GLOBALIZATION AND CAPITAL MOBILITY IN HISTORICAL PERSPECTIVE (*)

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Today I will speak about joint work with Alan M. Taylor, at the University of California, Davis. The paper for this conference deals primarily with two questions.

First, how can we understand the evolution of capital mobility over time, at least since the late nineteenth century, in terms of political history and monetary regimes?

Second, do our accounts of history and regimes square with the evidence on the evolution international capital-market integration ?

In search of answers, we examine a number of measures of capital market integration in this paper. No single measure, taken by itself, can be decisive as a sufficient statistic to measure of capital mobility. But in view of the totality of the data we look at, there is a compelling story about the evolution of capital market integration over the past 130 years.

The paper covers in more detail the historical background, which I can summarize only briefly here. A central component in understanding changes in the mobility of capital, we believe, is the influence of political economy factors. Changes in the politico-social equilibrium, and in voters' expectations of what government can and should try to accomplish through macroeconomic policy, are central to any account of the surge and ebb of international financial integration. But governmental strategies for meeting attaining economic and social goals are constrained by what we call the open-economy *trilemma,* also known as the "inconsistent trinity." This famous concept points out that in an open economy the authorities can choose only two from the following list of three: open capital markets, a

* Versión corregida por el autor.

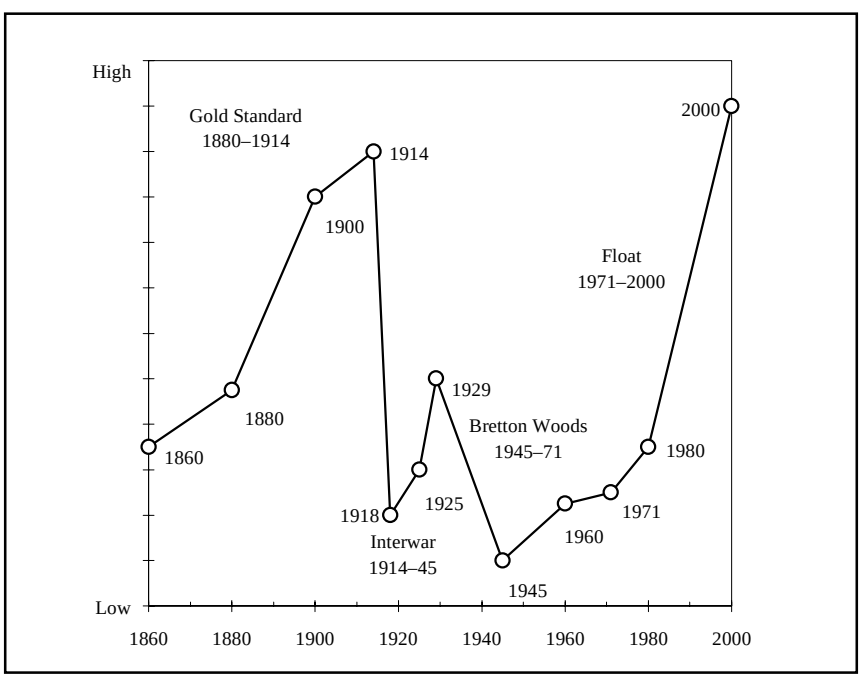
monetary policy that is activist and oriented towards domestic goals, and exchange rate stability. The proposition very well known, of course, but it will help us to understand the dynamics of institutions as we go through the vicissitudes of the capital markets over the past 13 decades.

I mention two issues we do not address in this paper, but they are very interesting ones:

The first is globalization then versus now. Under the gold standard a high degree of economic integration prevailed in world capital markets (certainly for core countries), and there is an active debate among historians as to whether the degree of integration in capital markets was greater in the early twentieth century (before World War I) or now.

A second and perhaps even more compelling issue is the flow of capital to poorer countries,. Clearly this is a key issue in terms of economic development and the prospects for the less industrialized countries, and it is one with which economists continue to struggle. Now let me turn to the evidence on capital mobility as it has evolved through time.

