

**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.