INTERNATIONAL FINANCE

FIFTH EDITION

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Bloomsbury

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To all my family

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INTRODUCTION

THE SUBJECT MATTER OF INTERNATIONAL FINANCE

The subject matter of international finance is, broadly speaking, concerned with the monetary and macroeconomic relations between countries. International finance is a constantly evolving subject that deals very much with real world issues such as balance of payments problems and policy, the causes of exchange rate movements and the implications of macroeconomic linkages between economies.

Many economists had predicted that the adoption of generalized floating in 1973 would lead to a demise of interest in the subject. They believed that exchange rate adjustments would eliminate balance of payments concerns. As is the case with many economists' predictions, they were proved wrong! Floating exchange rates did not eliminate balance of payments preoccupations and over 40 years of persistent US current account deficits since the early 1980s have become a mounting concern for the global economy. Floating exchange rates have been characterized by high volatility and substantial deviations from purchasing power parities. Exciting new theories were developed to explain these phenomena and these theories have been subjected to close empirical scrutiny. While the more recent literature has emphasized that PPP may still be a valid long-run phenomenon, the speed with which deviations from PPP are corrected has become a source of controversy.

The quadrupling of oil prices at the end of 1973 and the doubling in 1979 caused considerable turbulence to the world economy. There were dramatic divergences in economic performance: the United Kingdom and Italy experienced substantial rises in their inflation rates, while the Japanese and German economies managed to keep the lid on inflation. In such a turbulent world, a widespread desire to create a zone of currency stability amongst the countries belonging to the European Community led to the setting up of the European Monetary System in 1979. Contrary to much initial scepticism and the odd speculative attack, the system survived until the end of 1998. Then, on 1 January 1999, the European Union achieved the holy grail of Economic and Monetary Union with 11 founding members. Greece was admitted into the Monetary Union on 1 January 2001 and was thereby able to participate fully when the euro finally arrived at street level on 1 January 2002. The advent of the European Monetary Union is probably the most significant development in the international monetary system since the breakdown of the Bretton Woods system in the early 1970s. The euro has had a turbulent time in the foreign exchange markets, depreciating from an initial value of \$1.17/€1 to an all-time low of around \$0.82/€1 in October 2000, before making a remarkable recovery to be trading around \$1.59/€1 in April 2008. This was followed by a fall back to around \$1.2150/€1 in early August 2012, and it then recovered to \$1.39/€1 in May 2014, only to be hit by the Brexit vote in June 2016 and depreciate to \$1.04/€1 by 3 January 2017. It stands at around \$1/€1 at the time of writing in early November 2022. Since the adoption of the euro in 1999, market participants had assumed that, since the debt of governments such as those of Portugal, Ireland, Italy, Greece and Spain (PIIGS) was now denominated in euros, it should have roughly the same yield as German government bonds. This failure to price properly the credit risk of differing countries was fully exposed once the global financial crisis revealed the very differing fiscal dynamics of these economies. The yields on PIIGS debt rose significantly, while yields on German bonds declined substantially.

The higher interest rates and economic crises in the PIIGS economies necessitated bailouts for Ireland, Greece, Portugal and Spain. There was even talk of a 'Grexit': of Greece leaving the eurozone and the financial and economic turmoil that might follow. Nonetheless, the Greek economy eventually survived within the eurozone and the eurozone itself has expanded in size to have 19 members by June 2022, confounding many of the sceptics that have thought it would unravel. Nonetheless, the euro has had less of an impact on the pivotal role of the US dollar in the international monetary system than might have been expected when it was founded.

The dollar itself has had a turbulent history since the breakdown of Bretton Woods. It generally depreciated against its major trading partners in the 1970s but during 1981–85 a massive and sustained real appreciation of the dollar was largely blamed on divergences in macroeconomic policies internationally. The United States had an ever growing fiscal deficit with rising real interest rates while the European and Japanese economies were adopting much tougher fiscal policies. The resulting appreciation of the dollar led to trade frictions between the United States and its trading partners. To limit these damaging policy divergences, there were calls for a greater coordination of macroeconomic policies. There was also much discussion in the economic literature over the potential gains to be had from such coordination.