Figure I



If we pretend for the moment that there exists some summary quantitative measure of international capital mobility, we can summarize its broad evolution of since the latter 1800s in terms of a U pattern. On various measures of international capital-market coherence, our data indicate that global financial integration reached a local maximum on the eve of the First World War, under the classical gold standard. It plunged as a result of that Great War; perhaps making a resurgence during the period of the reconstituted gold standard, roughly 1925-1931. But the onset of the Great Depression in the early 1930s caused a sustained retreat from financial integration (as well as from trade integration and labor-market integration through migration, of course). Capital mobility reached its nadir in the Second World War. The story of the post-war period is well known. We see the Bretton Woods system, fixed exchange rates, attempts to break the deadlock of inconvertibility, and a gradual growth of trade and of capital movements which, if not always officially sanctioned, are certainly promoted by the increase in world trade. As the 1960s end and the 1970s begin it is much harder to contain speculative capital flows, at times large, and often associated with trade through accelerated or delayed trade credits, misinvoicing of traded merchandise, and so on. After the onset of generalized floating exchange rates for the industrial countries, around 1973, international financial integration surges, running ahead even of the impressive growth of world trade.

Alan Taylor and I view the U pattern as being explicable, at least as in its broad outline, in terms of the trilemma. There is naturally a deeper set of motivating factors driven by political interest groups, ideology, and even—dare we say—advances in economic knowledge. Yet, the trilemma defines the limits within which these driving factors can shape governmental choices over the exchange rate regime and the extent of financial integration with world capital markets.

Up until 1914 the gold standard regime reflects the ascendancy of the interests of capital over those of labor, and the element of the trinity that is sacrificed for the most part is activist monetary policy. The sacrifice of capital mobility is very rare; and the sacrifice of the fixed exchange rate is rare although certainly in crisis periods, such as the period following the Baring crisis, suspension of gold convertibility may occur, and we do see floating exchange rates on the periphery.

But there existed a broad consensus among those responsible for policy before 1914 that the gold standard was THE way to go, and we saw more and more countries joining the gold standard up until 1914.

In the inter-war period, leaving aside gold-bloc countries, such as France, that cling to the gold standard at great expense until 1936, we see more activist policies and many countries foregoing capital mobility. We also see much more exchange rate flexibility. Here again the trilemma is at work, as countries give up mobility of capital in favor of domestically oriented policies to deal with the Great Depression.

Scholars such as Karl Polanyi, Peter Temin, and Barry Eichengreen have argue that the shift away from the classical gold standard mentality can be understood as a consequence of a change in the political equilibrium brought by the First World War. There is an upsurge in the power of labor movements after the war, and some extension of the franchise. The people expect a payback for the great sacrifices demanded by the Great War. Fully in step with the changing times is the rise of Keynesianism, the idea that activist policies can and should try to combat recession.

In the Bretton Woods period, lasting from the late 1940s through the early 1970s, the world is governed by a monetary constitution that is very much formed by the experience of the inter-war years. Critics of the policies followed between the wars argued that there was an excess of exchange rate flexibility and too much scope for “hot money” to flow between countries. These are alleged to bear part of the blame for competitive devaluations, the collapse of trade, and other woes of the period.

So the Bretton Woods system, as envisioned by Keynes, Harry Dexter While, and other of its founders, mandated fixed exchange rates, and deemed private capital movements to be at best of secondary importance, if not actually harmful. Capital controls were clearly sanctioned by the IMF Articles of Agreement. White himself expressed the idea that capital mobility exists for the benefit of the rich, but is not really essential to the economic well-being of the common people.

In terms of the trilemma, the Bretton Woods system opted for fixed exchange rates and activist policy, giving up capital mobility. Activist policy, even where it did not operate in terms of interest rate independence,

was embedded in the IMF Articles in the sense that Bretton Woods was an adjustable peg system.

