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Introduction

In this book we build the tools (balance of payments and exchange rate theory) needed to understand international money and finance. These are then applied to a wide selection of issues – including money and macroeconomics in an open economy; the efficiency or otherwise of foreign exchange markets; the modeling and measurement of short- and long-term capital flows; international macroeconomic policy coordination; the history and future of the international monetary system; international financial features of economic and financial reform in both transition economies and in developing countries; the economics of monetary union, pegged exchange rates, dollarization, currency crises and speculative attack; the international debt crisis; and the functioning of international institutions such as the IMF, the EMS, and international banking.

In this, the third edition, we have added whole new chapters on the general equilibrium monetary approach to the exchange rate and exchange rate regime volatility, currency crises and speculative attack, target zones and dirty floating, and the international gold standard. Two chapters have been completely revised – that on transition economies and that on monetary union.

We have also added or revised sections in several other chapters to reflect recent theoretical or empirical research on the current account and intertemporal utility maximization, the equilibrium real exchange rate (both in chapter 4), purchasing power parity (chapter 7), *successful* short-term exchange rate forecasting (chapter 9), foreign exchange micro-structure (chapter 13), the East Asian dollar standard (chapter 17), long-term capital flows (chapter 19), and the IMF and financial distress (chapter 20).

One of our objectives is to describe the richness of the subject matter of international finance – a field which is undergoing considerable development in both theoretical and empirical methods. Both of these aspects are reflected in this edition of *International Money and Finance*. As we also emphasize topics on economic policy and institutional development, we hope that the reader will gain a good grasp of the subject matter of international money and finance across its four main dimensions: theory, evidence, policy, and institutions.

It is also worth noting that *International Money and Finance* is not just a book on open economy macroeconomics, although whole chapters (5, 6 and, arguably, 8 and 10) and several sections of other chapters are devoted to this important topic. The field of international finance is in fact broader than just open economy macroeconomics and it should properly include examination of topics such as exchange market efficiency, the rationality of agents in exchange markets, the choice of international monetary system, the economics of monetary union, and international finance in transition and developing countries.

We also believe that it is a great advantage of this book that it explicitly reflects the work over many decades of a great number of talented researchers. We do not think that it is a good academic exercise to offer the student of international money and finance the subject distilled into a single point of view. This is partly because this can hardly be fair to all research agendas – being both neoKeynesian and neoclassical at the same time; and more especially, we believe that students should be presented with the intellectual challenge of deciding for themselves. Intellectual challenge is also the reason why we have not ended each chapter with a Further Readings section. Readings are in fact cited time and again throughout each chapter and we leave it to the student and to the instructor which ones to pursue further. We would like to think that this book is more than just a textbook as it attempts to point the student in the direction of further research. Perhaps this is no more evident than in the many *starred sections* where the econometric evidence is broached.



The Chapters

Chapters 2, 3, and 4 provide an introduction to basic concepts in international money and finance including, in chapter 2, definitions of the balance of payments and the exchange rate, and testimony against floating exchange rates; in chapter 3, amongst other things, the elasticities view of exchange rate determination and discussion of the important concepts of covered and uncovered interest parity; and in chapter 4 the absorption approach to the balance of payments, current account disequilibria as a result of intertemporal utility maximization and an elementary discussion of international macroeconomic policy coordination.

Chapter 5 discusses the topic of macroeconomic management in an open economy. It is shown that opening an economy to international trade and capital flows changes the nature of the constraints on policy makers. With mobile international capital flows, depending upon whether exchange rates are pegged or floating, the effectiveness of monetary or fiscal policy is compromised as an instrument of macroeconomic policy. But this is not say that one or other instrument necessarily becomes a broken reed for, depending upon the assumptions made about the macroeconomy, it does not.

Chapter 6 is very much related to chapter 5 in that it discusses international macroeconomic policy coordination. With macroeconomic spillover effects from one country to another it is shown that countries may gain from international cooperation. This point is returned to again in chapter 17 on monetary unions where,

fiscal policy externalities between members could be managed to the benefit of the union as a whole.