In August 1982 the Latin American Debt Crisis exploded on to the scene with the announcement of the Mexican moratorium, and sparked off major concerns about the stability of the international banking system. Resolving the worst of the crisis took up the best part of 15 years, and despite its supposed resolution with the Brady Plan of 1994 there were still major economic crises in three of the four major debtors, notably Mexico in 1994/95, Brazil in 1999 and Argentina in December 2001; the latter declared a debt moratorium and ended its peso currency board peg to the US dollar in January 2002. Venezuela, despite its potential and oil wealth, has been mismanaged for so long that it fell into a period of hyperinflation during the period 2019–20. Argentina has continued to have significant restructures of its debt over the years, culminating in a further default in May 2020. In sum, Latin America continues to disappoint international investors and fails to live up to anywhere near its potential.

Over the past four decades, the South East Asian economies have grown rapidly and their economic importance to the world economy has increased enormously. However, in July 1997 a devaluation of the Thai baht marked an abrupt ending of the 'Asian miracle' and the start of the so-called 'Asian financial crisis'. For the best part of a year and a half there was unprecedented turbulence in Asian financial markets with their currencies and stock markets both falling significantly in value and exhibiting enormous volatility. The turbulence in the financial markets was reflected in large output falls in many Asian economies and indeed a questioning of their economic systems. The economies have since stabilized and the economic profession has been busy ever since, analysing the implications of channels of trade and financial contagion, moral hazard and herding behaviour in an attempt to rationalize the crisis. More recently, there have been moves to set up early warning systems designed to detect potential crises before they develop.

Another major development in the past 55 years has been the exponential growth in trading in derivative instruments such as futures, options and swaps. These instruments have enabled firms to hedge risks, but they have also been at the centre of concern in that some authorities, companies and banks have run up enormous losses either through lack of understanding of the instruments or through the taking of unduly risky positions. The $1.7 billion losses of Orange County in the United States, the £827 million of losses run up by Barings Bank due to trading by the infamous Nick Leeson, the $6 billion losses (in just six weeks) by Brian Hunter, a hedge fund trader with Aramanth, a $6 billion loss for a rogue foreign exchange trader Jérôme Kerviel at Société Générale, losses estimated at close to $6 billion by Bruno Iksil at JP Morgan in credit derivatives in 2012, and Bill Hwang of Archegos Capital Management losing an estimated $10 billion on total return swaps in 2021 being well-known examples. Then, of course, there were the huge losses run up across the globe in the

banking system and financial sector, as a result of the subprime crisis, in large part associated with trading in new financial instruments such as collateralized debt obligations and credit default swaps.

In 2007 the so-called 'credit crunch' started, and resulted in the most prolonged economic downturn and financial turmoil since the Second World War. It also resulted in the most vigorous policy response, in an attempt to rescue the banking system and to try and prop up the economies. The verdict on the appropriateness of the policy response will be debated for years to come. An understanding of new terms such as 'collateralized debt obligations' (CDOs) and 'credit default swaps' (CDSs) became essential if the causes of the credit crunch and its evolution were to be properly understood. The credit crunch raised a whole host of new issues such as bankers' remuneration, the benefits and costs of financial innovation, banks deemed to be too big to fail, moral hazard and the need for a new regulatory regime for banks and other systematically important financial institutions (SIFIs).

Then the world was hit by its biggest common shock since the Second World War – the Covid-19 pandemic. Starting in December 2019 the virus spread from the city of Wuhan in China to virtually every country in the world. While governments sought a vaccine for the virus, there was an unprecedented fall in economic activity. Lockdowns confined people to their homes, hundreds of millions were forced to work from home and there were initially large falls in stock markets around the world. In a bid to mitigate the impact of the virus on economies, governments were forced to borrow enormous sums of money to finance furlough schemes, business support and large increases in healthcare spending. Since governments were not in a position to finance the deficits through tax rises, there were further programmes of massive quantitative easing which kept interest rates low and led to quick recoveries in stock markets but also created a problem of inflation and a cost of living crisis in many economies.

