

TABLES OF MODERN MONETARY SYSTEMS —EXPLANATION

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The material here and elsewhere on my Web site reflects my personal views only. I welcome comments, and expect to make further changes to this paper in the future. Copyright 2006 by Kurt Schuler for this essay and the accompanying tables.

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Purpose

Since the 1800s, thousands of researchers have patiently read through stacks of official reports, newspapers, bank records, letters, and other sources to compile information on the monetary history of various countries. In this outpouring of writing, though, there seem to have been only three previous attempts to collect country information about monetary systems into comprehensive worldwide surveys. They are Charles Conant's book *A History of Modern Banks of Issue* (first edition 1896; last edition 1927, after the author's death), Karl Dierschke and Friedrich Müller's *Die Notenbanken der Welt* (1926), and Oswald Hahn's *Die Währungsbanken der Welt* (1968). Franz Pick and René Sédillot's *All the Monies of the World* (1971) is, as its subtitle says, "a chronicle of currency values," but it says little about the monetary systems behind the exchange rates it lists. Carmen Reinhart and Kenneth Rogoff's paper "The Modern History of Exchange Rate Arrangements: A Reinterpretation" (2004) in a fashion extends Pick and Sédillot's work, though with a bit more detail on monetary systems.

The monetary history of many countries is unknown outside their own borders. Current and historical statistics have become available for more and more countries in recent years, but the basic knowledge of institutions necessary for interpreting the statistics has not kept pace. Despite our tendency to think that history really began when we started reading the newspaper regularly, it did not. Knowing what has happened at other times and in other countries is a corrective that broadens and deepens our understanding.

A monetary system (or arrangement) is the set of practices determining who may issue the monetary base and credit, and on what terms. In a paper elsewhere on my Web site, called "Classifying Exchange Rates," I discuss in more detail the components of monetary systems. Historical knowledge of monetary systems sufficiently reliable for making generalizations requires a combination of institutional history and statistics. As I see it, the most important material for such generalizations consists of information about the following items.

(1) Historical highlights and major bibliographical references. The country tables in other files on my Web site provide this information for the first time on a world scale in a monetary history.

(2) Types of monetary authorities. The country tables provide this information for the first time on a world scale.

(3) The main official exchange rate. The country tables provide this information comprehensively for the first time since Pick and Sédillot (1971).¹

(4) Market exchange rates, where significantly different from the official rate. The market rate can be a rate in an official "free" market or a black market. This information is available from Global Financial Data (for a fee), Reinhart and Rogoff (2004; less frequent data in some cases, but free), and sometimes from other sources. The country tables incorporate summaries of the free material.

(5) Exchange controls. A separate spreadsheet provides some rough-and-ready

¹Pick and Sédillot go father back than I do, listing a considerable amount of information on exchange rates before modern monetary systems.

information on exchange controls, while the country tables provide some detail on selected episodes. Other researchers are exploring the topic more thoroughly but still have far to go.

(6) Balance sheet data from monetary authorities. The International Monetary Fund's *International Financial Statistics* database contains information for IMF members, but the statistics do not go back beyond the Second World War, exclude important countries in the years since when they were not members, and express data according to accounting conventions that sometimes differ significantly from national conventions. Researchers have collected balance sheet data for some countries, but comprehensive collection has not been attempted even though for many countries it is available from printed sources for decades or even centuries before IMF statistics begin. (Will Google help make it possible, with its plan to make available online the books on some of the leading libraries in the United States and England?)

(7) Balance sheet data from banks (and, if important, other financial institutions), for generating monetary aggregates and other statistics. Again, researchers have compiled information for some countries, but much remains to be done.

(8) Information on regulations applying to financial institutions, if the regulations significantly affect the workings of the money supply. For example, if the government officially or in practice prohibits privately owned banks from operating, it is significant. The country tables have only the barest beginning of such information.

The tables cover all countries, past or present, that have had modern monetary systems. "Modern" means that the system had circulating notes (paper money) in wide use, at least among merchants in the major cities; corporate banks rather than just small partnerships; or, preferably, both. On this definition, some areas of the world, such as parts of Africa's interior, did not have modern monetary systems until the mid 1900s.

Paper money is a defining characteristic of modern monetary systems because it promoted use of token currency on a wide scale. A token currency is one whose value as a commodity is less than its legal or market value as currency. Before paper money, retail payments were made in coins or book credit. Coins were predominantly "full-bodied," with a value as metal close to their legal rating. Token *money* was known from ancient times: the Spartans used specially treated iron bars for internal trade and reserved gold and silver for foreign trade (Einzig 1970: 50-1). The first token *coins* to be produced on a long-term basis were French copper *deniers* and *doubles* (one- and two-penny pieces), from 1575 to 1602 (Sargent and Velde 2002: 209). Token coinage was slow to become general, though, and until the 1800s, it remained standard practice for coins other than the smallest denominations to be full-bodied. Paper money, in contrast, is by nature a pure token currency. In most countries, use of paper money happened decades or even centuries before the changeover of coins from full bodied to partial tokens to pure tokens.

