FINANCIAL SYSTEMS AND RISK MANAGEMENT

香港銀行學會
The Hong Kong Institute of Bankers

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Preface

This book falls into two sections. The first provides readers with a basic understanding of how financial systems work. This is not as simple an undertaking as it may appear. The 2008 financial crisis uncovered serious shortcomings in many established national financial systems, particularly those in the West, which then affected the rest of the world. As a result, many investment and commercial banks have experienced financial problems, with some requiring government assistance to keep them afloat and others being sold or declaring bankruptcy.

We start by discussing the evolution of the global financial system, beginning with the gold standard and on to the Basel Accord. From this historical perspective, the role of crises in shaping financial systems and mechanisms becomes apparent. It also becomes clear that a radical restructuring of the current financial system is coming. We then narrow our focus to Hong Kong's financial system, particularly on how the Hong Kong Monetary Authority responded to the global crisis. We also analyse other major financial crises in recent history and discuss the theories that help explain them—and perhaps help us predict when the next crisis will come.

The focus in the second part of the book is on risk management. After an introduction to the subject, there is a lengthy discussion of the risk-management requirements of Hong Kong and global regulators. Risk management is replete with theories, models and regulations, so we illustrate principles, best practices and other issues with a case study of risk management in a global bank, as it reports the daily activities of its employees and executives in its annual report. The book also reproduces the template for an Internal Capital Adequacy Assessment Process (ICAAP) required of banks by the Financial Services Authority in UK. The document clearly shows what regulators are looking for in the area of risk management.

Featuring summaries, highlights and illustrations, this book is written for bankers and other professionals who are interested in the intellectual framework of the issues they meet in the workplace every day and who wish to update their knowledge of the latest developments in the field. It is also suitable as a textbook for an introductory college or university course in banking. The study guides with revision questions, which will be regularly updated, are particularly helpful for those who are taking the AHKIB Examination on Financial Systems and Risk Management.

The preparation of this book would not have been possible without the assistance, advice, support and encouragement of a number of people including, in particular, Mr Fred Au, Mr Samuel Law, Dr Raymond Lee, Mr K. H. Ng, Mr Vincent Ng, Ms Joanna Shi, Mr Benny Yim, and professors, lecturers and management of Hang Seng Management College.

In addition a special note of thanks is due to the contributors listed overleaf, whose support and hard work helped make this book possible. The Hong Kong Institute of Bankers and future banking professionals are indebted to them all.

The Hong Kong Institute of Bankers

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About the Hong Kong Institute of Bankers

Established in 1963, the Hong Kong Institute of Bankers (HKIB)—formerly known as The Chartered Institute of Bankers - Hong Kong Centre—is a non-profit organisation whose membership represents a broad cross-section of the banking and finance industry.

The HKIB works to achieve its vision—the sustained growth of the banking industry and the enhancement of the professional standards of practitioners—through the provision of high-quality education. Backed by decades of banking knowledge, the HKIB awards professional qualifications that are widely recognised by the banking and finance industry, not only in Hong Kong, Macau and Mainland China but the world over. The achievements of the HKIB in developing human capital in the banking industry are reflected in its position as the Professional Writer of the Specification of Competency Standards (SCS) for the banking sector of the Qualifications Framework (QF) of the Hong Kong SAR.

Rapid changes in the banking and financial landscape make it ever more important for individuals to engage in continuous professional development to maintain their competitive edge. To meet this need, the HKIB designs and organises a comprehensive portfolio of professional examinations and training programmes to meet the needs of its members. The Institute's flagship courses, such as its Associateship (AHKIB) and Certified Financial Management Planner (CFMP) programmes, give practitioners not only mastery of local and regional practice but also provide the international perspective that is essential for today's industry professional.

The HKIB's comprehensive training programmes, which align advanced teaching methodologies with the needs of professional practice, also have a wide appeal for professionals from other disciplines, including the accounting, IT and legal fields, where knowledge of financial practice is becoming increasingly essential.

For more information on the HKIB, its professional courses and related activities, visit its website at: www.hkib.org.

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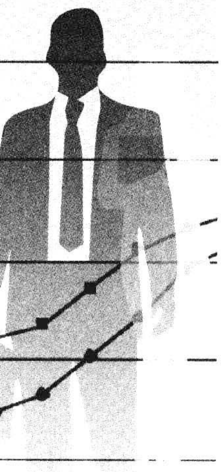
CHAPTER 1

The Global Financial System: Markets and Organisations



Learning objectives

After reading this chapter, you should be able to:

1. List the major developments in the formation of the international financial system.
2. Identify global institutions that support the development of the international banking system.
3. Discuss the financial systems of the US, UK, Europe and mainland China.
4. Discuss the causes of various financial crises in history.

