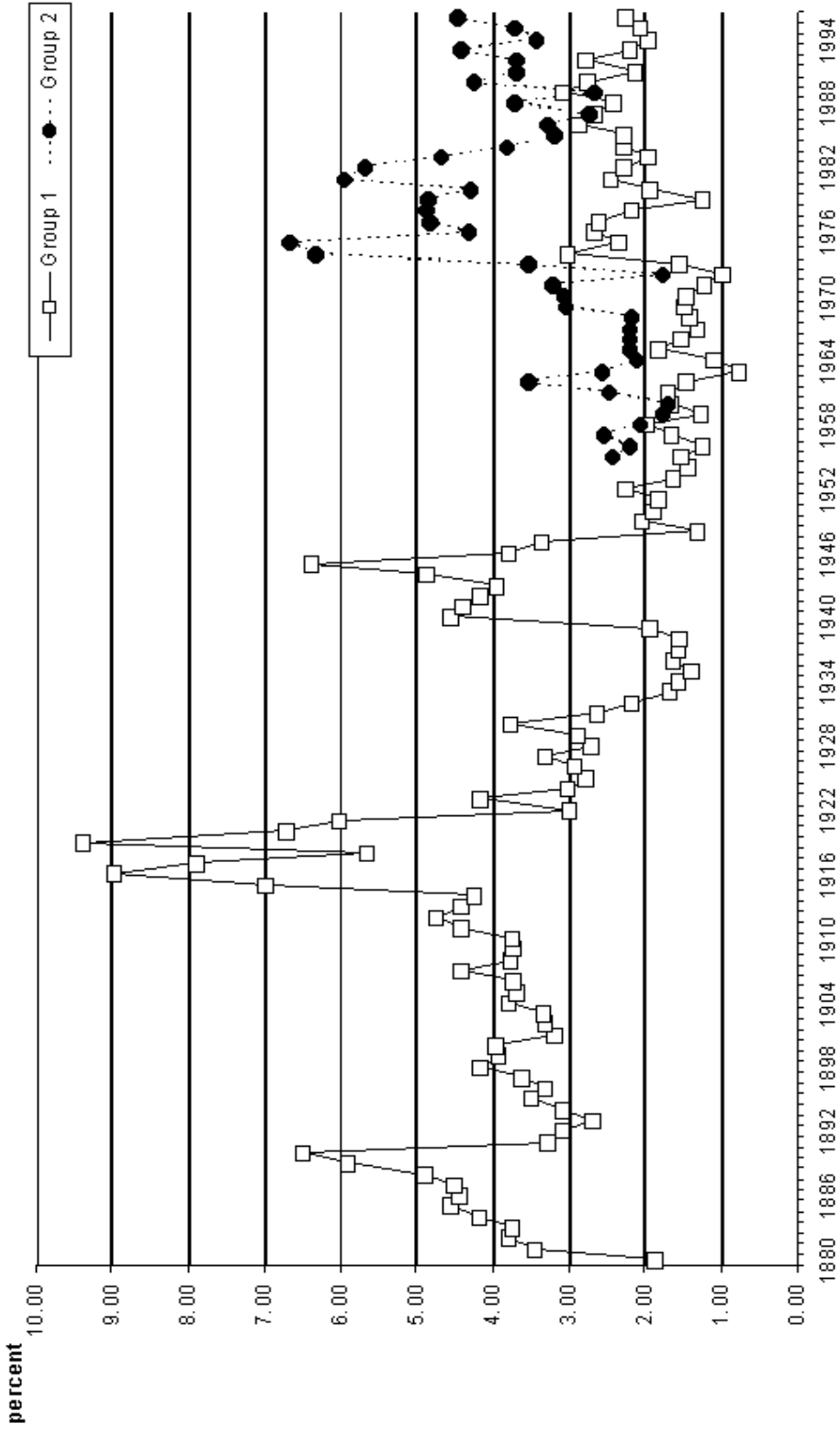
Source: See Data Appendix in Bordo, Eichengreen and Kim (1998)