Then on 24 February 2022 another major shock hit the global economy, with the Russian attack on Ukraine. The war led to a significant rise in economic uncertainty, large initial falls in stock markets and a significant rise in oil and gas prices. These were accompanied by large rises in food prices, especially wheat and fertilizers, for which Ukraine is a major exporter. As a result of the invasion, the US and key European economies undertook a series of economic, trade and financial sanctions designed to isolate the Russian economy and penalize it for the invasion. The combined impact on the Russian economy is estimated to have lowered its GDP by around 10%, but the war is also expected to negatively affect many economies reliant on Russian oil and gas and has added to the inflation rate in both developed and developing countries.

The massive quantitative easing programmes by the major central banks, including the Federal Reserve, Bank of England, European Central Bank and the Bank for Japan, as a response to the global financial crisis (GFC) led to unprecedented increases in the money supplies and started to undermine confidence in the fiat money systems. It had long been discussed in the literature as to whether there was a case for a global currency and then with a famous 2009 paper written by an as yet unidentified Satashi Nakamoto entitled 'Bitcoin: A Peer-to-Peer Electronic Cash System', the blueprint for a digital currency was set out, with the release of the actual bitcoin following later in the year. In its early days bitcoin was viewed as something for nerds but interest in bitcoin, which is an application of the blockchain, began to take off and resulted in its price rising from around 10 cents in 2010 to a record high of over $67,000 on 8 November 2021, before falling back to $20,000 in November 2022. The price appreciation of bitcoin and the application of blockchain have spawned worldwide interest in other crypto coins such as ethereum, solana, tether and even a joke coin called dogecoin supported by the occasional tweet by Elon Musk. At the time of writing, the entire crypto coin space had a market cap of close to $1 trillion having peaked at $3 trillion in November 2021. While these private digital coins are unlikely to become real money due to heavy transaction costs, delays in transferring from one person to another and lack of legal tender status, they have, however, led to a debate about the merits of central bank digital currencies (CBDC). The blockchain has also resulted in an interest in non-fungible tokens

(NFTs) and the application of blockchain to areas of finance is undoubtedly increasing. It is a fast-developing space that will undoubtedly affect the world of finance in the years to come, regardless of the fate of some of the crypto coins, which some argue represent the greatest Ponzi scheme in human history.

Not surprisingly, in response to many of the foregoing developments, the literature reflecting the importance of the subject has mushroomed. Although there are a number of very good texts covering many of these topics it is extremely hard to find a core book to recommend. Some books are very strong on theory but pay little attention to empirical issues. Others are excellent on recent exchange rate theory but presume a reasonable background in traditional exchange rate and balance of payments theory. Older texts, while good on traditional theories, inevitably do not cover the modern literature and modern developments in the world of international finance. The first four editions of this text were designed to provide a single core book giving an accessible and up-to-date introduction to the field of international finance. The market success of the previous editions and recent developments such as the eurozone crisis, the growth of news derivative instruments such as collateralized debt obligations and credit default swaps, along with new theoretical and empirical developments in the subject area, inevitably led to demands for a fifth edition, which I present here. Economics is increasingly a profession where the tail (mathematics and econometrics) is wagging the dog (economics). I like to think this is a book where the dog is wagging the tail; it is written in this spirit, for which I make no apologies. The global financial crisis has shown that banks over-relying on sophisticated mathematical models to manage risk failed spectacularly and with miserable results.

DISTINGUISHING FEATURES OF THIS TEXT

The main distinguishing features of this text can be summarized as:

- The text presents both traditional and modern theories in the field. To the extent that it is possible, the presentation follows a chronological order that gives students an impression of the development of the literature.