Introduction

This chapter examines the global financial system. In general, a financial system is a system that facilitates the exchange of money for financial assets through the operation of various markets and institutions.

Financial Systems

Financial institutions, individual participants and payment counterparts take different roles and interact actively in securities transactions. When a listed corporation requires funding, it could consider raising funds in the capital market, which generally includes the equity market and debt market.

If a borrowing entity wants to raise funds by issuing equity to domestic investors of a country, we could say that it is involved in the local financial market. But if it plans to raise capital by issuing both debt and equity to investors globally, that entity would be involved in financing activities in the global financial markets, where financial institutions may get involved to advise it on cross-border securities issues, foreign investors may need research and analytical advice before investing in the entity, and the overseas payment system would be involved when funds are routed from investors to the hands of the borrowing entity in the final settlement. Of course, the roles of financial intermediaries do not stop there, as long as securities issuers and investors need any continuous service; for example, regular rating updates and payment of interest.

In the global financial system, the following parties are essential and active in their roles and functions.

Financial Institutions

A financial institution is an entity providing financial services to its clients and to the public. The most well-known financial institution is a bank. A bank acts as a financial intermediary (middleman), taking funds from depositors and providing funds to borrowers.

In addition to banks, the following financial institutions also play the role of financial intermediary:

- *Insurance companies:* They collect insurance premiums from a group of clients and pay the ones who have accidents.
- *Mutual funds:* They collect funds from individual investors and invest in stocks and bonds for the investors.
- *Pension funds:* They collect savings from individuals or contributions from their employers and buy stocks or bonds for them.

- *Brokerage houses:* They form a network of intermediaries via exchanges, buying and selling financial assets on behalf of their clients.
- *Investment banks:* They underwrite securities and distribute them to their clients. This means they essentially buy securities from the issuers and sell them to their global clients.

Financial institutions can be separate institutions operating in the financial services industry. They may be monitored by different regulatory bodies, depending on the scope of their business. However, large financial institutions nowadays tend to integrate various financial services together and distribute their services via their global networks. For instance, a corporation may want to borrow short-term funds, hedge its currency risk, arrange business insurance and start a pension fund for its employees. A large financial institution can act as a one-stop shop to handle all these service requests.

The Global Financial System

The global financial system is the legal and institutional structure under which the financial systems of the world's national economies interact with one another.

Supranational institutions, international agreements and treaties, and global guidelines provide this structure. The global financial system makes possible the flow of money and investment among national economies, cross-border banking and the financing of international trade. A well-functioning global financial system facilitates globalisation, more efficient use of economic resources and a higher global standard of living. A well-functioning global financial system is a necessary condition for the prosperity of a global financial centre such as Hong Kong.

Unfortunately, a well-functioning global financial system is not something that just arises automatically. International crises cause problems with the global financial system; for example, wars have disrupted and permanently altered it. At the time of writing, many believe the global financial system needs further reform and that the global financial crisis of 2007–09 has in part been caused by defects in the global financial system.

History of the Global Financial System

Some rudimentary form of a global financial system has existed ever since humans began to travel and trade goods. For example, trade between the ancient Roman and Han Chinese empires had to be financed in some fashion. However that was accomplished, either by the barter of goods or the use of precious metals, can be considered as an early global financial system prototype.

Since the beginning of the nineteenth century, the world has seen five global financial regimes or standards: the bimetallic standard (gold and silver), the silver standard, the gold standard, the dollar–gold-based Bretton Woods standard and the current dollar-based floating-rate fiat money standard. In the nineteenth century, the bimetallic, gold and silver standards existed simultaneously. In today's more fully globalised world, only one regime can really prevail at a given time.

It is clear that the global financial system is likely to change further as countries such as China and India grow in economic importance and the euro continues to receive acceptance. The dollar-based nature of the current fiat money system and its potential for abuse by the United States has come in for criticism by several countries, including China and Russia. Interestingly, similar criticisms of the dollar-based Bretton Woods system were levelled 60 years ago by French President Charles de Gaulle. But so far no one has come up with a way to replace the dollar.

The US has been accused of operating too lax a monetary policy over the period 2001 to 2007. But the US could not have done this without the cooperation of other nations. If this were not so, the dollar would have totally collapsed in response to the lax US policy. Many economists believe that China, for example, facilitated an over-expansionary US monetary policy by holding down the value of the renminbi in order to make its exports more price competitive. This had the effect of adding to the global money supply and pushing down US interest rates. China bought dollars, increased the Chinese monetary base and reinvested the dollars in US Treasury and agency securities.

Box 1.1 illustrates the issue of the US dollar for international transactions.