As paper and coin token currency developed, various ideas arose about how to regulate it. The result was the profusion of monetary systems that has arisen since the 1600s (or before the year 1000 in China), including central banking, currency boards, and dollarization. Monetary thinkers and policymakers of older periods would have had difficulty even conceiving the possibility of such systems.²

²For a survey of premodern monetary and financial arrangements in Western Europe, see Meir Kohn (in

Corporate banking is a defining characteristic of modern monetary systems because of its complementarity to token currency. Like paper money, a deposit at a reputable bank is a pure token; one might even say it is beyond a token, since there is no piece of paper or metal to pass around. Corporate banking institutionalized, standardized, and popularized the granting of credit in a way that had not been done before.

My goal in compiling the tables has been to make them as complete as possible given that I am a lone researcher with a limited budget and a full-time job involving work mostly on topics other than monetary history. I have mainly used material available in Washington, D.C., where I work, and conducted only limited research elsewhere, although in recent years the Internet has expanded the amount of material, both old and new, that is readily available. I have strived for a basic understanding of monetary authorities and exchange rate arrangements in each country, rather than spending the 20 or 30 years it would have taken to attain a detailed understanding of every country and correspondingly delaying the appearance of the tables.

I have gone to considerable lengths to find information, but have not always been successful. I have even tried to contact a number of central banks with questions, but have rarely received replies. I welcome suggested corrections from readers who are knowledgeable about particular cases listed in the tables. The desire to cover all countries in a reasonable time has led me to rely heavily on secondary sources. This compilation hence risks becoming a tertiary source, prone to errors both by the researchers upon whose work I have relied and by me. To make possible errors more evident to other researchers, the tables list the law, decree, or other source for each change in monetary authorities or exchange rate arrangements in all cases where I could find it. This is a key way in which my work differs from most previous compilations, making it more exact, verifiable, and useful. (Some tables remain incomplete in this respect.) Suggestions for corrections will be most helpful if you specify the source of your information. Primary sources are preferable to secondary sources.

I rank sources in the following order and typically give precedence to the highest-ranked source I could find: laws and decrees; reports of monetary authorities and, for recent events, their Web sites (their summaries of older events are no more reliable than lower-ranked sources); books or articles with good documentation; the IMF's *Annual Report on Exchange Restrictions* and its successors; newspaper articles or other contemporary reports, read judiciously; and last, sources lacking documentation (though some, such as Pick and Sédillot [1971], are works of conscientious scholarship).

Format

The information on each country is divided into four parts, with each part usually starting on a new page:

1. General information: (a) Political sketch; (b) Wars since 1500; (c) Convertibility; (d) Other; (e) References.
2. Monetary authorities: (a) Dates; (b) Type; (c) Name; (d) Source; (e) Remarks.

progress); on primitive money, see Einzig (1966).

3. Exchange rate arrangements: (a) Dates; (b) Official arrangement; (c) Source; (d) Other arrangements; (e) Remarks.
4. Convertibility (in a spreadsheet separate from the other information).

Explanations of each part of the format follow.

General information—political sketch

The tables include all countries that have had modern monetary systems since such systems began, which was 995 A.D. in China and the 1600s in Japan, Western Europe, and some European colonial offshoots. A country means an independent or dependent state with a permanent population, a defined territory, and government. Alberto Alesina, Enrico Spolaore, and Romain Wacziarg have compiled a database of countries created and destroyed from 1870 to 1996; I used it to cross-check the country listings in the tables, although a few differences remain, based on differing judgments about historical particulars. For countries that have changed names, the entry lists old names along with the current name. Unsuccessful breakaway states such as Biafra or the Confederate States of America are mentioned only where they had a substantial, although temporary, existence.

It is hard to understand the changes in a country's monetary system without some understanding of its political history. The political sketches are taken for the most part from the *Encyclopedia Britannica*; U.S. Library of Congress country studies; the U.S. Department of State's "Background Notes" on various countries, on its Web site; the *Worldmark Chronology of the Nations* (1999); and the Rulers Web site. The sketches summarize key political events during the period when countries have had modern monetary systems. For many countries, that period begins with European colonization. Some countries had a long history of relatively advanced civilization—evidenced above all by the presence of writing—before the period when the coverage of the sketches begins.