Figure 2. Ratio of the Current Account to GDP, Selected Major Countries



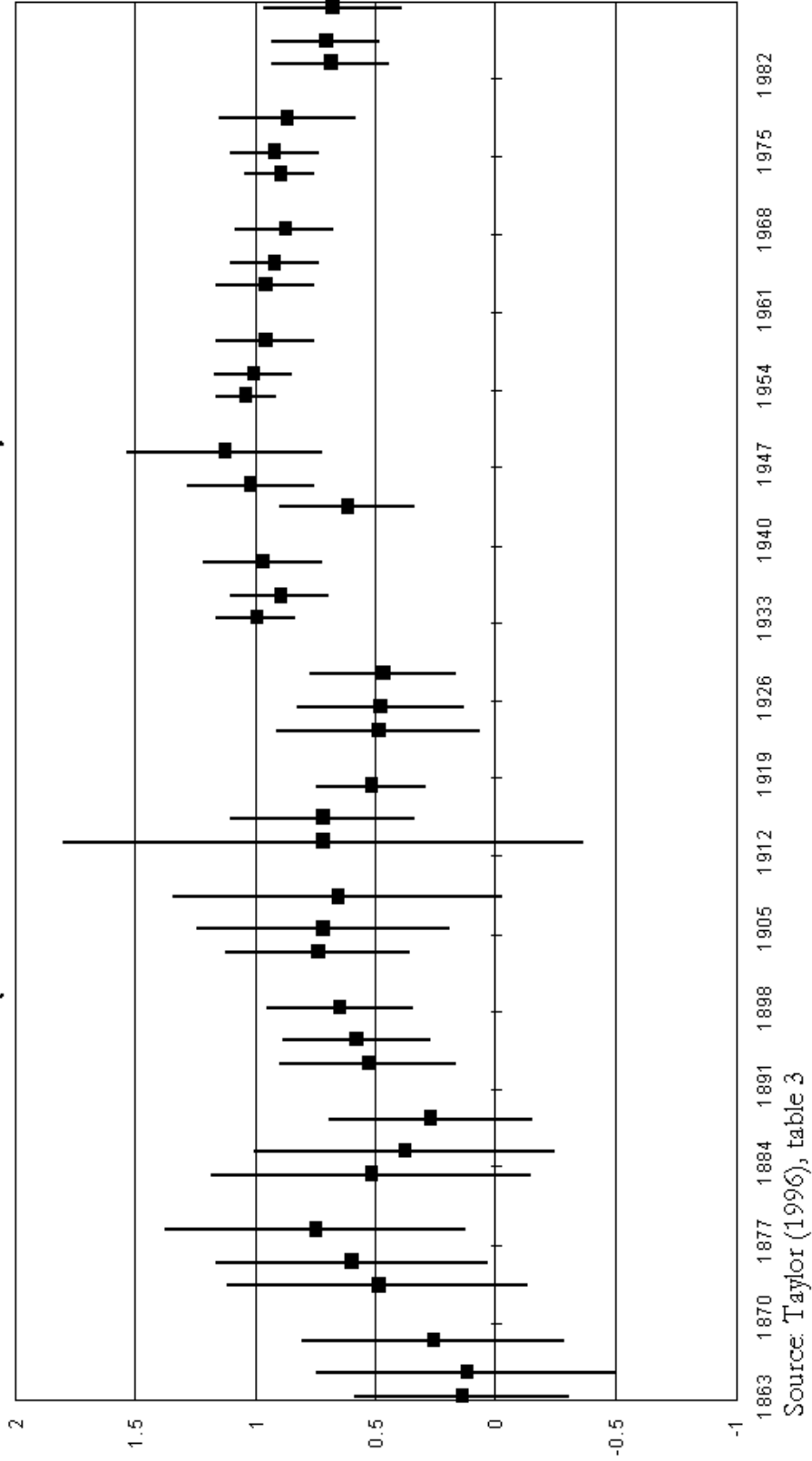
Source: See Data Appendix in Bordo, Eichengreen and Kim (1998)