Chapter 7 discusses the topic of purchasing power parity (PPP). This concept is important because it plays a central role in several theories of the determination of the exchange rate and of the balance of payments. While theoretically PPP ought to hold, if not from moment to moment then at least in the “long-run,” for a couple of decades or so empirical evidence seemed to show that it did not. However, research using econometric techniques not previously available now shows that deviations from PPP are not as persistent as once thought: estimates now are for a half-life of deviations of about 3 to 4 years.

Chapter 8 sets out the venerable and important subject of the monetary approach to the balance of payments – dating from at least the days of the eighteenth-century Scottish philosopher David Hume. Through this theory we gain an understanding of the causes and persistence of balance of payments deficits. Mastery of the model also throws light on to a wide range of subjects, e.g. why balance of payments deficits persist, fundamental causes of the international debt crisis, and why no open economy economic liberalization is likely to be successful until domestic monetary conditions are stabilized. The model also provides justification for various conditionality clauses included by the IMF on borrowers.

In its modern form, the monetary approach to the balance of payments was mainly developed in the 1960s – when it largely superseded the elasticities approach, developed in the 1930s, and the absorption approach which grew out of closed economy Keynesian economics in the 1950s. With simple modifications the monetary approach to the balance of payments is turned into the monetary approach to the exchange rate. More recently, the monetary approach has been reset within a new general equilibrium theoretical framework.

Chapters 9–13 present the core theories of exchange rate determination. Although we discuss a number of theories in these chapters a key element in our discussion concerns trying to explain the volatility of exchange rates, which has been such a feature of the recent floating experience (see section 2.5). Modern exchange rate theory views foreign exchange as an asset that is priced in an asset market (rather in the same manner as are stocks and bonds), and an exchange rate is the price of one asset (currency) in terms of another. In chapter 9 three theories are presented that model the exchange rate as determined solely as an asset price in the capital account of the balance of payments – with the current account playing virtually no part. Marked differences show up between the flexible-price and sticky-price versions of exchange rate determination. In the former, dramatic exchange rate movements are associated with agents’ collapsing their expectations of future events into the current exchange rate, whilst in the latter asymmetrical adjustment speeds in goods and asset markets lead to the phenomenon of exchange rate overshooting. As we shall see, sticky prices and floating exchange rates have proved to be an especially unhappy combination for many countries because it results in sharp movements in real exchange rates which can have damaging effects on economies.

Currency substitution is the third exchange rate model investigated in chapter 9. Its contribution is to show how the reallocation of currency portfolios by

international transactors – such as multinational corporations – affects the exchange rate and, by extension, the stability of the international monetary system in an era of highly liquid international money flows. Currency substitution renders the demand for money unstable and so questions the case for monetary targeting. An additional topic addressed in chapter 9 is the fashionable concept of speculative bubbles.

Chapter 10 discusses two further applications of the monetary model. The first considers real shocks in a general equilibrium model. This asserts that the empirical regularity of a near perfect positive correlation between nominal and real exchange rates can be explained by real shocks (as in real business cycle theory) rather than nominal shocks (as in exchange rate overshooting models). After reviewing the empirical evidence we conclude that the real shock hypothesis receives little support. The other main topic in chapter 10 is exchange regime volatility. We point out that after the move to floating exchange rates in 1973 exchange rates became much more volatile while macroeconomic fundamentals did not. This casts doubt on macroeconomic models of exchange rate determination and sets off a search for other explanations of exchange rate determination which we investigate in later chapters – especially chapter 13.

The portfolio balance model of the exchange rate, the subject of chapter 11, drops the assumption that domestic and foreign bonds are perfect substitutes, so enriching the portfolio adjustment characteristics of exchange rate determination. Uncovered interest parity is not assumed to hold; it is also recognized that ignoring the current account of the balance of payments overlooks important wealth effects which feedback onto the exchange rate. Such wealth effects are shown to be a central part of the process of adjustment to monetary or fiscal shocks. Moreover, monetary shocks are shown to be non-neutral in the portfolio balance model – so destroying the classical dichotomy.