General information—wars since 1500

War has been an important source of change in monetary systems, so knowing what wars a country has fought helps for understanding why some changes occurred when they did. Wars are generally listed starting from 1500. The starting date is 1500 because true globalization began about then, and wars since then form part of the background to modern monetary systems. In 1488 the Portuguese sea captain Bartolomeu Dias rediscovered a route around the Cape of Good Hope, which had been known to the Phoenicians; Vasco de Gama extended the route to the East Indies in an expedition of 1497-1498. In 1492 Christopher Columbus became the *last* European to discover the Americas; after him, links between the Old World and the New were never again lost. Following these discoveries, European nations soon began trying to extend their power to Africa, the East Indies, and the Americas. For China and Korea, wars are listed starting in 1000 because paper money began much earlier in China than elsewhere, and spread from China to Korea at an early date.

Wars are listed only where they involved significant battles on a country's own soil, had significant financial costs, or were in some other way important. All African colonies of the

United Kingdom, France, and Germany were indirect participants in the First World War because of events in their metropolitan countries, but the war is listed only for the few among them that were directly involved in military operations, such as Cameroon and Kenya. Similarly, I omit mention of most military coups, riots, and barracks uprisings, because they did not result in a scale of destruction that had consequences for the monetary system. The lists of wars are mostly from George Childs Kohn's *Dictionary of Wars* (1999). On Africa, I also consulted Guy Arnold's *Historical Dictionary of Civil Wars in Africa* (1999). Two Web sites with information about wars are the Correlates of War project and On War.

For countries colonized by European powers, the lists of wars omit a number of wars that occurred before colonization began, because modern monetary systems in those countries typically did not begin until after colonization.

General information—convertibility

Convertibility means the extent to which a country has exchange controls, that is, restrictions on buying and selling foreign currency. Even in ancient times, some countries tried to restrict exports of precious metals. The prohibitions do not seem to have been effective, because once smuggled abroad, the precious metals were accepted worldwide. The tables therefore do not mention them. Exchange controls are more effective for national currencies in the form of paper money or deposits. Exchange controls on national currencies became widespread with two key events of the 1900s, the outbreak of the First World War in 1914 and the start of the worldwide economic depression in 1929.

Compiling information about exchange controls on a truly worldwide basis is harder than compiling information on monetary authorities and exchange rate arrangements. The country listings offer some important changes in convertibility without claiming to be detailed. A spreadsheet on convertibility listings, described below, offers rough rankings of convertibility year by year since 1931 or before.

General information—other

This category includes some information on banking crises, financial liberalization, and other matters related to the history of national monetary systems. The information is incomplete for most countries, and should be regarded as no more than a starting point. Dates of banking crises since the 1970s are mainly from Caprio and Klingebiel (1999) and Frydl (1999). Dates of defaults on and restructurings of government foreign debt from the years 1800-1992 are from the lists compiled by Purcell and Kaufman (1993) and Standard & Poor's (2004). Besides the defaults and restructurings listed in the country tables, which apply to debt owed to the private sector, there have been others that have applied only to government-to-government debt or debt from international financial institutions. The tables do not list them, but some information about recent forgiveness of government-to-government debt is available on the Web sites of the World Bank (for the Heavily Indebted Poor Countries [HIPC] Initiative) and the Paris Club. A group involved with restructuring of private-sector debt is the Institute for International Finance, which also has a Web site.

See the Appendix for a list of references common to this section in all the country tables.

General information—references

Most of the older, pre-Internet sources listed are from one of three places in Washington, D.C.: the Library of Congress, the Joint Library of the International Monetary Fund and World Bank, or the library of the Board of Governors of the Federal Reserve System. The references are divided into primary and secondary sources. The main primary sources I consulted are the annual reports and monthly or quarterly bulletins of monetary authorities, many of which are now available online for recent years. I only list the bulletins where they contain useful legal information or narration, rather than just statistics. I was able to see annual reports and bulletins for a minority of countries before the Second World War and for almost all countries since the war. (The Chadwyck-Healey company sells microfiche copies of “Annual Reports of the World’s Central Banks” with reports starting as early as 1946; the collection contains 128 countries.) Still, even since the war some gaps remain in cases where the sources are not in languages I read or were not on the shelf in the libraries I visited.

Where national laws were easily available and searchable, I have also consulted them. In particular, France’s Legifrance Web site summarizes legislation dating as far back as the 1800s and includes much legislation affecting French colonies. Legislation for the United Kingdom and its colonies since 1900 is available in the *London Gazette* online.

For the most part, I have not seen other primary sources, but I list them for the possible use of my fellow researchers. In particular, my listings of government gazettes are apparently the most comprehensive available. Except as noted, I have seen all the secondary sources. I read English, French, Spanish, Portuguese, and Italian, and can often puzzle out material in Dutch, German, and some other Western European languages. The big gaps in coverage are material in Asian languages (including Arabic), which I do not read at all, and Slavic languages, of which my reading knowledge is pitifully small. I give preference to secondary sources that combine depth with breadth of coverage, so most references are to books rather than journal articles. Both the primary and secondary references are starting points, and are not intended to be exhaustive. I welcome suggestions for additions to the references, particularly of major works that cover long periods—preferably more than 50 years, but at least 20 years. On the recommendation of knowledgeable readers, I will consider including listings for works in languages I do not read. The listings will note that I have not read the works in question. Readers who look at central bank Web sites may notice that in a number of cases, summaries central banks provide on their own history differ slightly from the information I list. The reason is that some summaries appear not to have been diligently compared to primary sources.