**Figure 3. Ratio of Current Account to GDP
Mean of Absolute Values**

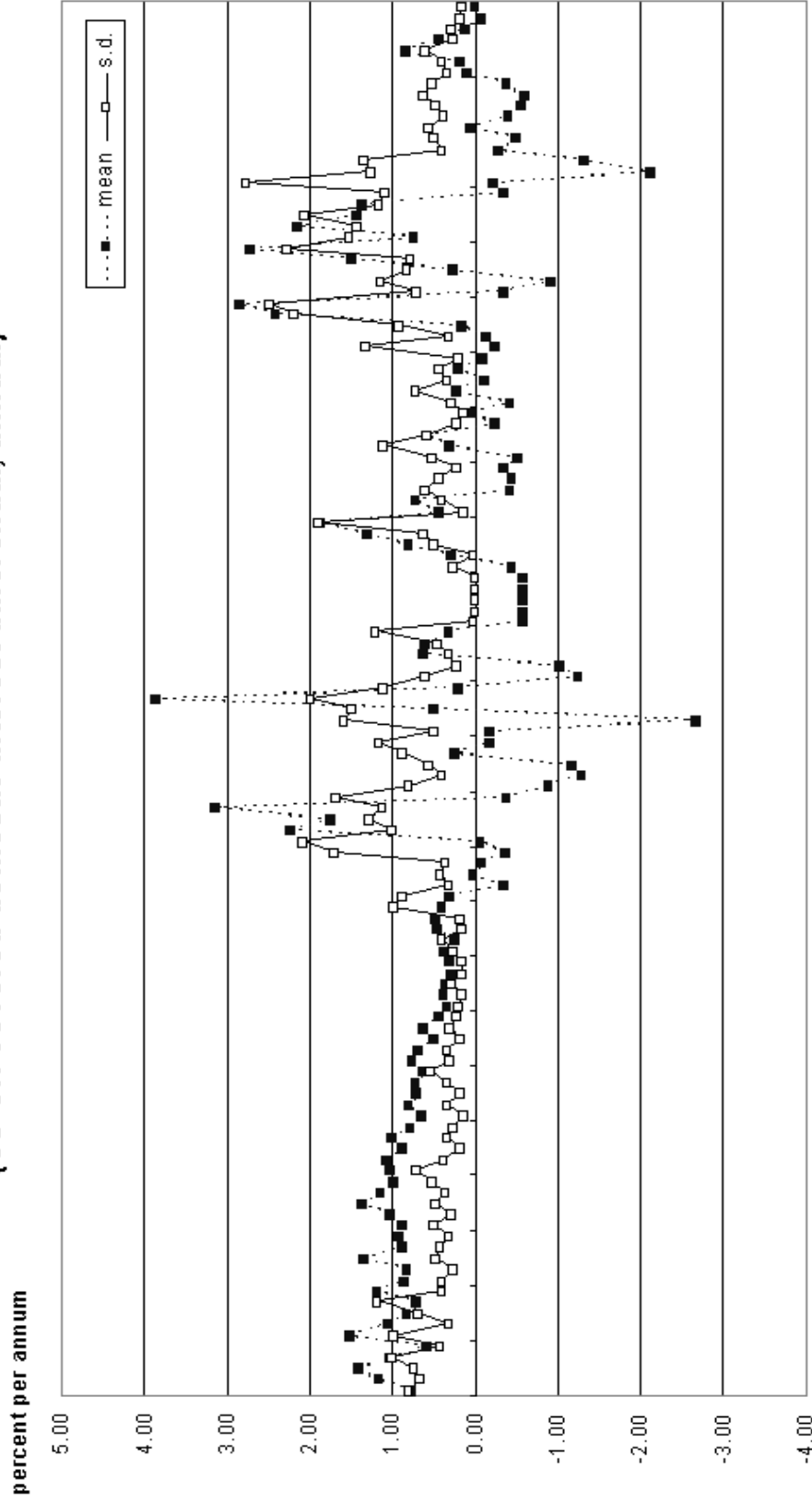


Source: See Data Appendix in Bordo, Eichengreen and Kim (1998)