Nominally, the Bretton Woods system was set up as a gold-exchange standard with the U.S. dollar linked to gold and other currencies linked to the U.S. dollar. But as Keynes himself in the face of criticism that the Bretton Woods system was a revived gold standard, exchange rates were to be adjusted to the needs of the economy, rather than the economy being forced to adjust to a fixed external gold parity. If you have domestic unemployment and a current account deficit, you devalue, and if there are strict capital controls so you can get away with that approach. That system was quite successful in allowing postwar reconstruction: trade grew and the world economy saw a return to prosperity and growth through the 1970s.

The Bretton Woods system's very success, however, contained the seeds of its eventual collapse. As trade expands, it becomes increasingly difficult to contain capital movements, which often are disguised capital movements. As a result, the Bretton Woods exchange rates, though supposedly adjusting to shield the domestic ecoomy, become more rigid *de facto*. The capital flows and speculation that surround parity changes become more disruptive.

Britain, for example, should have devalued sterling in the early 1960s, but instead it held on through 1967 before devaluing, that devaluation itself setting off the period of instability that brought the Bretton Woods system to a close. Here again we see the operation of the trilemma.

What about the most recent period, covering the past 30 years approximately? After the move to floating exchange rates, initially embraced by the industrial countries, there was certainly an increase in capital mobility coupled a greater use of activist monetary policies (through the early 1980s a misuse, I would argue). Only relatively recently have countries with floating exchange rates for their fiat currencies learned how to operate effective inflation targeting regimes based on transparent targets and rules. There is of course an active debate over developing countries' "fear of floating," the idea that the negative repercussions of exchange rate changes for developing countries may leave them with little choice but a de facto peg. (Guillermo Calvo and Carmen Reinhart have advocated this perspective.) Policymakers in Brazil, Chile, and Mexico certainly seem

to feel that their current arrangements leave them with enhanced room for maneuver.

Of course some countries have been driven by the trilemma to a different corner—here Argentina's recent experience through early 2002 is a leading example—where activist monetary policy gives way to capital mobility and a fixed exchange rate secured rigidly through some form of a "hard peg." These cases look like a return to the gold standard, and full dollarization takes this to an extreme. Argentina's collapse, of course, illustrates how hard it may be to reconcile such a "return to gold" with the political realities that govern fiscal policy, wage-price flexibility, and other parameters of the economy relevant to the viability of a fixed exchange rate. In Europe the trilemma is resolved through currency union, for political reasons that are largely intrinsic to Europe.

There is certainly some tendency toward the "bipolar" world, where adjustable pegs are eschewed, capital mobility is accepted, and the effective tradeoff is between activism and exchange-rate predictability. Apparently, most policymakers seem to agree that in pratcice capital mobility is a good thing, provided the financial institutions within the domestic economy are sufficiently strong that capital movements can be absorbed without generating financial fragility.

This is the paper's historical account in outline, and I turn now to the evidence that we have assembled. We look at two types of evidence in this paper, quantity evidence and price evidence.

Now, here there is an inherent difficulty in interpreting these measures. A sufficiently clever economist can always come up with a model in which you would see these patterns in the data as a result of various changes in the economy that have nothing to do with capital mobility.