Monetary authorities—dates

Where possible, the tables distinguish between the dates changes in monetary authorities were announced (in the “Source” column) and the dates they legally took effect (the “Dates” column). The IMF’s *Annual Report on Exchange Restrictions* and Pick and Sédillot (1971) sometimes fail to make the distinction, and this remains a possible source of error—usually minor—where I have had to rely on them. In some other cases, changes occurred when foreign-exchange markets were closed, so one source may list the change as taking effect on the day it

was announced while another source may list it as taking effect on the first trading day afterwards. Where information is available, I list a period as starting on the day change legally took effect; however, when a change occurred so late in a trading day that the local foreign-exchange market had already closed, I list the period as starting the next day. Dates are listed as not overlapping; hence, if a central bank began operations on 15 June 2000, the monetary authority preceding it is listed as having ended 14 June 2000 rather than on 15 June.

Dates listed are those of the Julian calendar, or later, the Gregorian calendar—the modern Western calendar. The Gregorian calendar was adopted in 1582 in Catholic countries (notably France, Italy, Portugal, Spain, and the Catholic parts of Germany) and by the 1700s in Protestant countries (notably the United Kingdom and its colonies), but not until during or shortly after the First World War in Orthodox countries (notably Russia and Greece). Dates are given according to whichever calendar was in local use because local laws and other documents of the time are keyed to that calendar. For countries that use the Islamic, Jewish, or other local calendars, dates are listed in their Julian or Gregorian equivalents for ease of comparison. To make some such calculations, see the Fourmilab calendar converter Web site; for dates when countries switched from the Julian to the Gregorian calendar, see the Calisto calendar guide Web site.

Where sources gave conflicting dates, I give preference to the source that seemed closer to the events described. Hence, where central bank annual reports list different dates from the IMF's *Annual Report on Exchange Restrictions*, I follow the central bank reports.

Monetary authorities—type

A monetary authority is a government-sanctioned body that issues a country's monetary base. The monetary base is the medium accepted for final settlement in the local banking system. Today in most countries the monetary base comprises monopoly-issued notes (paper money), coins, and deposits at the monetary authority, which commercial banks use as reserves. Formerly, when many currencies were linked to silver or gold, silver and gold constituted part of the monetary base to the extent they were held by the public and especially as reserves by commercial banks.

I classify monetary authorities by answering two questions that help understand different ways the supply of money can work:

(1) Who issues the monetary base? (The monetary base is the medium of final settlement, typically interbank settlement, for payments within the nation or currency area, and credit claims are convertible into it at constant rates.)

(2) What constitutes the monetary base?

Table 1 summarizes the types of monetary authorities that have existed in modern times. It is also possible to imagine other types of monetary authorities that have not yet existed.

Systems involving monopoly may be “effective” rather than “complete.” In many countries that replaced free banking with currency boards or central banking, privately issued bank notes continued to circulate for long periods after the new monetary authority was established, but the new monetary authority exercised effective control over the monetary system because note issues by free banks were frozen or otherwise regulated. In Scotland and Northern

Ireland today, several commercial banks continue to issue notes that nominally compete with notes issued by the Bank of England, the central bank. The rules under which the commercial banks issue notes make them fully subject to whatever monetary policy the Bank of England decides. Its notes constitute part of the monetary base; their notes do not.

For the most part, the discussion of monetary systems focuses on the note and deposit components of the monetary base rather than on coins. In many countries, coins have been issued by the government treasury, while notes have been issued by anything from free banks to a private monopoly issuer to a central bank. It has been quite rare for coin-issuing treasuries to rival note-issuing bodies as centers of monetary policy making. In some cases, though, treasuries have issued notes alongside central banks, sometimes becoming rival centers of influence in the making of monetary policy. It has been quite common for treasuries and finance ministries to retain final authority on major changes in foreign-exchange policy, such as currency devaluations, while responsibility for day-to-day operations has rested with monetary authorities.

Unlike the case with exchange rates, official monetary authorities are almost always the same as de facto authorities. What differences exist between official and de facto arrangements occur at the level of operational independence from the government, which the tables rarely discuss. In general, systems of monopoly issue that typically allow extensive discretion in monetary policy are those in which there has been the greatest difference between the political independence of the monetary authority on paper and its independence in practice.

