

GLOBAL CAPITAL MARKETS
Integration, Crisis, and Growth

MAURICE OBSTFELD ALAN M. TAYLOR

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Global Capital Markets: Integration, Crisis, and Growth

This book presents an economic history of international capital mobility since the late nineteenth century. A preamble introduces the major issues and examines developments in the eighteenth century and before, the important historical preconditions that set the stage for a global market in the nineteenth century. Theory and empirical evidence are used to evaluate the evolution of globalization in financial markets. A discussion of institutional developments focuses on policies toward capital controls and on the pursuit of domestic policy objectives in the context of changing monetary regimes. Governments face a fundamental *macroeconomic policy trilemma*, which forces them to trade off among their conflicting goals, with natural implications for capital mobility. Understood in this way, the present era of globalization can be seen, in part, as the resumption of a liberal world order that was established in the years from 1880 to 1914. Much has changed along the way. Marking a reaction against the old order, the Great Depression emerges as the key turning point in the recent history of international capital markets and offers important insights for contemporary policy debates. Today's return to a world of globalized capital is marked by great unevenness in outcomes, in terms of both participation in capital-market integration and in the distribution of risks and rewards. More than in the past, foreign investment flows largely from rich countries to other rich countries. Yet the burden of financial crises falls most harshly on developing countries, with costs for everyone. After a century in which markets closed and then reopened, this book brings together what we have learned about the dynamics of the international macroeconomic order.

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To Leslie Ann, Eli, Clara, and Zachary
M. O.

To Claire and Olivia
A. M. T.

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Berkeley and Davis, California

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Part one

Preamble

This first part of the book introduces the main argument. An overview of the functions of an international capital market, the problems it raises, and the historical development of capital mobility through the nineteenth century sets the scene for our study. We then move to a summary of developments in the twentieth century and look ahead to the economic and institutional history that follows in the next part of the book.

1

Global Capital Markets: Overview and Origins

At the turn of the twenty-first century, the merits of international financial integration are under more forceful attack than at any time since the 1940s. Even mainstream academic proponents of free multilateral commodity trade, such as Jagdish Bhagwati, argue that the risks of global financial integration outweigh the benefits. Critics from the left such as Lord Eatwell, more wary even of the case for free trade on current account, claim that since the 1960s “free international capital flows” have been “associated with a deterioration in economic efficiency (as measured by growth and unemployment).”¹

Such a resurgence of concerns about international financial integration is understandable in light of the multiple crises seen since the early 1990s in Western Europe, Latin America, East Asia, Russia, and elsewhere. Supporters of free trade in tangible goods have long recognized that its net benefits to countries typically are distributed unevenly, creating domestic winners and losers. Recent international financial crises, however, have submerged entire economies and threatened their trading partners, inflicting losses all around. International financial transactions rely inherently on the expectation that counterparties will fulfill future contractual commitments; they therefore place confidence and possibly volatile expectations at center stage.² These same factors are present in

¹ See Bhagwati (1998) and Eatwell (1997, 2). For alternative skeptical perspectives on the prospects for different facets of international economic integration, see Rodrik (2000) and Stiglitz (2002). More recently, the economically liberal *Economist* newspaper has endorsed the use of capital controls in some circumstances (see “A place for capital controls,” May 3, 2003). The position of the International Monetary Fund (IMF) has also moved in this direction (see *IMF Survey*, “Opening up to capital flows? Be prepared before plunging in,” May 19, 2003). Prior to the financial turbulence of the late 1990s, which we discuss further below, the IMF had considered amending its Articles of Agreement so as to promote the further easing of capital-account restrictions among its members. See Fischer (1998).

² The vast majority of commodity trades also involve an element of intertemporal exchange, via deferred or advance payment for goods, but the unwinding of the resulting cross-border obligations tends to be more predictable than for assets, and transaction volumes are smaller.

purely intranational financial trades, of course, but the relatively higher costs of trading goods and assets internationally make the adjustments to market shocks more costly. Furthermore, problems of oversight, adjudication, and enforcement all are orders of magnitude more difficult among sovereign nations with distinct national currencies than within a single national jurisdiction. And because there exists no natural world lender of last resort, international crises are intrinsically harder to head off and contain than are purely domestic ones. Factors other than the threat of crises, such as the power of capital markets to constrain domestically oriented economic policies, also have sparked concerns over greater financial openness.