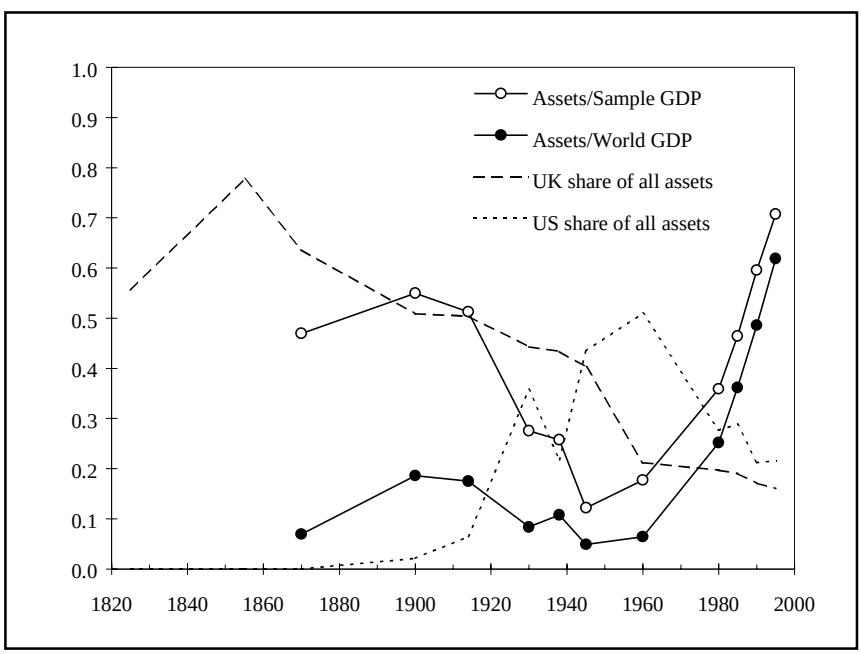
Our view, however, is that when one considers the unanimity with which these data speak, along with the known historical facts about institutional barriers to mobility, the evidence, however circumstantial some of it may be, is overwhelmingly in favor of the U-shaped temporal pattern. That pattern is in conformity with the political and historical narrative I have offered.

We first report data on foreign asset positions and their changes over time. Next come data on the relationship between nominal interest rates measured in the same currencies—probably our more unambiguous indicator for the measurement of capital mobility. More controversial is the behavior of real interest rates between countries, because real interest rate measures involve not only asset- but goods-market integration, as will describe.

In other work Alan Taylor and myself—and of course many, many other people—have looked at savings, investment, and their difference, where the so-called Feldstein-Horioka paradox of limited currency account imbalances arises. I am not going to talk about that today, as time is limited.

As a first metric of international financial integration, we look at stocks of foreign-owned assets and liabilities. The first measure we present in the paper is based on the sample of countries for which we have data available, measuring the shares of their assets that are foreign-owned and the shares of their foreign liabilities, all relative to their GDP.

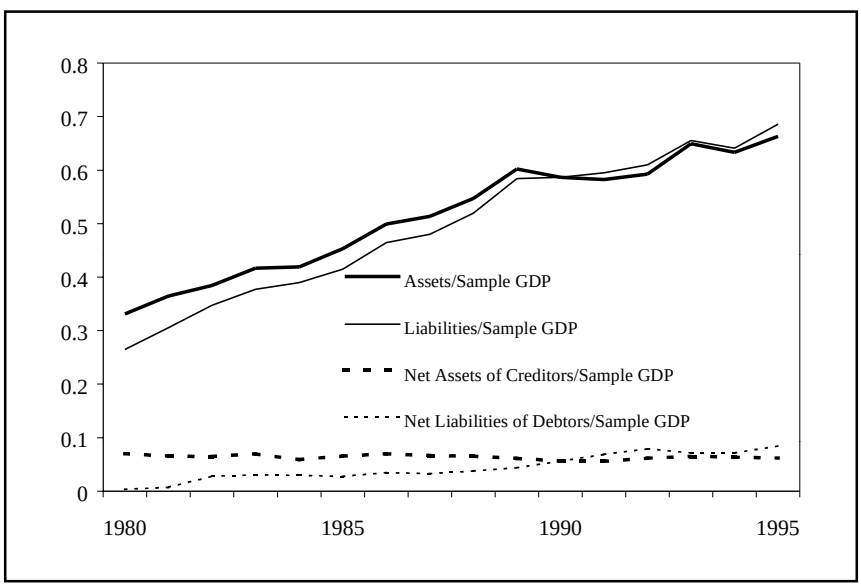
Figure II.
Foreing Gross Investment



We compose a world sample by totaling up world foreign assets and world GDP. Probably most informative is the top graph, of assets to sample GDP. Sample GDP is simply the GDP for the countries that are in our sample. One clearly sees the U-shape pattern, with a very high level of foreign assets through around 1914, a sharp decline, and then a recovery. For liabilities our data are not as good, as they are harder to measure. But again we see that the data are not inconsistent with the U-shape hypothesis.