Table 1. Monetary authorities

<i>Monetary authority</i>	<i>Who issues the monetary base?</i>	<i>What constitutes the monetary base?</i>
<i>Competitive</i>		
Free banking	Competing producers	Typically gold or silver
Free issue	Multiple issuers	Monetary liabilities of issuers
<i>Intermediate: neither fully competitive nor fully monopolistic</i>		
Regulated plural issue	Multiple banks, but subject to central regulation	Monetary liabilities of banks
<i>Monopolistic and very to somewhat rule-bound</i>		
Dollarization	Foreign monetary authority	Monetary liabilities of foreign monetary authority
Currency board	Currency board	Currency board's notes, coins, deposits
Currency board-like	Currency board-like authority	Monetary liabilities of currency board-like authority
Monetary institute	Monetary institute	Monetary liabilities of monetary institute
Private monopoly issue	Single private bank	Notes and to some extent deposits of privately owned bank
<i>Monopolistic and discretionary</i>		
Central bank	Central bank	Monetary liabilities of central bank
Government issue	Treasury	Government notes, and perhaps deposits at Treasury
Occupation currency	Occupying power	Occupation currency
Monobank	Monobank	No base distinct from bank credit
<i>Other</i>		
"Moneyless" economy	No monetary base	No monetary base
Coins only	Government or competing producers	Typically gold, silver, or copper

Here are more detailed explanations of the types of monetary authorities. A later section defines terms related to exchange rate arrangements.

Free banking: Competitive issue of both notes and deposits with little special regulation of banks. In a pure free banking system, the government issues no currency, hence there is no single “monetary authority.” The monetary base for historical free banking systems was typically gold or silver, which were produced competitively. Banks issued notes, deposits, and in some cases coins convertible at fixed rates into gold or silver. Some free banking systems operated with few regulatory restrictions on their activities, while others faced heavy restrictions that impaired their flexibility and even their solvency. Restrictions took various forms. A few countries, notably England and the United States, forbade branch banking. Other countries required banks to buy government bonds they otherwise would not have purchased; the so-called free banking systems of the type existing in New York State and some other U.S. states from the late 1830s to 1866 were of this type. There are no free banking systems today.

Free issue: A system with neither centralized control of the monetary base nor convertibility of the monetary base into an external asset at a set rate. There seem to have been only two historical cases of free issue systems, in Canada from 1914 to 1926 and 1929 to 1935, and in Hong Kong from 1974 to 1983.

Regulated plural issue: A system in which multiple issuers of notes and deposits exist but are subject to central regulation that imposes features of monopoly. Examples include systems in which a country has multiple issuers of notes, but is subdivided into regions within which a single issuer had a monopoly or privileges that strongly discouraged the use of other notes.

Dollarization: Official use of the U.S. dollar or another foreign currency to substantially or completely replace the locally issued monetary base. “Foreign currency” includes the currency of the home country in the case of colonies and other units not fully united politically with the home country. Dollarization can be defined broadly or narrowly. In the broad sense, almost every country has been dollarized at some point, because people in countries that were less financially advanced used foreign currency until it became profitable to have a locally issued currency. Many countries also accepted foreign gold and silver coins as legal tender until the mid or late 1800s, and a few (in the Arabian peninsula, for example) continued to do so until the mid 1900s. I define modern-style dollarization more narrowly, however, as official sanction of foreign notes (paper money) combined with their fairly widespread acceptance in everyday trade and the presence of modern-style commercial banking.

In many countries, coins were issued long before notes, sometimes millennia before, but the tables generally omit mention of coins. It was a common practice in the 1700s and 1800s for certain foreign coins widely used in international trade to be accepted as legal tender. The tables do not count acceptance of foreign coins as comprising dollarization unless foreign notes were also used exclusively.

Currency board: Typically a monopoly issuer of the monetary base. The notes and coins of the currency board, plus deposits at it (if any) constitute the monetary base. An orthodox currency board has no room for an activist monetary policy because it is bound by a fixed exchange rate with an anchor currency and a requirement to hold foreign reserves of 100 percent or slightly more against the monetary base. (A few less orthodox currency boards have held less than 100 percent foreign reserves, but have maintained 100 percent reserves at the margin. In

those cases, a frozen stock of domestic assets comprised the remainder of their reserves. A fully orthodox currency board holds no domestic assets for purposes of monetary policy, though it may own a headquarters building, bank deposits for paying employees, and so on.) A joint currency board is one with multiple countries as members. All currency boards have been government-owned.

It is possible to imagine variations on an orthodox currency board that would be almost as rule-bound, such as 100 percent foreign reserves beyond a certain margin, a specified basket rather than a single currency as the anchor, or an exchange rate that crawls against the anchor currency according to a set schedule. The simple orthodox currency board, which avoids such intricacies, is both the easiest type to think about and the dominant type historically.

Currency board-like system: A monopoly issuer of the monetary base that combines orthodox currency board and central bank elements. For example, a currency board-like monetary authority may have a minimum reserve ratio of 100 percent of monetary liabilities, but no upper limit. Unlike an orthodox currency board, the monetary authority of a currency board-like system has and uses the power to engage in activist monetary policy.