Yet we must be careful not to allow the potential risks to obscure the potential benefits. In this introductory chapter we will outline the efficiency gains that international financial integration offers in theory; to a great extent these correspond to those attainable through financial markets even within a closed economy, although the scope is global. We will then turn to the practical problems that arise in trying to realize the gains from asset trading at the level of the global economy. To place theory in a historical context, we conclude the chapter with a brief survey of the evolution of modern international capital markets starting in the late middle ages.

Our goal in this chapter is to set out the core themes of the book. The ebb and flow of international capital since the nineteenth century illustrates recurring difficulties, as well as the alternative perspectives from which policymakers have tried to confront them. Subsequent chapters are devoted to documenting these vicissitudes quantitatively and explaining them. We believe that economic theory and economic history together can provide useful insights into events of the past and deliver relevant lessons for today.

1.1 Theoretical benefits

Economic theory leaves no doubt about the potential advantages of global financial trading. International financial markets allow residents of different countries to pool various risks, achieving more effective insurance than purely domestic arrangements would allow. Furthermore, a country suffering a temporary recession or natural disaster can borrow abroad. Developing countries with little capital can borrow to finance investment, thereby promoting economic growth without sharp increases in saving rates. At the global level, the international capital market channels world savings to their most productive uses, irrespective of location. The other main potential role of international capital markets is to discipline policymakers who might be tempted to exploit

a captive domestic capital market. Unsound policies – for example, excessive government borrowing or inadequate bank regulation – would spark speculative capital outflows and higher domestic interest rates under conditions of financial openness. In theory, at least, a government's fear of these effects should make rash behavior less attractive.

1.1.1 International risk sharing

A basic function of a world capital market is to allow countries with imperfectly correlated income risks to trade them, thereby reducing the global cross-sectional variability in per capita consumption levels. In a world of two economies, for example, a pure terms-of-trade change redistributes world income away from the country whose exports cheapen and, in equal measure, toward its trading partner. If the countries exchange equity shares in each other's industries, however, the redistributive effect of terms-of-trade fluctuations is dampened. Both countries benefit from the exchange because both can enjoy consumption streams that are less variable after trade. This pooling of risks can be accomplished through a diversity of financial instruments: stock shares, foreign direct investments, insurance contracts, or even nominally non-contingent securities whose real values are subject to exchange-rate risk. In addition, many derivative securities based on some of these underlying assets are also traded internationally.

As a simple example that conveys the intuition behind the risk-pooling function of a global capital market, imagine a one-period world endowment economy made up of N countries, each populated by a representative individual. Every country or individual i has a random output Y_i of a single perishable world consumption good; for all i , Y_i has mean μ and variance σ^2 , and national outputs are uncorrelated. If there is no trade in assets, the representative individual from country i has a consumption level of $C_i = Y_i$, and thus a consumption variance of σ^2 . In contrast, suppose that there is an international asset market in which people from different countries can trade claims to national outputs at the start of the period, prior to the realization of the random national outputs. Then the resident of country i , say, will sell off a fraction $(N - 1)/N$ of his claim on the domestic output process to residents of other countries, while using the proceeds to purchase a fractional claim $1/N$ of Y_j , for all $j \neq i$. This leaves everyone in the world holding the same global mutual fund with payoff $\sum_{i=1}^N Y_i/N$. This payoff, in turn, equals C_i for *all* countries i , but now the variance of this consumption level for each individual or country is only σ^2/N , far below the variance σ^2 of autarky consumption.

For analytical purposes, economists often think of uncertainty as representable by a set of possible “states of the world” on every date, one of which will be randomly chosen by Nature. In that setting, the most basic type of contingent contract is an Arrow-Debreu security that pays off 1 unit of consumption in a specified state of the world, but 0 in all other states. Asset markets are said to be “complete” when a full set of such Arrow-Debreu contracts, one for each possible state on every date, is traded. Under a hypothetical complete-markets regime with free international asset trade, agents the world over can pool risks to the utmost (technologically feasible) extent. The relative prices of Arrow-Debreu securities are common to all countries, and everyone trades so as to equate his or her marginal rate of substitution between consumption in different states to a common relative-price ratio. This process fully exhausts all potential gains that existed prior to trade. Figure 1.1 displays an efficient, post-trade allocation in an economy with two agents (think of them as countries) and two goods, the “goods” being consumption in the two states of nature. In Figure 1.1, the length of the Edgeworth box’s horizontal edge measures the total world output available in state 1, that of the vertical edge total state 2 output. We have drawn the box to have horizontal and vertical edges of equal length, meaning that there is no *systematic* uncertainty about world output, only *idiosyncratic* uncertainty about national output shares. Thus, the “contract curve” of Pareto optimal allocations is the linear diagonal connecting the domestic and foreign origins O^H and O^F . Given the absence of systematic risk, the equilibrium price of the two Arrow-Debreu assets is unity and agents trade at that price from an initial endowment point such as E to the equilibrium consumption allocation at C.³