Traditionally asset prices have been thought to be determined in efficient markets. Indeed, the efficient market hypothesis (EMH) was for many years taken to be the industry paradigm in the financial markets literature (i.e. that on stock markets). That paradigm has now been called into question and there currently seems to be a shift away from the EMH toward alternatives like the noise-trader approach. The abandonment of the EMH has largely been due to its rejection when confronted by the data. However, it is crucial to recognize, and this is something emphasized in chapters 10 and 12, that the EMH is a *joint hypothesis* consisting of some view about how the equilibrium price of the asset is determined along with the concept, which many people equate with the EMH, that agents efficiently exploit all available information (which is often understood to mean that agents process their expectations rationally). Therefore, an empirical rejection of the EMH may reflect an inefficient information process or it may simply reflect the fact that the researcher has chosen the wrong equilibrium model.

Applied to the foreign exchange market, we demonstrate in chapter 12 that the popular definition of the EMH, which implies that the forward exchange rate should be an optimal predictor of the future spot rate, is overwhelmingly rejected by the data. Because of the jointness of the hypothesis being tested, the interpretation placed on this rejection in many ways depends on a researcher's prejudices. Many

researchers have interpreted the rejection as *prima facie* evidence of a foreign exchange risk premium (rather than inefficient information processing) and such an interpretation is considered in some detail in chapter 12.

In chapter 13 we discuss the alternative interpretation, that it is something to do with failure of agents' expectations formation (which, as we shall see, need not mean that agents are actually inefficient information processors). More specifically, in chapter 13 we discuss peso effects, chartism, market microstructure, noise trading, and deterministic chaos. A recently emerging literature uses survey data on exchange rate expectations to try to determine which component of the joint EMH is responsible for rejection. The survey-based literature is also used to motivate the market microstructure view of the foreign exchange market.

Another implication of the efficient markets theory is that if a prediction is made at time t for the exchange rate at time $t + 1$, the prediction will probably turn out to be wrong if new information turns up. In foreign exchange markets new information is constantly turning up and, empirically, this has had the expected effect on the accuracy of exchange rate prediction made at time t . That is, although unbiased, the forward rate at time t between pairs of major currencies such as the dollar, yen and DM, is not a good predictor of future ($t + 1$) spot rates. This is discussed formally in chapter 13.

Consider one important implication of this latter observation: even though the forward rate is the best guess that well-informed transactors can make, it turns out that they are not much good at guessing where an exchange rate is heading next month, or in six months, let alone next year or in five years. Exchange rate prediction it seems had become a game of blindman's bluff with the players not having much of a clue about the actual direction of future changes in exchange rates. It was not like this during the days of the international gold standard or even for much of the two decades ending in 1971 when the exchange rates of important international trading countries were more or less reliably fixed.

The predictability of exchange rates matters because many real economic decisions require knowledge about future exchange rates, especially long-term real investment in traded goods sectors, and the present situation compares unfavorably with earlier years. Moreover, the unpredictability of exchange rates, and the deviation of real exchange rates from levels that balance the current account, may be increased if rational speculative bubbles occur. A bubble can in theory push the nominal exchange rate far away from purchasing power parity. However, economists are still searching for convincing examples, but the suspicion remains.

Still another problem with the predictability of exchange rate movements concerns the lack of a nominal anchor on which to base exchange rate expectations. Empirical tests indicate that published models of the exchange rate are not particularly good at predicting exchange rates out of sample. The implication of this would seem to be (i) either that economists have not yet discovered the fundamental factors which drive exchange rates; or (ii) that interactions between fundamentals and the exchange rate are far more complicated than once thought (and recent empirical work would seem to support this contention); or (iii) that exchange rates are not driven by fundamentals, rather by catastrophic changes in loosely held and uncertain expectations.

Chapters 14 and 15 examine some topics which are best understood by combining the theoretical insights gained in earlier chapters on the monetary approach to the balance of payments and to the exchange rate. In chapter 14 we discuss currency crises and speculative attack, outlining a popular model. In this model exchange rate theory is used for the calculation of a *shadow* floating exchange rate – which motivates speculation if the shadow rate diverges from the actual rate. The monetary approach to the balance of payments is also utilized to calculate how foreign exchange reserves will eventually be exhausted when the rate of domestic credit expansion is excessive. The chapter then proceeds to examine the problems of forecasting speculative attack, and the policy choices open to emerging market governments that were so shaken by currency attacks in 1997 and earlier years.