Most present-day systems that the International Monetary Fund and economics textbooks classify as currency boards are in fact currency board-like systems. An analysis of their balance sheets reveals that unlike orthodox currency boards, they hold domestic assets and they engage in activist monetary policy.

Monetary institute: A monopoly issuer of the monetary base in-between a central bank and a currency board. Its purpose is to preserve a hard pegged exchange rate with an anchor currency, yet allow for some activism in monetary policy. Monetary institutes typically hold considerably less than 100 percent foreign reserves against the monetary base. A joint monetary institute is one with multiple countries as members. Unless specifically noted, monetary institutes are government-owned. Monetary institutes are similar to currency board-like systems; the difference is one of emphasis: at least in their rhetoric, currency board-like systems emphasize monetary policy rules more than monetary institutes do.

Private monopoly issue: A privately owned bank that accepts deposits, makes loans, and has a government grant for the monopoly of issuing notes. The system typically involves a rigid exchange rate with an anchor currency. Unlike a central bank, a private monopoly issuer is not necessarily expected to assist other banks. Moreover, often it is not itself at the top of the banking hierarchy; in colonies, that distinction belongs to the central bank, if any, in the colonizing country. Both the private monopoly issuer and other banks that have branches both in the colonies and in the colonizing country may borrow from the central bank. No systems of private monopoly issue exist today.

Central bank: A monopoly issuer of the monetary base that has substantial room for activist monetary policy by altering the exchange rate or the quantity of the monetary base. A joint central bank is one with multiple countries as members. Unless specifically noted, central banks are government-owned. I include in this category a number of quasi-central banks established before the idea of central banking became well formulated. Such banks often had commercial banking functions. Although they were not intended to conduct monetary policy in the modern sense, they had the potential to do so.

There has been a wide range of types within central banking, from those that originally were committed to full convertibility under a gold standard and had little legal room for activist

monetary policy to those that have been highly activist and exercised extensive control over the financial system through regulations as well as through control of the monetary base. In many countries, the central bank has been responsible for domestic monetary policy, but decisions involving the exchange rate have been the province of the government (the treasury, hence in practice the president or prime minister), or have been shared between the government and the central bank.

Government issue: Issue of the monetary base, particularly notes, directly by the government treasury rather than through a central bank, currency board, or other intermediary. In many cases, governments have issued notes alongside other issuers. Government notes and perhaps deposits at the treasury constitute the monetary base. As with central banking, there has been a wide range of types within the category, ranging from those that have been highly rule-bound to those that, in practice, have simply printed as much money as required to finance budget deficits.

Occupation currency: Monetary base, especially notes, issued under the auspices of invading armies. Exchange controls are often imposed. In many cases, occupation currencies are merely tools of plunder—fiscal instruments—and are not guided by any identifiable monetary goals.

Monobank: A special type of central bank that has existed in centrally planned economies. The central bank and other financial institutions are under unified government control. In addition to being the monopoly issuer of the monetary base, as under ordinary central banking, the central bank is the monopoly supplier of bank credit, which under ordinary central banking is supplied competitively. Hence there is no distinction between the monetary base issued by the central bank and credit supplied by commercial banks. The monobank is both the monopoly buyer and seller of foreign exchange, so the exchange rate is “repressed,” as I term it. The list of monobank systems may not be complete.

“Moneyless” economy: A centrally planned economic system where there is no circulating currency, no monetary base, and no true foreign exchange market. Transactions occur in barter or through centrally controlled book entry credits. Strictly speaking, a moneyless economy is not a type of monetary authority, but the attempted negation of money. Countries that have tried to implement the Marxist ideal of a moneyless economy have experienced swift economic decline and have returned to a monetary economy to reverse it.

Coins only: Use of coins only is really premodern, rather than being a modern monetary system. It is listed for the sake of completeness, because a few countries have temporarily reverted to use of coins only as widely circulating currency after withdrawing all paper money.

For some monetary authorities, I add the phrase “as part of a currency union” to denote that the territory in question shares a monetary authority with other countries (or territories) and participates in the management and seigniorage of the monetary authority if it is government-owned. If the monetary authority is privately owned, participation in the management and profits is available to investors through stock ownership. Under dollarization, in contrast, even if a territory has an agreement to receive seigniorage from a foreign monetary authority, it does not participate in the management. Under both a currency union and dollarization, though, there is a single monetary policy with the other countries that use the currency in question.

A currency union so defined differs from a monetary union, where countries define their

currencies in terms of the same or similar units of account but do not share a monetary authority. The Latin Monetary Union and the Scandinavian Monetary Union of the late 1800s and early 1900s were monetary unions but not currency unions. They established common specifications for national units of account and national coins, but retained significant independence in monetary policy through national central banks or government policies that permitted activist monetary policy.