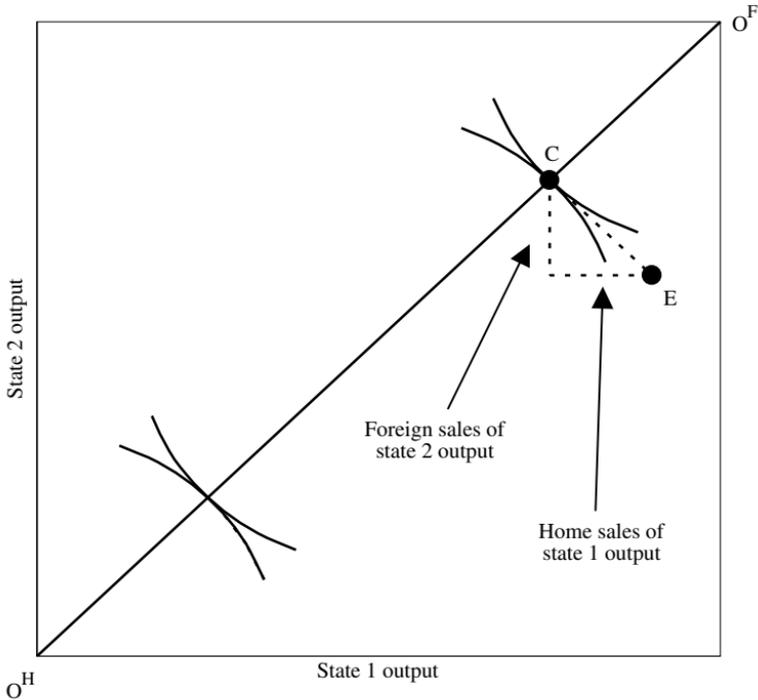
The effect of global asset markets on *production* decisions may offer even greater gains than their function in allocating exogenous consumption risks more efficiently. As Arrow observes, “the mere trading of risks, taken as given, is only part of the story and in many respects the less interesting part. The possibility of shifting risks, of insurance in the broadest sense, permits individuals to engage in risky activities that they would not otherwise undertake.”⁴ In one economic model, the ability to lay off risks in a global market induces investors to shift their capital toward riskier but, on average, more profitable activities. The result is a rise in the average growth rate of world output and, possibly, high welfare gains.⁵

³ See Obstfeld and Rogoff (1996, chap. 5).

⁴ See Arrow (1971, 137).

⁵ Obstfeld (1994a).

Fig. 1.1. Asset trade in an economy with two agents and two goods



Notes: As shown in this Edgeworth box, identical agents home (H) and foreign (F) have different endowments of the state-contingent output in a two-state world. They can trade Arrow-Debreu state-contingent output claims on the two goods shown in the diagram, consumption in state 1 and consumption in state 2. Agents' allocations are measured from their respective origins (home up and right from the lower left, foreign down and left from the upper right). Trade allows them to shift allocations from endowment point E to consumption point C via the trade triangle (broken line); it thus raises the utility of both agents (iso-utility lines are solid curves). We have illustrated the case of no systematic (or aggregate) uncertainty: the box's edges are of equal length.

1.1.2 Intertemporal trade

The risk-sharing function of capital markets is to improve the allocation of resources across different random states of the world. That function, conceived in the abstract, need have no dynamic dimension; but capital markets also reallocate resources over time in ways that can raise efficiency. In principle, this second function of intertemporal reallocation can be understood without reference to uncertainty. So we temporarily abstract from it and imagine a world of perfect foresight. In such a world, an international capital market allows countries to smooth out over time the dynamic consumption effects of

predictable income fluctuations. A country whose output is temporarily low, for example, can borrow to support consumption, repaying the loans later after the anticipated output increase. The borrowing opportunity allows a less variable consumption path than would be available in autarky.