THE RISK OF THE US DOLLAR AS A GLOBAL CURRENCY

The 1971–75 period was one of disarray for the United States. Rising inflation, the war in Vietnam, an OPEC-driven major rise in oil prices, and the Watergate scandal that ultimately resulted in the resignation of US President Richard Nixon preoccupied the country. International currency issues, while they may have been of considerable importance to the world, sometimes took a back seat in the heat of US domestic politics.

Probably the most remembered remark indicative of this disarray was uttered by US Treasury Secretary John Connolly. He told the world in 1971 at the time of the collapse of the Bretton Woods system, 'It's our currency but your problem.' Arrogant perhaps, but he was right.

Almost 40 years later, the US treasury secretary today could make the same statement. Conditions are unfortunately similar. The United States, at the epicentre of the crisis of 2007–09, with a massive fiscal budget deficit and in deep recession, appears in disarray. Major countries—this time China India, and Russia, among others—are calling for a replacement of the dollar as the world's major reserve currency.

As the French discovered half a century ago, it's easier said than done.

Major International Monetary Standards

The following reviews major international standards that shaped international financial systems in different periods of recent history.

The Gold Standard (1871–1914, 1925–33)

The gold standard is a fixed exchange rate system. There are differing versions of the gold standard, most notably the gold exchange system and the so-called classical gold standard. Under these versions, currencies of different countries are fixed against one another because they are all convertible into a fixed amount of gold at a rate that is not expected to change. In theory, the gold standard provides a system that is self-regulating and basically non-inflationary. Its theoretical underpinnings were laid out in a model by economist/philosopher David Hume in 1752. The gold standard received a major boost at the conclusion of the Franco–Prussian War in 1871 when Germany, France, Belgium and the Scandinavian countries took up the gold standard.

The world's leading economic power at that time, the United Kingdom, was already on the gold standard. The gold standard's heyday was between 1871 and 1914, when the major world economies were on the gold standard, capital flowed globally without restriction and inflation was not a problem. The United States, which could be called an emerging economy in the nineteenth century, was de facto on the gold standard for most of that century but did not officially adopt the gold standard until 1900. Questions about the United States' adherence to the gold standard helped contribute to the US panic of 1893. A critical requirement for the successful workings of the gold standard was that investors and speculators believed that a nation would remain on it at the same fixed rate regardless of pressures on the currency. World War I saw the suspension of the gold standard by the major European countries. The attempt to revive the gold standard after World War I—perhaps best dated by the re-entry of the United Kingdom in 1925—ultimately ended in failure when most countries exited the gold standard in the early 1930s.

The Silver Standard

The silver standard is a fixed exchange rate system. It is similar to the gold standard except that currencies are freely convertible into a fixed amount of silver. China and Hong Kong were on the silver standard until the 1930s. At that time the US, in the Great Depression, set the price of silver above its market value in order to help silver producers in the United States. The result was that silver was sucked into the US, which caused a deflationary collapse of the silver standard in China.

The Bimetallic Standard

The bimetallic standard is also a fixed rate system. It is similar to the gold and silver standards except that currencies are freely convertible into fixed amounts of either gold or silver.

The bimetallic standard was in place in most European countries and the US at the beginning of the nineteenth century. But gradually it was abandoned. The problem was that the government-determined price of gold versus silver was frequently at variance with market prices. For example, Sir Isaac Newton—the father of modern physics—as Master of the Royal Mint in 1717 effectively put then-bimetallic Britain on the gold standard by overvaluing gold relative to silver. Britain only officially went on the gold standard in 1821 after the conclusion of the Napoleonic Wars.

Bretton Woods (1946–71)

In 1944, while World War II was still raging, representatives of 44 nations met in Bretton Woods, New Hampshire. Under the leadership of the United States and the United Kingdom, what came to be called the Bretton Woods Agreement was reached. Bretton Woods created a version of the gold standard that involved a fixed exchange rate system, in which a currency was linked by a fixed rate with the US dollar. The US dollar in turn was linked with gold at US$35 per ounce. The system collapsed when the US refused to sell more gold in 1971. Bretton Woods assumed that the US would maintain prudent fiscal and monetary policies which would preserve the value of the dollar against gold. Unfortunately at that time the US was engaged in a war in Vietnam and had undertaken substantial social programmes at home, and therefore was unable to pursue sound fiscal and monetary policies.