Among the monetary authorities, private monopoly note issue and free banking involve predominantly private ownership. Many central banks established before the Second World War were partly or wholly privately owned, though they owed their monopolies to government action and were expected to work closely with the government. All the other monetary authorities involve government ownership.

The tables of monetary systems include wartime occupation currencies and secession currencies issued during civil wars only when they proved to be more than fleeting expedients. The tables generally exclude emergency issues of small-denomination notes. Many governments and some private parties have issued small-denomination notes that have substituted for coins during wartime, when transport problems have cut supply lines from mints, and during periods of high inflation, when coins have disappeared from circulation because they have been worth more as metal than as money.

Distinguishing among various kinds of monetary authorities often requires examining their financial statements. Figures in balance sheets issued by the monetary authorities themselves sometimes differ from figures the International Monetary Fund publishes in its widely used *International Monetary Statistics*. The major reasons for the differences are differences in accounting conventions and the IMF's practice of combining government issuers of currency with other bodies in some cases. An example of a difference in accounting conventions is that in some cases the IMF considers funds it has lent to a country to be a liability of the monetary authorities, whereas the country's central bank may consider itself as only an intermediary, so that liability rests with the ministry of finance. A number of countries have foreign-exchange funds separate from their central banks, or consider coins as a liability of the ministry of finance whereas the rest of the monetary base is a liability of the central bank. In such cases, the IMF typically groups together all the bodies it considers relevant into a single balance sheet for "monetary authorities."

I rarely discuss the degree of political independence of monetary authorities. Free banking systems have a high degree of independence from political pressure by nature, as do dollarized and systems currency boards by design. Central banks vary from having extensive independence to no independence. Even among central banks classified by other economists as highly independent, it is common for the central bank not to determine exchange rate policy, but simply to execute the type of exchange rate arrangement or level of exchange rate that the ministry of finance sets.

Monetary authorities—name

The table lists the name of the monetary authority, if any, in the local language or languages and in English if translation seems necessary. The table uses standard systems of

transliteration into English for languages that do not use the Roman alphabet. For some languages, notably Arabic, no single standard system of transliteration exists; for others, the standard system has changed over time, as with Pinyin replacing the Wade-Giles system for Chinese.

Where information was readily available, the table lists the first two banks to be established. This piece of information is particularly important for free banking, since the existence of multiple issuers is the hallmark of the system.

Monetary authorities—source

The tables list the law, decree, or other source for each change in monetary authorities. I have examined a number of the relevant laws myself, but where it was not so easy I have relied on references in reports of monetary authorities or secondary sources, and have included mentions to that effect. A common format for referring to laws of the United Kingdom and its colonies is something like “28 George III, cap. 1,” which means that a law was passed in the 28th year of the reign of George III (1788), and that it was the first bill passed that year to become law (“cap.” being an abbreviation for the Latin “capitulus,” meaning “chapter”).

Occasionally I found no reference to a specific law, central bank circular, or other document in the publications of monetary authorities and other sources I examined. I would be grateful if knowledgeable readers could supply the missing references.

Monetary authorities—remarks

For most changes of monetary authorities, the tables contain a brief remark describing the reason for the change. Where information was available, the tables also list when the first and second banks began operations, and when the first coins specifically for local use (“first coins”) entered into circulation. The years stamped on the coins sometimes were not the years they actually entered into circulation. The same applies to notes.

Exchange rate arrangements—dates

Similar comments apply as for “Monetary authorities—dates.” Here and in the other columns of the tables on exchange rates, for the years before 1949, information comes from a variety of sources. The main sources of information for the years since 1949 are reports of monetary authorities plus the IMF’s *Annual Report on Exchange Restrictions* and its successors. The IMF’s *Schedule of Par Values* contains summary information useful for the period 1946 to 1971. For countries there were not members of the IMF, *Pick’s Currency Yearbook* and its successors contains useful information.

In some instances, the dates the tables list differ from those in Pick and Sédillot (1971), as well as those in Reinhart and Rogoff (2004), who rely heavily on Pick and Sédillot. Apparently because they lacked more precise information, Pick and Sédillot often treat the date a related legal enactment was passed as the date a new exchange rate became effective, whereas I have determined that the dates were often different. The dates the tables give regarding gold parities also differ from those provided by the IMF in some cases. Under the Bretton Woods

system, changes in gold parities did not become official until approved by the IMF, which sometimes occurred after they had been changed in fact through devaluation of the local currency against the U.S. dollar. In such cases, the tables list the dates gold parities actually changed rather than the dates they were retrospectively approved by the IMF.

Exchange rate arrangements—official arrangement

An exchange rate arrangement is the set of practices that determines who may exchange domestic currency for foreign currency and goods, and on what terms. The tables are summaries of exchange rate arrangements, not comprehensive histories. They focus on changes in the main official exchange rate, and generally do not describe in detail the frequent changes in exchange controls and the permutations of multiple rates that many countries have had since 1914. It is also important to remember that until the 1800s, and into the 1900s in some countries, “primitive monies” such as tobacco, cowrie shells, and cloth were widely used as means of payment.