As in the case of risk sharing, purely intertemporal trading opportunities will also affect the production activities that agents undertake, contributing further to efficiency in the absence of distortions. A country that has rich investment opportunities, but that generates little saving of its own, can tap the international capital market to exploit its investment potential without massive short-run consumption cutbacks. Conversely, countries with abundant savings but more limited investment prospects at home can earn higher returns to wealth than they would domestically. Both borrowers and lenders gain as capital flows to its most productive uses worldwide. In particular, developing countries can invest more than they could if closed, while simultaneously enjoying higher consumption and wages. The process of economic convergence is hastened by capital flows from rich to poor countries.

Under conditions of uncertainty, even trades of noncontingent assets (that is, consumption-indexed loans) can help countries mitigate the effects of the risks that they face. Countries that suffer random but temporary income shortfalls, such as crop failures, can blunt their impacts by borrowing abroad until better fortune returns. The capacity of loans to substitute partially for an absence of risk-sharing markets simply reflects the fact that the economy faces ongoing uncertainty. However, the degree of risk shifting that loan markets permit is generally far inferior to what truly complete asset markets would allow. In the complete-markets case, countries would lay off all idiosyncratic output risk in world insurance markets, and an idiosyncratic shock to national *output* therefore would not affect national *income* at all (and would induce no international borrowing or lending response). Of course, international trades involving assets with random payoffs, such as foreign direct investments, can also serve to exploit the gains from intertemporal trade. In reality, the scope of world asset trade is intermediate between the cases of noncontingent loans and complete markets, though still probably closer to the former, as we shall see.

1.1.3 Discipline

An open capital market can impose discipline upon governments that might otherwise pursue overexpansionary fiscal or monetary policies or tolerate lax financial practices by domestic financial intermediaries. The prospect of rising interest rates and capital flight may discourage large public-sector deficits; the

sharp reaction of exchange rates to investor expectations and interest rates may restrain inflationary monetary moves. Tirole (2002) puts discipline effects at the heart of his framework for analyzing proposed international financial reforms.

There is considerable evidence that during the period up to 1914, countries that adhered to the international gold standard were rewarded by lower costs of borrowing from abroad. Countries with lower public debts were similarly rewarded during the years of the restored interwar gold standard, 1925–31. In more recent data, developing countries' external borrowing spreads reflect, at least partially, certain macro fundamentals.⁶ Markets seem to try, as well, to divine the economic implications of national foreign policy moves. In 1998, for example, Moody's and Standard and Poor's downgraded India as an investment destination in reaction to the country's controversial announcement of nuclear tests. As Thomas L. Friedman wrote in the *New York Times*, "This is far more important than any U.S. sanctions, because it will raise the cost of borrowing for every Indian company and state government seeking funds from abroad."⁷

Unfortunately, market discipline often seems insufficient to deter misbehavior. Capital markets may tolerate inconsistent policies too long and then abruptly reverse course, inflicting punishments far harsher than the underlying policy "crimes" would seem to warrant. And in some cases, capital-market openness has constrained the official pursuit of arguably desirable economic goals. These problems and others are critical to understanding both perception and reality in the historical evolution of the modern global capital market.

1.2 Problems of supranational capital markets in practice

In a world of multiple sovereign states, an integrated world capital market necessarily straddles several distinct political jurisdictions that may differ in economic infrastructure, legal institutions, and commercial culture, as well as in the trade-generating factors (endowments, technologies, preferences) stressed in textbooks. The existence of political entities smaller than the market itself can limit the market's effectiveness and even render market linkages counterproductive. Any overall assessment of the net gains conferred by the global capital market must therefore account for the market's extent over a number of sovereign states.⁸

⁶ We discuss the evidence on the pre-1914 and interwar gold standards in Chapter 6 of this book. On more recent developing-country borrowing, see, for example, Edwards (1986). See Haque et al. (1996) for an analysis of credit ratings.

⁷ See Friedman, "What goes around....," *New York Times*, June 23, 1998, A21.

⁸ Considerations of space allow only brief mention of a topic as important as it is vast. For an authoritative recent survey, see Bryant (2003).