If one imagines a world in which the capital stock is growing secularly, you would expect to see growing ratios of this sort. But this particular U shape seems very hard to explain, except on the basis of a spectacular retreat from financial integration in the inter-war period, and then a recovery.

Figure III
Net Assets of Creditors



Turning to the more recent data, notice that we can look also at *net* assets over world GDP, and we notice that they have not been growing. (Due to data omissions world assets do not equal world liabilities exactly.)

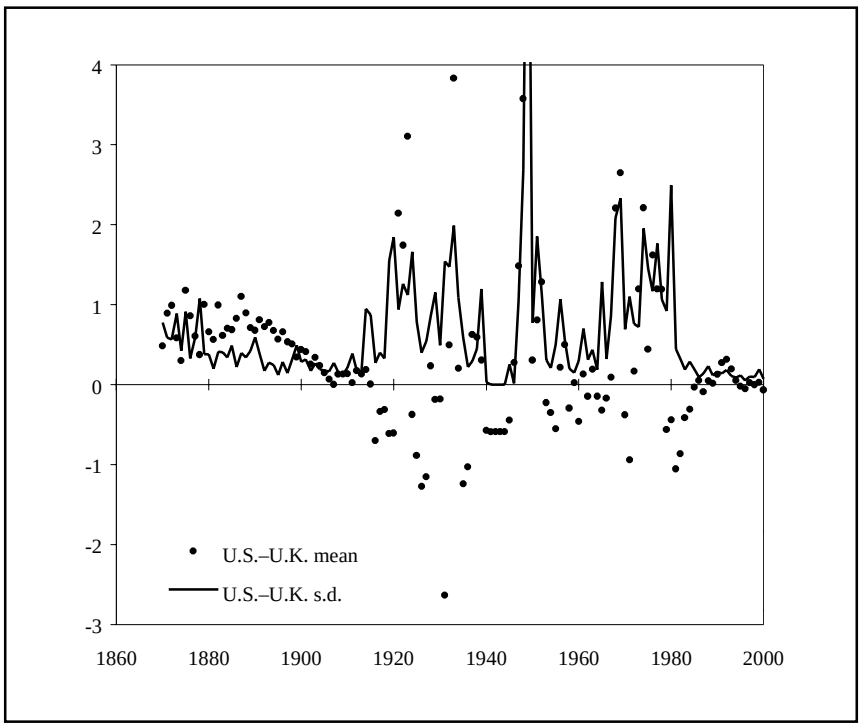
This is a reflection of the Feldstein-Horioka paradox of countries' saving and investment rates being highly correlated in cross section. For reasons that remain incompletely understood, high saving countries tend to be high investing countries too. What we are seeing in the world economy nowadays is not so much the net flow of capital—development finance—but, primarily, asset swaps, that is, global diversification.

Even more persuasive than data on asset quantities are those on international arbitrage in short-term interest-turning assets denominated in the same currency. Such studies examine the law of one price for the rate of return, when the latter is measured in the same currency but in different financial centers. Deviations are clear evidence of segmentation in the international financial market.

For the period after 1920 we use covered interest parity calculations to assess how well the law of one price held. Before 1920 organized forward markets were not widespread, but we have data on prices of long bills of exchange—the prices, in terms of domestic currency deliverable today, of foreign currencies deliverable in the future—from which we may compute "offshore" mark interest rates in London and sterling interest rates in New York. In New York, for example, a 60-day sterling bill purchased today entitled the owner to delivery of sterling in London after 63 days (due to a statutory three-day grace period). Thus, the New York prices of sight (spot) sterling and of sterling bills can be used to compute the implicit sterling rate of interest in New York, which would equal that in London absent imperfections of international money market integration.