The main topic in chapter 15 is an examination of exchange rate behavior in a target zone (i.e. a pegged rate fluctuation band). Within the zone the exchange rate may float, being determined by fundamentals; but at its edges intervention may be necessary so that foreign exchange reserves will change. The target zone model has been used extensively in the examination of pegged exchange rate systems from the nineteenth-century gold standard through the Bretton Woods system to the European Monetary System – the findings of which we reflect in chapters 16 and 17. We also examine “dirty floating” in chapter 15 using the so-called exchange market pressure model which indicates how in an environment of floating a government may use foreign exchange reserves to nudge the exchange rate in a preferred direction.

Chapters 16 and 17 consider important historical aspects of the international monetary system. In chapter 16 the main (but not the only) subject of interest is the credibility of commitments to both the classical nineteenth-century gold standard and the reconstituted interwar gold standard. We find that in both periods financial markets generally believed the major national players’ commitments to a fixed price of gold. The UK, France, and Germany were always secure on the classical standard – although the USA in the 1890s was not. In the 1925–31 period the French franc and the dollar were thought to be secure, as was the pound until almost the end. A remarkable fact about this period – generally regarded as being one of economic turmoil – is that the gold standard worked much better at stabilizing exchange rates than did the European Monetary System during the 1980s, and this despite a virtual absence of exchange restrictions in the former period. As far as the USA’s suspension of the gold standard in 1933 is concerned we point out that the gold standard was connected with both the US bank failures and the Great Depression in that country.

Chapter 17 reviews the history of international monetary arrangements in the post-World War II period. The key argument is that for 50 years the international monetary system can be characterized as a dollar standard. The switch to floating exchange rates in the early 1970s only marking a switch from the prior relative stable system to the current volatile system. Political economy, not pure economics, explains why pegged rates were abandoned. First, the asymmetry in monetary leadership that came to exist under the Bretton Woods system – between the USA, as leader, and the other, mainly OECD, countries – was no longer

accepted by the latter countries. Secondly, the USA itself found the burden of leadership becoming too great. In particular, the USA was no longer satisfied with having to accept that it could not independently adjust the external value of dollar, even though the dollar became over-valued – causing a growing current account deficit and the export of US jobs by US multinational corporations to Europe where exchange rates were undervalued. The US was thrust into this situation as a facet of having the dollar play the so-called “nth currency” role where everybody else chose their exchange rate against the dollar and America practiced “benign neglect.”

The result of this general dissatisfaction was that pegged exchange rates against the dollar were abandoned in 1973 and major currencies were freed to float.

With the fall of the gold-exchange standard, the European Community scrambled to find an arrangement to paste their exchange rates together – an effort that proved to be too costly for Britain, France, and Italy – but the European currency snake, the proto deutschmark zone and the precursor of the European Monetary System, was brought into existence.

Meanwhile, the international monetary system became evermore unstable with the severing of the link between commodity production and liquidity creation. That is, an albeit loose link had existed under both the international gold standard and the gold-exchange standard (ended in August 1971) between the creation of credit money and the growth of real commodity production. The function of the “golden” anchor was to discipline monetary authorities to regulate the rate of monetary creation and, as the records of the 1870–1914 and 1945–71 periods show, secular inflation as a widespread international phenomenon was held in check. Moreover, during these periods the exchange rates of countries adhering to these standards were stable. It is the severing of the link between credit creation and the rate of real economic activity that ushered in the unprecedented international inflation of the 1970s (vestiges of which are still with us), highly variable and largely unpredictable exchange rates and the international debt crisis.

The creation of the EMS in 1979 was a reaction to the failings of the international monetary system as well as a step on the road to a united states of Europe. It was created as a “zone of monetary stability.” It also aimed for symmetry between the members – it was a lack of symmetry in balance of payments and economic policy adjustment that had brought down the Bretton Woods system and had made the European currency snake unattractive to some EEC countries, including the French. Ironically, the EMS quite quickly became a deutschmark zone, in some ways similar to the manner in which the Bretton Woods system turned into a dollar standard. That is, it was never planned that either the US dollar or the DM would become the central currencies of an international monetary system, yet it happened just the same. During the 1980s and for most of the 1990s it fell to Germany to provide stable monetary conditions for the EMS as a whole. Unfortunately, following the reunification of that country, German nominal and real interest rates increased sharply, so straining the exchange rate mechanism (ERM) of the EMS and, in 1992, forcing Britain and Italy out of it and causing Ireland and Spain to reintroduce foreign exchange controls. Then in the summer of 1993 the French were embarrassed into asking for the modification of EMS