1.2.1 Enforcement of contracts and informational problems

An obvious first problem is the enforcement of financial contracts. The gains from financial trade are, from an analytical point of view, formally indistinguishable from those that result from static commodity trade when contracts can be costlessly verified and enforced. All that is involved in demonstrating this equivalence is to redefine goods available on different dates, or contingent upon different states of nature, as distinct commodities. Static trade gains, however (at least in a hypothetical world without shipping time or trade credit), do not require payment today in return for expected payment tomorrow. Thus, the question of *confidence*, which is central to financial transactions in reality, need not arise. In dynamic real-world financial markets, though, the problem is a dominating one. The contracting party who is the first to receive payment may have little motivation to fulfill his or her part of the deal later on.

The problem of enforcement is that of ensuring sufficient incentives to fulfill contractual obligations. While enforceability is pivotal even in a closed economy, it becomes even more problematic in contracts between residents of different countries. If one party to the contract is a sovereign, legal remedies in cases of breach of contract may be limited. Even when all contracting parties are private agents, it can be comparatively difficult to pursue legal actions in foreign courts or to impose domestic legal judgments on foreigners. Sometimes, governments will assume the troubled debts of their domestic private sectors, turning private-sector debt problems into sovereign debt problems. In general, as Tirole (2002) emphasizes, actions of the sovereign can affect private residents' willingness or ability to fulfill contracts with foreigners.

The efficiency of contracts is limited further by informational asymmetries, which again are more severe in an international setting than within a single nation's borders. Cross-border monitoring can be more difficult than in a domestic context because of differences in accounting standards, legal systems, government efficiency, governance mechanisms, and other factors. Both enforcement limitations and informational asymmetries reduce the gains that can feasibly be reaped from international trade, without necessarily eliminating them.⁹

1.2.2 Loss of policy autonomy

Politicians, states, rulers, and – in democratic polities – voters prize the ability to make sovereign, independent policy choices. That is, they wish to decide the particular goals of domestic policy, as well as the policies that will shape

⁹ See Obstfeld and Rogoff (1996, chap. 6) for a survey.

the future of the nation, state, or regional entity. Such desires often come into conflict with supranational markets that extend beyond the polity's borders. Financial openness, in particular, may compromise the ability of fiscal and monetary policy to attain various national goals.

Why might the constraints of financial openness pose a dilemma for fiscal policy? If capital is free to emigrate in the face of taxes, then either the burden of providing social services must be shifted toward labor, or those services must be scaled back (or, alternatively, some capital emigrates, wages fall in equilibrium, and the burden is shifted by another means). Tax competition could lead to a global downward leveling of capital taxes below the politically desirable levels. In short, footloose capital confronts governments with a harsher tradeoff between the size of the public sector and an equitable functional distribution of income. Because capital mobility can substitute for trade, as stressed by Mundell, and thus can have effects on the income distribution similar to those of trade, a reduction in the government's ability to attain distributional goals could be all the more damaging to social cohesion when capital is mobile.¹⁰

Financial openness also constricts governments' choices over monetary policies. As we shall discuss at greater length in Section 1.4, governments cannot simultaneously maintain an open capital account, a fixed exchange rate, and a domestically oriented monetary policy for any substantial length of time. They can combine at most two elements from this list of three. This *macroeconomic policy trilemma* is central to understanding how the global capital market has evolved over time. The trilemma is also central to the aspect of the global capital market that arguably has generated the most concern over the years: its susceptibility to crisis and even collapse.

1.2.3 International aspects of capital-market crises

In the 1990s, foreign-exchange crises disrupted exchange markets across the globe. These recent events sharpened debate over two opposing views on the causes of crises. One claim is that otherwise successful economies have been victims of greedy market operators, usually foreign ones. This view is especially popular with government ministers in the afflicted countries. The opposing view is that such crises are largely home-grown, and that the global

¹⁰ See Mundell (1957). The downward pressure on taxes and spending induced by the threat of capital flight is often termed a "race to the bottom." Yet again, exactly the same concerns can arise *within* certain political units, as in federal states. For research on the implications of U.S. federalism on fiscal outcomes and social programs at the state level see, for example, Ferejohn and Weingast (1997). For an early comparison of issues raised by intranational and international mobility, see Cooper (1974).

capital market is simply performing a valuable and needed role in disciplining imprudent government policies.