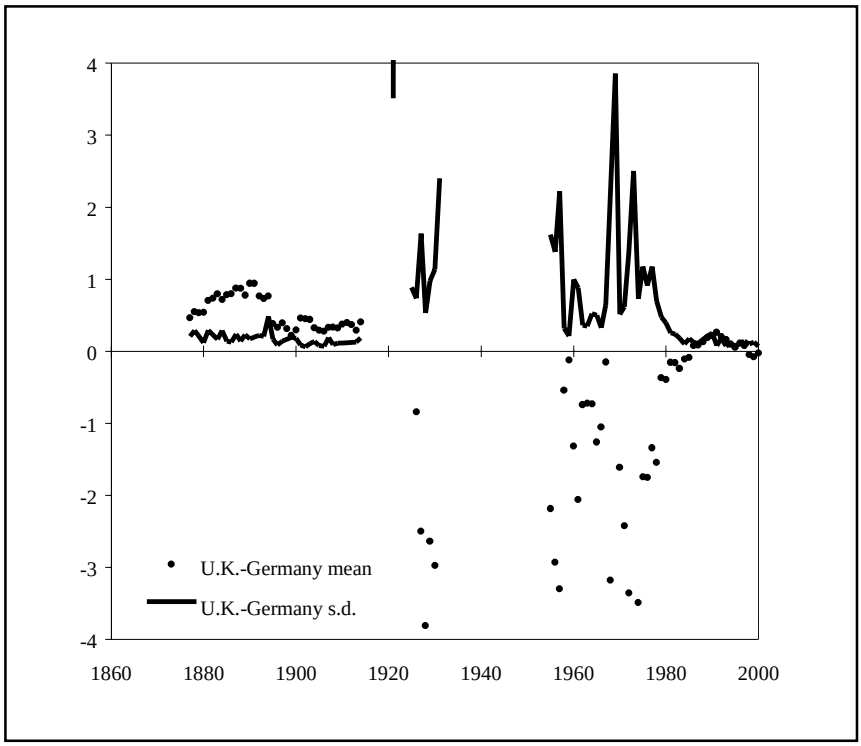
For the US-UK comparison we plot annual means and annual average standard deviations in sterling return differentials between New York and London. One sees a notable convergence through 1914, and very close arbitrage by then, followed by divergence. There is a hint a hint of restoration of integration in the late 1920s, when Britain returns to the gold standard and a number of countries follow it. But there is divergence afterward. Only in around 1980, when Margaret Thatcher dismantles Britain's capital controls, does the close interest rater arbitrage indicative of convergence reassert itself.

Figure IV
Sterling return differentials between New York and London



We also present a similar comparison of mark interest rates in London versus those in Germany (first Berlin, then Frankfurt, in our sample). The story is very much the same as in the New York-London comparison of sterling interest rates.