- The text is not purely theoretical but presents students with a reasonable overview of the empirical evidence relating to the theories discussed.

- The technical expertise required of students is kept to a fairly low level. However, rather than exclude some important topics that require a more technical exposition, a basic knowledge of mathematics and statistics is assumed.

- Extensive use is made of diagrams, tables and graphs to illustrate the arguments in the text.

- A number of important recent developments and subjects are given an extensive and up-to-date, rather than cursory, treatment. Most notably, there are entire chapters devoted to international policy coordination, currency derivatives, European Monetary Union, the international debt crisis, the Asian financial crisis and the credit crunch. Among the issues discussed are, *inter alia*, exchange rate 'overshooting', the problem of time inconsistency, game theory, currency crisis and moral hazard. The chapter on the credit crunch reflects not just the obvious importance of this event but also the need for students to understand the importance of financial innovation and what is meant by 'collateralized debt obligations' and 'credit default swaps'.

- At the end of the book in the Further Reading section you will find a list of very useful texts on the subject matter of appropriate chapters.

- I have included a number of useful web links and excellent blogs that are pertinent to the world of international finance. These websites frequently provide access to invaluable information, data and the latest research in the subject area. Included is my own website **BusinessEconomics.com**.

In addition, the book has its own website in which there are slides of all the graphics, tables and exercises as well as a number of useful web links and other resources for instructors and students. The URL is https://bloomsbury.pub/international-finance-5e. The coverage and level of technical expertise expected of students makes the text suitable for use as a main text on a variety of degree courses. These include undergraduate and one-year postgraduate courses in international economics, international monetary economics and international finance. Much of the material covered makes the book particularly useful for the international finance component of MBA courses. Some of the chapters in the book are relevant to courses in intermediate macroeconomics and international relations.

PRESENTATION AND CONTENTS

In writing the text, it soon became apparent that there is a bewilderingly wide range of models that could be presented. At the same time, it is extremely difficult to present the various theories as a subset of some general model, since that model would quickly become intractable. In the end, it was decided to concentrate on the models that have dominated the literature, even though the assumptions underlying the models in different chapters can differ greatly. It is hoped that the clear statement of the different assumptions underlying the theories at the beginning of each chapter and the contrasts drawn between the various models will facilitate student understanding.

The book is divided into three parts. The opening part is concerned with balance of payments theory and policy. The second part is devoted to theories of exchange rate determination and policy, including an examination of the empirical exchange rate literature. The final part of the book traces the evolution and development of the international monetary system, in which the major features of the current system are analysed.

Broadly speaking an attempt has been made to present each part of the book in a chronological order that will give students a perspective on the development of the literature. A brief overview of the chapters is as follows:

PART 1: BALANCE OF PAYMENTS THEORY AND POLICY

The opening chapter provides an introduction to the foreign exchange market and provides an essential background to the study of the remaining chapters in the book. Chapter 2 provides an introduction to balance of payments statistics and their interpretation. Chapter 3 presents some national income and balance of payments identities and then examines the traditional elasticity and absorption approaches to devaluation that were developed from the 1930s to the 1950s. Chapter 4 analyses macroeconomic policy in an open economy using the Keynesian IS-LM-BP model which dominated policy discussion in the 1960s. This framework is then used to examine the effectiveness of fiscal, monetary and exchange rate policies in achieving internal and external balance. This is then followed, in Chapter 5, by an examination of the distinctive monetary approach to the balance of payments which emerged in the late 1960s and early 1970s.

At the outset, it is worth noting that there are considerable differences between the Keynesian model of Chapter 4 and the monetary model of Chapter 5. The Keynesian model is based upon fixed domestic prices and assumes a horizontal aggregate supply schedule, so that variations in aggregate demand translate into changes in output and not prices. This contrasts with the monetary model which assumes a vertical aggregate supply schedule at the full employment level of output so that changes in aggregate demand translate into changes in prices rather than output. Furthermore, the Keynesian model takes a flow view of capital movements and assumes imperfect goods substitutability, whereas the monetary model takes a stock view of capital movements and assumes perfect goods substitutability.