**Figure 4. The Feldstein-Horioka Coefficient in History
(FH Coefficient +/- 2 standard errors)**

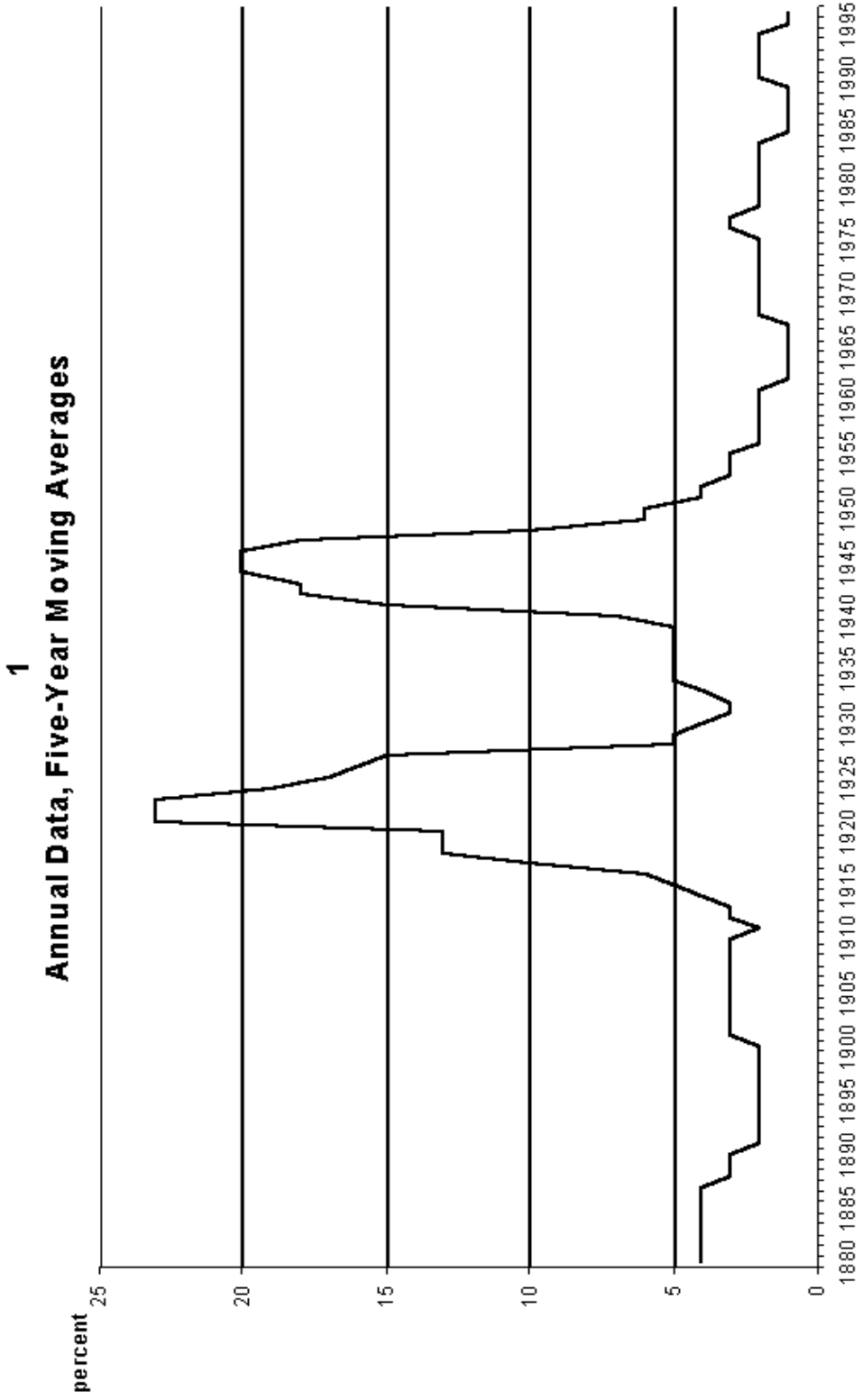


**Figure 5. Nominal interest parity since 1870
(US-UK covered domestic interest differential, annual)**