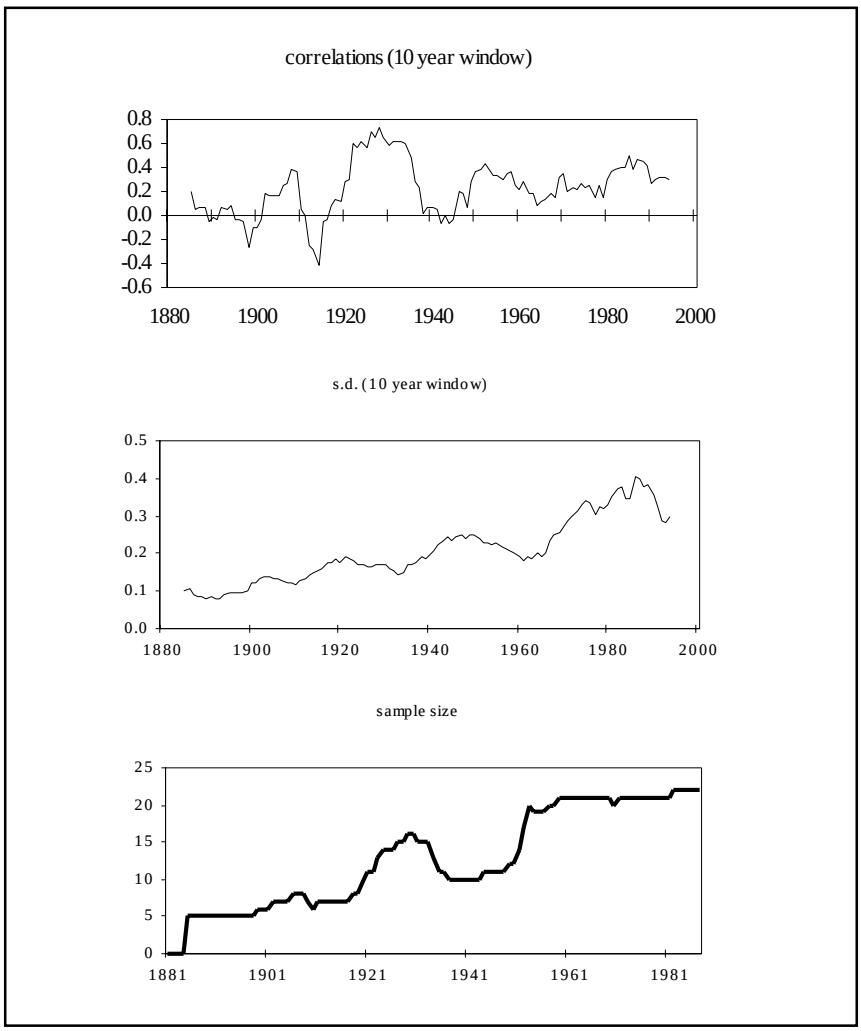
Notice that for both prewar comparisons there is an apparent pre-1914 interest advantage for the «offshore» center (New York or London, respectively). A similar phenomenon has been noted by M. Flandreau and C. Riviere in a comparison of London and Paris franc interest rates. The apparent offshore premium is an artifact of the method of computing the offshore rate, and stems from the British and German stamp taxes on bills of exchange, broker commissions, and a few other less important factors. Once correction is made for those costs, the degree of market integration before 1914 stands out as being even more impressive.



On this metric, therefore, we see a high degree of integration in the gold standard period, followed by disintegration through the onset of floating exchange rates. Of course, with floating exchange rates, countries have been more willing to liberalize: they can reconcile activist monetary policies with capital mobility and restrictions on capital mobility are costly and hard to enforce.

We can go on to look at other measures of international financial integration that have been proposed. Both the *Economist* magazine ("Economics Focus," March 24, 2001) and the IMF's October 2001 *World Economic Outlook* (p. 76) look at nominal parity for equity returns. The *Economist* has suggested that the correlation of equity returns measured in U.S. dollars has been rising in recent years, and points to this fact as evidence of increased global asset-market integration. The Global Financial Data set, however, allows a look at equity returns over a much longer period.

Figure V
Equity returns



The heavy line in Figure 5 shows the cross-sectional correlation over time between dollar equity market returns in the US and those in other major equity markets compute the cross sectional correlation with other major equity markets. Ten-year windows are used. The increase displayed after 1990 is the result that has drawn the *Economist*'s interest. You may discern some secular increase over time, but in truth, not there is

much of a trend since the 1950s. We would argue that this measure of market integration is even more infected with ambiguities than are others that we examine. One of the possibly surprising characteristics of the graph is the big jump in the dollar return correlation among national equity markets in the Great Depression of the 1930s, a period when, on other measures of capital-market integration, you would expect the opposite.

Taylor and I argue that the high 1930s correlation reflects divergent responses to the Great Depression. Countries that went off gold and devalued had much better stock market performance. But because their currencies depreciated (in dollars) and their equity markets rose (in terms of their own currencies), there is a built-in mechanism generating the positive cross-sectional correlation in dollar equity returns. While these data certainly are worthy of much further study, we are skeptical that we will learn much from them about global market integration.