Recent thinking on crises would argue that neither view is universally correct. Currency crises do not occur any time market whims dictate; but they may not represent, either, an inevitable punishment for unsustainable government policies. Instead, there may be extensive “gray areas” in which unwise policies or adverse economic shocks make countries vulnerable to crises, but in which a crisis is not inevitable and might in fact not occur without the impetus of a sudden capital-flow reversal. For example, a government with a large domestic-currency public debt of short maturity may be induced to devalue by very high short-term interest rates, which themselves reflect a rational expectation of devaluation. The government’s motivation in devaluing is to debase its debt in real terms so as to limit future tax burdens. On the other hand, there can be a second equilibrium in which markets do not expect devaluation, interest rates are low, and the government’s pain therefore is not so great as to induce a devaluation. A jump from the second equilibrium to the first – due to an essentially exogenous shock to expectations – generates a sudden crisis.¹¹

As a result, currency crises, like bank runs, may contain a self-fulfilling element that can generate multiple market equilibria and render the timing of crises somewhat indeterminate. What we see in these cases is a sharp break from an essentially tranquil equilibrium to a crisis state, rather than a gradual deterioration in domestic interest rates and other market-based indicators. This scenario helps to explain why capital markets can appear to impose too little discipline before the crisis arrives and too harsh a discipline afterwards.

A national solvency crisis need not be related to a currency collapse, and could occur even in a country that uses a foreign currency such as the U.S. dollar as its money. Thus, the exchange-rate channel is not central in theory, though it often has been in practice. If lenders refuse to roll over a country’s maturing dollar debts, and if it lacks the liquid resources – foreign reserves and credit lines – with which to meet its obligations, a crisis ensues. Here we have a close analogy with the case of a banking panic. Willing rollover would preclude panic, whereas a market fear that others will flee makes it optimal for each individual lender to flee as well. In many recent cases, indeed, banking

¹¹ See Obstfeld, (1994b, 1996) for details. More recent crisis models, such as that of Morris and Shin (1998), focus on possible restoration of a unique equilibrium when market actors have asymmetric information. But these models do not deliver good news for fixed exchange rates, as the unique equilibrium is the one in which speculators attack a currency whenever there is a sufficiently good chance that the attack will succeed. Subsequent research has tended to restore multiplicities; see, for example, Angeletos et al. (2003) and Chamley (2003).

and currency crises have coincided, worsening the pain inflicted by both. At times, national solvency has come into question as a result.

The European countries that devalued in the 1992 crises of the Exchange Rate Mechanism did not subsequently fall into solvency crises, which is why their forced devaluations did not impair growth (indeed, they probably helped it). But in some crisis countries (notably some of the Nordic countries), bank-sector weakness enhanced economic vulnerability. In general, exchange-rate, financial-sector, and national-solvency crises can interact in explosive ways. The attempt to ensure pegged exchange rates (or a preannounced ceiling on exchange depreciation) can lead to the very vulnerabilities that raise the possibility of a national solvency crisis. When domestic banks and corporate borrowers are (over)confident in a peg, they may borrow dollars or yen without adequately hedging against the risk that the domestic currency will be devalued, sharply raising the ratio of their domestic-currency liabilities to their assets. They may believe that even if a crisis occurs, the government's promise to peg the exchange rate represents an implicit promise that they will be bailed out in one way or another. Such beliefs introduce an element of moral hazard. Borrowers may face little risk of personal loss even if a bailout does not materialize because they have little capital of their own at stake. When confidence in the peg evaporates, however, the government is placed in an impossible bind: an aggressive interest-rate defense will damage domestic actors with maturity mismatches, while currency depreciation will damage those with currency mismatches.

Such problems have been especially acute in developing countries, where (typically) prudential regulation is looser, financial institutions are weaker, borrowing from foreigners generally is denominated in foreign currency, and the government's credit may be shaky. As market sentiment turns against an exchange-rate peg, the government is effectively forced to assume the short foreign-currency positions in some way – or else to allow a cascade of domestic bankruptcies. Because the government at the same time has used its foreign-exchange reserves (in a vain attempt to defend the peg), may have sold dollars extensively in forward markets, and cannot borrow more in world credit markets, national default becomes imminent. As a result, the “crisis triplets” of currency, banking, and public credit collapse have been witnessed in numerous historical crises.¹²

The international nature of capital movements makes it harder to exercise prudential regulation and to institute other safeguards – deposit insurance, lender of last resort facilities, and the like – that have proven useful in imparting greater

¹² Krugman and Obstfeld (2000, chap. 22); James (2001).