rules so that the franc could be devalued without actually leaving the system. Even earlier, some EU members came to resent German monetary hegemony and sought a means to create symmetry in European monetary affairs. The Delors Committee Report (1989) and the Maastricht Treaty (1991) were expressions of the desire to correct these fault lines in the EMS. A political economy consequence of the introduction of the euro managed by the European Central bank under the management of EU central bankers is the removal of Germany from monetary hegemony in Europe – or, so it seems at this time.

In chapter 18 we set out the theoretical case for monetary union starting off with seminal ideas developed in the 1960s and leading on to the modern theoretical statements of the 1990s. Chapter 18 applies these theories not only to monetary union proper (in which a single currency and single central bank – the latter possibly *de facto* rather than *de jure* – effectively replaces all others) but also to the choice between exchange rate pegging, currency boards, and dollarization. As modern monetary union theory stresses the importance of shocks – asymmetric versus symmetric (with the latter favoring monetary union) – we briefly review the empirical evidence with respect to the EU in this chapter. Broadly speaking this evidence suggests that monetary union might be workable for many, but not necessarily all, EU members.

Chapter 19 begins by describing the large scale of international capital flows and investigates them in some detail. One argument is that while eurobanks are an important conduit for international capital they have little scope to create money and thereby undermine the stability of the international monetary system. The explanation for the enormous growth in Eurobank assets and liabilities is shown to reside in the failure of the international monetary system to impose balance of payments discipline. As eurobanks and other international financial intermediaries have a tendency toward under-capitalization owing to the public good nature of bank equity capital – international bank failures may result with potential contagion effects undermining the international monetary system (as well as national banking systems). It is necessary, therefore, to examine bank regulation under the Basle Capital Accord. We also assess the degree of mobility of international capital, arguing that perhaps short-term capital is rather less mobile than conventional wisdom seems to believe; but we reaffirm, using a different modeling technique, the famous Feldstein–Horioka finding that long-term capital is rather immobile. The chapter signs off by examining the growth of international bond markets.

Chapters 20 and 21 are on developing countries in the international monetary system. Chapter 20 discusses their relationships with the IMF and the issues raised by the “new structuralists” on the desirability of IMF loan conditionality as applied to developing country borrowers. Under weight of criticism during the last decade or so, the IMF has relented somewhat and now allows developing country borrowers more generous loan terms. Empirical evidence on the effects of IMF loan conditionality, though mixed, does lend some support to its desirability.

Chapter 21 considers the subject of the “order of liberalization” in developing countries as they pass through a process of moving from being highly regulated

to being much less so. Early hurried attempts at liberalization in the southern cone of Latin America had led to financial chaos. It turns out that the order in which markets are liberalized does matter and this includes the positioning in the sequence of the liberalization of the foreign exchange market.

The newest group of national actors on the stage of international finance are the formerly centrally planned or so-called transition economies (TEs) – examined in chapter 22. Here we offer a simple integrated microeconomic–macroeconomic model in which the various economic reform processes may be understood. We also examine exchange rate overshooting in TEs, offering a simple economic model and a review of some empirical evidence.

Chapter 23 returns to the issue of international debt first broached in chapter 14 on currency crises and speculative attack. Topics of discussion include the debt “problem,” its causes, capital flight, the lenders’ trap, and some debt relief policies.

Finally, in chapter 24 we discuss the matter of international monetary reform. The principles upon which the design of an international monetary system must be based are laid out. We assess the costs and benefits of flexible exchange rates, McKinnon’s plan for international financial stability, and Williamson’s “extended target zone” proposal. Finally, it is worth noting that at various points throughout this book we have referred to the idea that any viable international monetary system has to rest on the foundation of sound *domestic* financial systems, something that Eichengreen (1999) has referred to as the “international financial architecture.” Thus it was that crumbling domestic banking systems were at least in part responsible for bringing down the East Asian dollar standard in 1997, and were in part responsible for the ejection of both the USA and Belgium from the interwar gold standard.