PART 2: EXCHANGE RATE DETERMINATION: THEORY, EVIDENCE AND POLICY

Chapter 6 commences with the purchasing power parity (PPP) literature, which is one of the earliest theories of exchange rate determination. PPP has not proved to be a reliable indicator of floating exchange behaviour, and some of the explanations that have been put forward to explain its failure are discussed. A new section dealing with measurement of per capita GDPs and the relative size of different economies using a PPP shows the relevance of the concept of PPP to understanding the world economy. In Chapter 7 there is an exposition of the modern monetary theories of exchange rate determination that were developed in the 1970s which emphasize the importance of monetary factors in explaining exchange rate behaviour. I deal first with the 'flexible price' monetary model, followed by the 'sticky price' Dornbusch model and finally the Frankel 'real interest rate differential model'. The chapter also introduces the risk premium and portfolio balance approach to exchange rate determination. The portfolio balance exchange rate model which was developed at the same time as the monetary models is discussed more fully in Chapter 8. The portfolio balance model emphasizes that risk factors and current account imbalances may have an important role to play in exchange rate determination.

In Chapter 9, I present the empirical literature on floating exchange rates, which only really got under way at the end of the 1970s and has mushroomed ever since. Three major empirical issues are examined: the first is whether or not the foreign exchange market can be regarded as efficient; the second concerns whether modern theories of exchange rates satisfactorily model observed exchange rate behaviour; and the third concerns the formation of exchange rate expectations. I include discussion of some important recent results which suggest that economic fundamentals may still be useful for predicting longer-run exchange rates. Chapter 10 concentrates on exchange rate policy. It begins with a review of the traditional debate over the relative merits of fixed and floating exchange rates. This is then followed by an assessment using the more modern approach to analysing exchange rate policy, which compares the stabilizing properties of the two regimes within the context of a formal macroeconomic model.

PART 3: THE POST-WAR INTERNATIONAL MONETARY SYSTEM

Chapter 11 provides an overview of the development of the post-Second World War international monetary system. It commences with the operation and eventual breakdown of the Bretton Woods system and then surveys the major developments since the adoption of generalized floating. Chapter 12 examines the eurocurrency and Eurobond markets which have become ever more important vehicles for the globalization of international finance. Chapter 13 examines the basics of derivative instruments and explains the differences between options, futures and swaps as well as the principles behind the pricing of these instruments. Chapter 14 provides an overview of the literature on international policy coordination, a topic of which there

has been a great deal of research since 1985 and which remains an area of considerable controversy. Chapter 15 is devoted to an analysis of many of the issues raised by the Latin American debt crisis. I look at the origins and management of the crisis and include coverage of the Mexican 1994–95 crisis, the Brazilian devaluation of 1999 and the Argentina debt default in December 2001 with the ending of its currency board in January 2002. Chapter 16 looks at the achievement of the Economic and Monetary Union in Europe. This chapter has been fully updated to reflect the aftermath of the eurozone crisis including, *inter alia*, the fiscal compact, the European Stability Mechanism, and recent attempts to form a capital markets union and a banking union. Chapter 17 covers the currency crisis literature. There is coverage of first, second and third generation models and a special focus on how these might be useful in analysing the East Asian financial crisis. There is also coverage of the recent literature on early warning systems. Finally, Chapter 18 looks at the causes of the credit crunch, the role played by financial innovations such as collateralized debt obligations, credit default swaps and the policy response. It also includes an analysis of the impact of the Covid-19 pandemic which, when looked at via output measures, had roughly double the negative impact of the global financial crisis and also led to even greater quantitative easing programmes being adopted by the Federal Reserve, European Central Bank and Bank of England, risking a major upsurge in inflation.