Floating Rate Fiat Money Standard (1973–present)

Sometimes called Bretton Woods II, major currencies—including the euro, the yen and the pound—float against one another, sometimes purely in response to market forces, sometimes with a certain amount of government intervention. Currencies of smaller countries may float or be pegged by decision of their own governments against the dollar or the euro. The dollar and the euro, and to a lesser extent the UK pound and the yen, are referred to as reserve currencies because they are used in international trade and held for precautionary reasons by other countries. Gold plays a very minor role as another type of international reserve. Reserves in the international financial system are defined as an asset that central banks will accept as payment among themselves.

The system is evolving as countries such as China assume greater economic importance and their currencies may go from pegged to floating, and in the case of China may even achieve reserve currency status one day. Since the US dollar remains the largest reserve holding in the system and is widely used as the currency of international trade, the current system remains US dollar-centric, although that could change in the future. Today capital flows freely around the world as most countries, China and India partially excepted, have removed capital controls. The Chinese renminbi, due to its lack of full capital account convertibility, cannot be considered as a competitor for the dollar as a reserve currency in the near term. As with any fiat money system, there is no convertibility into gold or any other precious metal. For those who believe the abandonment of the gold standard was a mistake, this is a fatal defect because there is no real check on the ability of governments to print fiat money.

International Financial Organisations

In addition to the above-mentioned international standards, there are international institutions which were formed to stabilise the financial system. They are introduced in the following sections.

Importance, Nature and Composition of International Liquidity

International liquidity enhances international acceptability for the settlement of international debts, which in turn helps facilitate a more effective international monetary system.

Since World War II, the following assets have constituted international liquidity in the narrow sense:

- gold
- US dollar
- special drawing rights (SDRs)
- reserve positions at the International Monetary Fund (IMF)
- multiple reserve currencies.

The broader concept of international liquidity comprises elements included in the narrow definition and borrowing facilities made available to sovereign states by the IMF, commercial banks, multinational sources and from central banks of other countries.

Special Drawing Right

The SDR is an international reserve asset, created by the IMF in 1969 to supplement the existing official reserves of member countries. SDRs are allocated to member countries in proportion to their IMF quotas. The SDR also serves as the unit of account of the IMF and some other international organisations. Its value is based on a basket of key international currencies.

The International Monetary Fund

The IMF was established under the Bretton Woods Agreement. It aims to monitor international balance of payment accounts of its member countries and serve as a lender of last resort for these countries in case of any financial crisis.

The SDR is a financial asset issued by the IMF, backed by US dollar, euro, British pound and Japanese yen. The amount of each currency in the basket is chosen according to the weight determined by the IMF of each currency in international trade and finance.

To date SDRs have played a relatively minor role as a global reserve asset and the euro has emerged as the dollar's principal competitor. No new SDRs were created between 1981 and 2008. In April 2009, the G-20, which is an economic forum consisting of 19 of the world's largest economies plus the European Union, authorised the IMF to issue US$250 billion in new SDRs. It should be noted that countries do not actually need to own SDRs to diversify their reserves out of dollars. They could simply hold their reserves in the same currencies and in the same proportion as in the basket of currencies underlying the SDR.

The IMF was created in 1945 to help promote the health of the world economy. Headquartered in Washington, DC, it is governed by and accountable to the governments of the 184 countries that make up its near-global membership.

Article I of the Articles of Agreement sets out the IMF's main responsibilities:

- promoting international monetary cooperation
- facilitating the expansion and balanced growth of international trade
- promoting exchange stability
- assisting in the establishment of a multilateral system of payments
- making its resources available (under adequate safeguards) to members experiencing balance of payments difficulties.

IMF Activities

More generally, the IMF is responsible for ensuring the stability of the international monetary and financial system—the system of international payments and exchange rates among national currencies that enables trade to take place between countries. The IMF seeks to promote economic stability and prevent crises; to help resolve crises when they do occur; and to promote growth and alleviate poverty. It employs three main functions—surveillance, technical assistance and lending—to meet these objectives.

Surveillance is the regular dialogue and policy advice that the IMF offers to each of its members. Generally once a year, the IMF conducts in-depth appraisals of each member country's economic situation. It discusses with the country's authorities the policies that are most conducive to stable exchange rates and a growing and prosperous economy. Members have the option to publish the IMF's assessment, and the overwhelming majority of countries opt for transparency, making extensive information on bilateral surveillance available to the public. The IMF also combines information from individual consultations to form assessments of global and regional developments and prospects. These views on the IMF's multilateral surveillance are published twice each year in the *World Economic Outlook* and the *Global Financial Stability Report*.

Technical assistance and training are offered—mostly free of charge—to help member countries strengthen their capacity to design and implement effective policies. Technical assistance is offered in several areas, including fiscal policy, monetary and exchange rate policies, banking and financial system supervision and regulation, and statistics.

Financial assistance is available to give member countries the breathing room they need to correct balance of payments problems. A policy program supported by IMF