In telling our story based on the trilemma, I mentioned that the general return to gold after World War I occurred despite a shift in the underlying social and political equilibrium, one in which democracy had expanded and parties representing the interests of labor had gained power at the expense of the wealthier classes. If that interpretation is correct, however, we would find evidence of it in a lower credibility of the inter-war period gold standard regime as compared to its per-war predecessor. Here there is considerable controversy based on recent research. An older and long-standing conventional wisdom holds that the inter-war gold standard was not so credible for several reasons. But that assumption has been questioned in some recent work, including a paper by M. Bordo, M. Edelstein, and H. Rockoff. An important 1996 study by Bordo and Rockoff only looked at the pre-1914 period. That paper looked at the spread over the British government borrowing rate to see if adherence to the gold standard was a "good housekeeping seal of approval" for which countries were reqarded though a lower country risk premium on their government borrowing. This is obviously a very relevant issue today—with Argentina's painful example showing that a non-credible peg may buy nothing in the way of lower spreads (indeed, may lead to inflated spreads). In any case, Bordo and Rockoff found a strong "good housekeeping" effect of being on gold before the first World War. Around 40 basis points per year in reduced borrowing cost would be a rough summary of their estimate of the value of being on gold.

When, together with Edelstein, Bordo, and Rockoff revisited the question using data from *after* World War I, they found, surprisingly, that the "good housekeeping" effect was still there for countries that returned to gold at the prewar parities. Thus, if you returned to gold in 1926, say, at the prewar parity, you reaped a significant benefit in terms of your borrowing spread; but if you returned after devaluing, you did not fare so well. This finding of Bordo et al. is surprising in view of the conventional view that the interwar gold standard was much less credible than its prewar predecessor.

Bordo et al. looked at the yield on new bond issues in New York. There is a potential sample selection problem, of course, because the decision to issue bonds is endogenous one and countries might wait to borrow until conditions are most favorable. Thus, it seems preferable to use similar methodologies pre- and post-WWI, a methodology based (as in the original Bordo-Rockoff study) on market yields for outstanding bond issues denominated in gold or in sterling. A second aspect of the approach that Taylor and I take is that we control for the effect of the ratio of public debt to GDP. If gold-standard countries also are more prudent fiscally then failure to control for debt risks confounding a pure gold-standard "good housekeeping" effect with a payoff to fiscal restraint. (Bordo and Rockoff used the fiscal deficit, a less comprehensive measure.) A country returning to gold at a devalued parity might have just wiped out much of its public domestic-currency debt, thereby, enhancing fiscal soundness and making it a better credit risk. Thus, it seems important to control explicitly for debt in assessing the effect of the gold standard on market spreads. We also use a somewhat larger country sample than in the Bordo-Rockoff and Bordo et al. studies.

Our findings are very much in accord with the conventional wisdom. The good housekeeping effect of Bordo and Rockoff is robustly present before 1914; and amounts to about 75 basis points in our sample. However, we find no significant evidence of such an effect for 1925-1930, and if anything, returning to gold post-devaluation appears to help a country more (in terms of a lower spread) than returning at the pre-war parity. This story certainly fits the contrasting experiences of Britain (which did not devalue) and France (which did) after their returns to gold in the mid-1920s.

We view our results as supporting the idea that the restored gold standard of the 1920s was not as credible a commitment device as the pre-war gold standard, because the underlying socio-political equilibrium had changed. That change has proved to be an enduring one. Ultimately, it has brought us to a world where countries that can float and have open capital markets do, whereas countries that can't float for some reason have to choose between an open capital account and domestically oriented monetary policies.

Now, why is capital mobility important? The political economy of capital-market liberalization remains to be written, but there is a prima facie case in terms of efficiency. If you can have monetary policy autonomy to a degree and run a well-designed inflation targeting program— otherwise credibly tie the hands of monetary policy if need be—why not take advantage of capital flows and the efficiency gains they bring? That is clearly a major motivating factor.

For developing countries there is a big incentive to reform the economies, to open up, to liberalize, so as to draw on foreign capital for purposes of development. This process of opening is likely to continue, notwithstanding globalization protest and the debacle in Argentina. Provided capital flows are used wisely by the financial system and are not allowed to undermine macro policy through excess real appreciation (big "ifs" in many cases), international financial integration can make a very positive contribution to economic development.