stability to the domestic credit markets of the industrial countries. There are certainly distortions on the supply as well as on the demand side of the market.¹³ In addition, there is a major source of systemic risk not present in the closed-economy context: the exchange rate itself. Even among industrial countries, concerns over gaps in prudential oversight have motivated the Basel Committee for more than a quarter century to seek enhanced international regulatory cooperation. In the late 1990s, the same concerns for oversight became a major focus of the International Monetary Fund (IMF) in its responses to crises. For a time, the Fund espoused a Sovereign Debt Restructuring Mechanism (SDRM) meant to provide a set of bankruptcy procedures for sovereign debtors. But the proposal proved unpopular with borrowers and lenders alike, who now seem likely to settle instead on alternative market-based solutions that will encourage orderly workouts, such as collective-action clauses.¹⁴

1.3 The emergence of world capital markets

The Asian financial turmoil of 1997–8 started as a seemingly localized tremor in far-off Thailand but then swelled into a crisis with massive repercussions in financial markets on every continent. Both the international lending institutions, led by the International Monetary Fund, and national governments joined in the policy response.

At the time, the broad repercussions of the Asian crisis seemed extraordinary. Such turns of events would have been inconceivable, say, during the 1950s and 1960s. During those years, most countries' domestic financial systems labored under extensive government restraint and were cut off from international influences by official firewalls. Yet, despite those restrictions, which were a legacy of the Great Depression and World War Two, international financial crises occurred from time to time. Between 1945 and 1970, however, their effects tended to be localized, with little discernible impact on Wall Street, let alone Main Street.

Given the supposed benefits of a global capital market, why was the market still so fragmented and limited in scope a full generation after the end of World War Two? Following the setback of World War One and a brief comeback between 1925 and 1931, international finance withered in the Great Depression. Governments everywhere limited the scope of domestic financial markets

¹³ These are stressed by Dobson and Hufbauer (2001).

¹⁴ See Basel Committee (1997) and IMF (1998). Krueger (2002) discusses the SDRM as well as other reforms espoused by the Fund. On the retreat from the SDRM approach, see *Economist*, "Dealing with default," May 10, 2003.

as well, imposing tighter regulation and prohibiting myriad activities outright. World War Two cemented the demise of the global capital market. In the early 1950s, the world's major economies remained linked only by the most rudimentary, and typically bilateral, trade and financial arrangements. Only in the 1960s did private capital movements start to return on any scale, but in the 1970s they grew rapidly. In the 1980s, that growth accelerated (though global capital largely bypassed the developing countries mired in the decade's debt crisis). Periodic crises in emerging financial markets have continued occasionally to hamper developing countries' access to capital flows from abroad. On the whole, however, a worldwide trend of financial opening after the 1980s has begun to restore a degree of international capital mobility that has not been seen for almost a century.

Prior to World War One, a vibrant, free-wheeling capital market linked financial centers in Europe, the Western Hemisphere, Oceania, Africa, and the Far East. A nineteenth-century reader of the *Economist* newspaper could track investments in American railroads, South African gold mines, Egyptian government debt, Peruvian guano, and much more. The big communications advance of the era was perhaps more significant than anything that has been achieved since. The laying of the trans-Atlantic cable in 1866 reduced the settlement time for intercontinental transactions from roughly ten days (the duration of a steamship voyage between Liverpool and New York) to only hours. A flourishing world capital market had already evolved in the years between the mid-nineteenth century and 1914. But despite a revival following the hiatus of World War One, the market collapsed as a result of the worldwide Great Depression. The middle third of the twentieth century, was marked by a sharp reaction against global markets, especially the financial market.

The core of this book will document the quantitative and institutional history of that market over the last century or more: how the market functioned in its golden age, its subsequent destruction, and the recent attempts to rebuild another, even more comprehensive, global market. We will use that historical analysis to ask what lessons the evolutionary story of the world capital market offers for today. Before we begin, it remains to consider how the first global market emerged. It was built over centuries, starting in Europe during the late middle ages. It rose in importance and efficiency in the Renaissance. In the seventeenth and eighteenth centuries, in Amsterdam and London, it began to assume a form that we recognize today. The world capital market embraced other European centers, Latin America, and the United States by the early nineteenth century. By the mid-nineteenth century, it stood poised to bring the entire global economy into its reach.