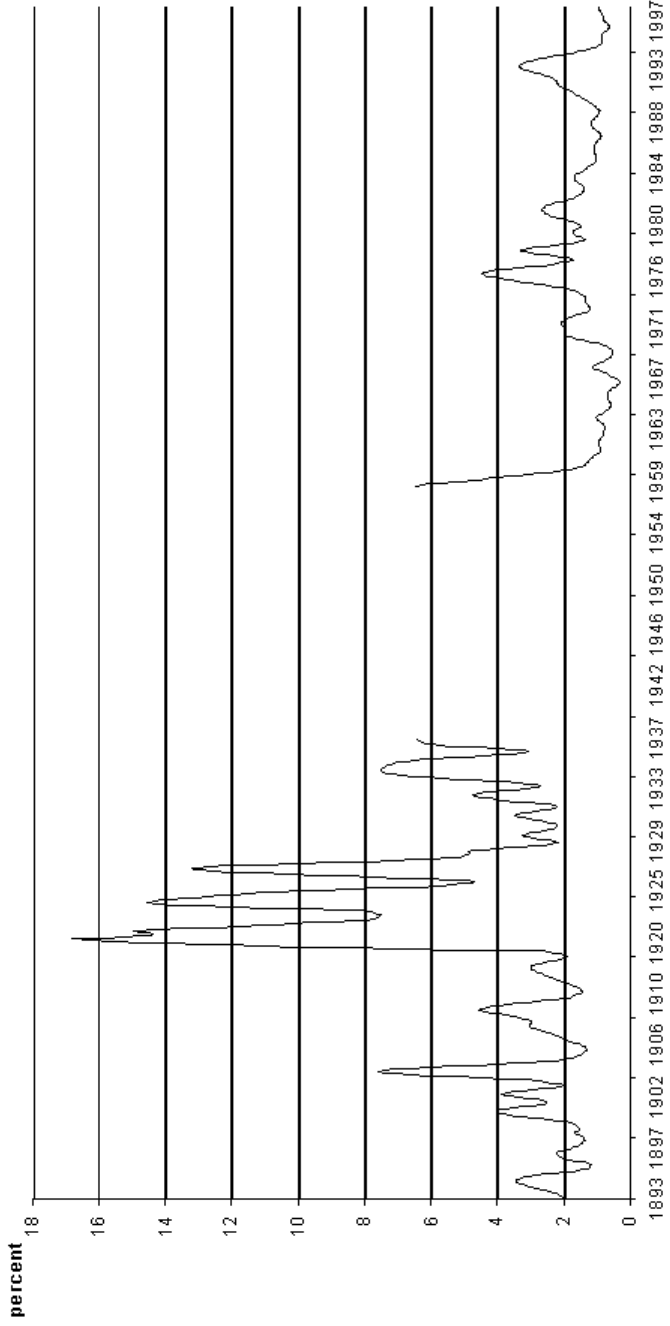
1870 1875 1880 1885 1890 1895 1900 1905 1910 1915 1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995
Source: Obstfeld and Taylor (1997), table 11.2