USE OF THE BOOK

The scope of the book is sufficiently wide that there is considerable flexibility for lecturers to design courses that reflect their own interests. Chapters 1–5 probably provide the backbone to most courses in this field. Chapter 6 on purchasing power parity is a core chapter on exchange rate theory and floating exchange rate experience. Thereafter, the degree to which modern exchange rate theory is covered will be dependent on the length and priority of the course. Chapter 7 covers the modern monetary models. There is no doubt that the Dornbusch model of exchange rate overshooting represents such a significant contribution to our understanding of exchange rate behaviour that getting over its message is highly desirable. The problem is that a formal presentation is sometimes too advanced for some courses in international finance. For this reason, I have split up the presentation of the Dornbusch model into two parts: one is a simple explanation of the model without recourse to the use of equations; this is followed by a more formal presentation for more advanced classes. I hope that this approach enables most students to gain at least an intuitive grasp of the ideas underlying modern exchange rate theory and at the same time that it satisfies the demands of more rigorous courses.

Chapter 8 on the portfolio balance model can easily be omitted if the course does not go into great detail on exchange rate theory. With regard to the empirical evidence on exchange rates it is quite possible to omit the coverage of exchange market efficiency tests and just recommend sections 9.6 to 9.10 for an overview of how well modern exchange rate theories perform empirically. In Chapter 10 it is possible to cover the traditional debate on fixed and floating exchange rate regimes without having to cover the more modern approach, though I have found the modern approach, that compares the two regimes within an aggregate supply and demand framework, to be very popular with students. Part 3 of the book offers a range of topics that can be chosen to reflect the emphasis of the particular course.

USE OF EXCHANGE RATE DEFINITIONS IN THE BOOK

There are two means of expressing the exchange rate: one is *foreign currency units per unit of the domestic currency* and the other is *domestic currency units per unit of foreign currency*.

Taking the pound to be the domestic currency and using the first definition, a rise in the pound from $1.25/£1 to $1.50/£1 means the pound has appreciated or, equivalently, the dollar has depreciated. Using the second definition, which is domestic currency units required to purchase one unit of foreign currency, means that a $1.25/£1 exchange rate is expressed as £0.80/$1 while a $1.50/£1 exchange rate is expressed as £0.6667/$1.

The reader will note that the second method is merely the reciprocal of the former. While it is not important which method of expressing the exchange rate is employed, it is necessary to be careful when talking about a rise or fall in the exchange rate because the meaning will be very different depending upon which definition is used.

If the first definition is employed, a rise in the exchange rate from $1.25/£1 to $1.50/£1 would mean that more dollars are required to purchase one pound, so that the pound has appreciated or, equivalently, the dollar has depreciated. Conversely, if the second definition is used, a rise in the pounds per dollar exchange rate from, say, £0.6667/$1 (i.e. $1.50/£1) to £0.80/$1 (i.e. $1.25/£1) means that more pounds have to be given to obtain a dollar, which means that the pound has depreciated in value or, equivalently, the dollar has appreciated in value.

In Chapters 1 and 2, I mainly define the exchange rate as foreign currency units per unit of domestic currency. This is the definition most commonly employed in the UK, where the exchange rate is quoted as, for example, dollars or yen per pound and is the definition almost uniformly employed when compiling real and nominal exchange rate indices for all currencies. However, in other chapters of the book I normally use the domestic per unit of foreign currency definition, which is the definition most often employed in the theoretical economic literature. It is important when reading newspapers, articles or other textbooks that readers familiarize themselves with the particular exchange rate definition being employed. There is no real way around this problem. Up until 1 January 1999 British foreign exchange dealers were used to seeing market quotations as foreign currency per pound, for example Deutschmarks per pound, but since the advent of the euro they have had to get used to that particular rate being quoted in the market as pounds per euro; meanwhile the dollar–pound exchange rate is traded in the market as dollars per pound.

PART 1
BALANCE OF PAYMENTS THEORY AND POLICY