1.3.1 *Early modern financial development*

As we have indicated, the growth of modern world financial markets has distant origins. Identification of any single starting point is necessarily arbitrary, yet we certainly discern beginnings in the commerce centered on medieval fairs. International credit was in widespread use by the latter thirteenth century. One impetus for this use of credit was long-distance trade, where the purchase of goods by importers and traders might be separated from their sale for profit by long journeys and considerable time.

On the increasingly busy overland trade routes of Europe a key commercial nexus developed at the Champagne fairs: the four fair towns were an important place of intermodal exchange and arbitrage, but they are best remembered for seminal financial developments in the twelfth century. Using specie as a limited liquidity buffer, medieval merchants could always try to buy and sell goods in a more or less balanced way, but this was not always possible or desirable. The “letters of fair” were a response to this problem: an early form of commercial credit, these were paper assets that could permit trade imbalances to exist over time. Net sellers could leave the fair with a credit on their account and net buyers with a debit, balances which the authorities would carry over until the next fair convened. It was in Champagne, then, that we find the first recorded intertemporal deficits and surpluses in interregional trade, certainly a landmark in the evolution of the global economy.¹⁵

By the first half of the fourteenth century, Italian houses with agents or correspondents throughout the Atlantic seaboard of Europe and the Mediterranean were the center of a credit network based on nonnegotiable bills of exchange. These bills usually took the form of instructions to pay the bearer a specified currency in a specified locale on the bill’s due date.¹⁶ These bills greatly economized on the need to ship specie between financial centers, a costly and sometimes perilous enterprise. Interestingly, the dominance of foreign currency bills derived from the need to circumvent the Church’s usury doctrine. Because bills payable in foreign currency involved an element of exchange risk, church doctrine did not forbid their discounting. The evolution of the credit market in the middle ages thus furnishes an early example of financial regulation driving transactions offshore.¹⁷

¹⁵ Cameron (1993; 65, 67).

¹⁶ Italian lenders’ operations included sovereign lending, such as the underwriting of English king Edward III’s invasion of France (a very unwise investment, as it turned out).

¹⁷ See De Roover (1948, chap. 4). Even though fiat currencies were not in use, exchange rates between centers could vary because of “(1) changes in the monetary standard at home or abroad, (2) disturbances in the balance of payments between any two places, and (3) speculation based on the expectations of the exchange-dealers or on the criminal attempts of manipulators who

By the late sixteenth century, Antwerp emerged as a major international trading and financial center and the *negotiable* foreign bill of exchange was in widespread use in this “multilingual, multinational marketplace of the emerging world economy.”¹⁸ Although some domestic financial instruments had been developed with similar transferability characteristics in the Low Countries, this was the first instrument used in any significant way to permit international transactions. The bills were provided with a space on the back for a series of endorsements, making them negotiable and allowing a trade in these bills to develop. The bills served as a form of foreign exchange in complement to local currency in port cities.

The pre-1600 development of the bill market is seen by most observers as the beginning of the “financial revolution” at the international level. The institution behind it was the merchant bank. With correspondent banks in Antwerp, London, and Amsterdam in constant communication, the merchant banks managed the flow of credit and payments associated with the bills, as physical goods and payments circulated contrariwise around this embryonic international market system. The system was further perfected, and its center moved to Amsterdam, with the founding of the celebrated Amsterdam Wisselbank in 1609, a clearing-house organization for various merchant bankers who held accounts there denominated in bank money (*banco*).¹⁹

The cosmopolitan nature of this trading world derived in large part from the ever-extending network of European trade. In the major financial centers, just as goods flowed in from around the Mediterranean, then from the East, and then from the Americas, so too did people, ideas, and customs. Many such immigrants, some refugees from persecution and expulsion, brought information about the economies they had left, human capital and skills for engaging in trade or commerce, or financial capital with which to start their own enterprises. In this context, the emergence of a new financial services sector was a true novelty and thus a challenge to the established order. But the bill of exchange and the emerging merchant credit operations were just the start of things to come. The development of joint-stock companies, and the consequent growth of securities markets in the seventeenth century, represented yet another huge leap in financial development.²⁰

sometimes tried to corner the money market. To this list one should perhaps add the disturbing effects of regulations enacted by the public authorities” (De Roover 1948, 63).

¹⁸ See Neal (1990, 5). Neal supplies a clear explanation of the workings of the negotiable bill of exchange as a financial instrument. On Antwerp see van der Wee (1963).

¹⁹ See Neal (1990, 7).

²⁰ See Neal (1990, 2000).