Figure 6a. Dispersion of Long-Term Ex-Post Real (CPI) Interest Rates, Group



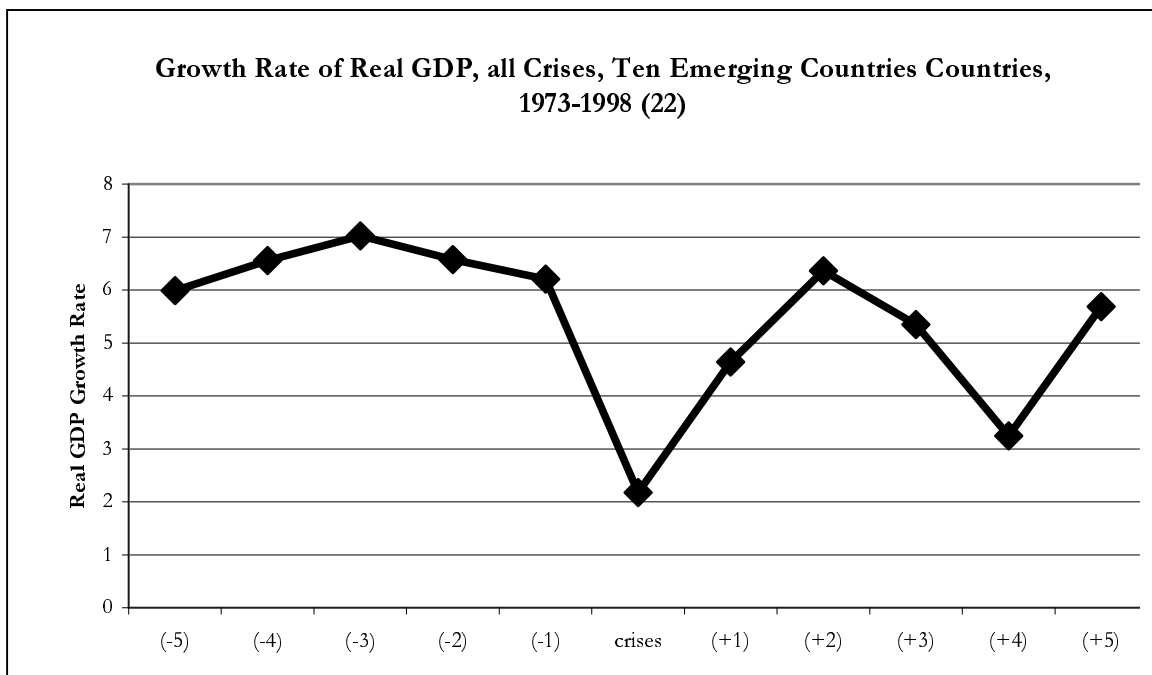
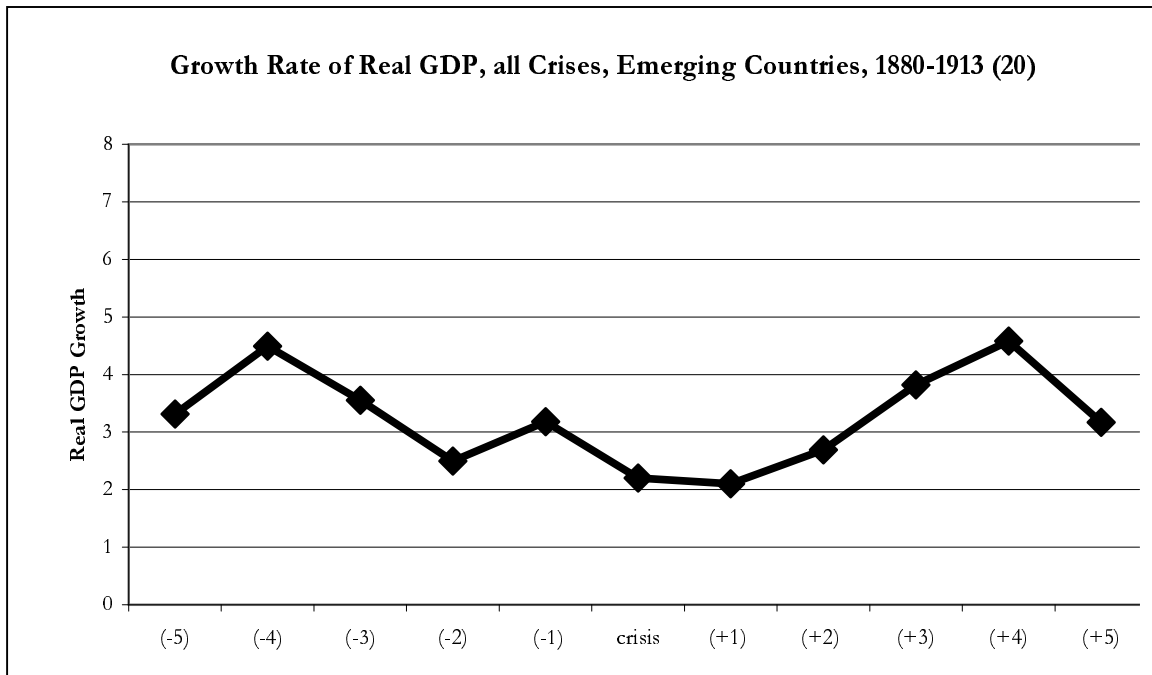
Source: See Data Appendix in Bordo, Eichengreen and Kim (1998)

**Figure 6b. Dispersion of Short-Term Ex-Ante Real (CPI) Interest Rates, G4
Monthly Data, 11-month Moving Averages**



Source: See Data Appendix Bordo, Eichengreen and Kim (1998)

Figure 7. Growth Rate of Real GDP, All Crises, Emerging Countries, 1880-1913 and 1973-1998



Source: See Bordo and Eichengreen (1999)