Where countries that defined their currencies in terms of gold or silver, the tables list metric weights for ease of comparison, even though national legislation often used another systems of weights. The weights in the tables are grams of fine metal (pure gold or silver). In coins, gold and silver were combined with other metals to make the coins harder and more durable. The tables say “1 franc = 4.5g silver” in cases where national legislation defined the franc as a standard coin consisting of 5 grams of silver 0.900 pure. For ease of comparison, the tables use metric weights throughout, even though non-metric systems of measurement, especially the English system, remained used in many countries until the 1970s. The International Monetary Fund requires member countries that maintain rigid exchange rates to express such rates as having no more than six significant figures. The tables followed that practice except in a few cases where primary sources list metric weights or exchange rates to a higher degree of precision.

Although analysts of exchange rates all recognize that in practice exchange rates range from those that are constant in nominal terms to those that are fluctuating, no widely agreed scheme of exchange rate classification exists. I classify exchange rates by answering three questions that help for understanding differences in how the supply of money works under different arrangements:

- (1) How flexible is the nominal exchange rate?
- (2) Do exchange controls exist?
- (3) Is the exchange rate managed, as shown by the presence of exchange or sterilized intervention?

In “Classifying Exchange Rates,” elsewhere on my Web site, I describe the rationale of my system of classification. Here I simply list the classifications I use. For nominal flexibility, see Table 2; for convertibility, see Table 3 considerably farther below. Nominal flexibility and convertibility (presence or absence of exchange controls) are spectrums, which can be divided more or less finely depending on the purpose. I divided them in the ways that seemed most useful for historical description.

Some subtleties are worth noting in passing. In a few cases, what I call the official

exchange rate arrangement is not what the countries themselves call it. Usually in such cases the IMF acknowledges a difference between its own classification and what the country claims to have. Another point is that a country that has a fixed exchange rate with its anchor may still have controls that apply to third currencies. Such was the case with currency boards tied to the pound sterling when the pound sterling had controls. Controls did not impede adjustment with respect to the pound sterling, though they impeded adjustment of the pound sterling and its satellite currencies with respect to other currencies. A last point is that where there were two monetary arrangements side by side, such as government issuing notes alongside banks, in a few cases there were two different kinds of exchange rates coexisting, whereas in other cases one arrangement was clearly dominant.

Table 2. Nominal flexibility of exchange rates

<i>Exchange rate</i>	<i>Characteristics</i>
<i>Rigid</i>	Horizontal band with margins of fluctuation not exceeding 2 percent total, and typically not exceeding +/-1 percent around the central rate. (The rationale for the figure of 2 percent is that it was the maximum fluctuation the IMF allowed member countries under the Bretton Woods system.) The unmanaged variety is called “fixed” and the managed variety is called “pegged.”
Crawl	A band having a trend (usually depreciating), with margins of fluctuation not exceeding 2 percent total. I call the unmanaged variety an unmanaged crawl; the managed variety is called a crawling peg.
Band	Margins of fluctuation are wider than 2 percent total. A band can be combined with a basket or a crawling peg. I call the unmanaged variety an unmanaged band and the managed variety a managed band.
Crawling band	A band having a trend (usually depreciating), with margins of fluctuation wider than 2 percent total. I call the two varieties an unmanaged crawling band and a managed crawling band.
Limited float	No durable band exists, but the monetary authority intervenes to create temporary floors or ceilings. I call the unmanaged variety an unmanaged limited float; the managed variety is called a managed float.
<i>Full (independent) float</i>	The monetary authority maintains no particular level, even temporary, for the exchange rate. In the short term, adjustment occurs through the exchange rate alone. An unmanaged full float is called a “clean float”; I call a managed full float an “free float.”
<i>Repressed</i>	Comprehensive exchange controls exist, so there is no market where large volumes of currency can be legally traded.. A repressed rate is in a different dimension than the other rates in the table. The main official rate is often pegged, but typically multiple rates exist, and which one a transaction is allowed to occur at is determined by bureaucratic fiat.

Note: Exchange rate arrangements in *italics* are those at the three poles of exchange rate adjustment: adjustment through the quantity of the nominal monetary base (rigid rate); through the nominal exchange rate (full float); and through the quality of the currency, that is, exchange controls (repressed rate).

In addition to the terms in the table, I occasionally use the term “floating rate” where it is not clear whether the float is limited or full, managed or unmanaged. I use the term “flexible rate” for all rates other than rigid ones, in cases where it is hard to determine which variety of flexible exchange rates a monetary authority is operating.

With baskets, I note whether they are “hard” or “soft.” A hard basket has definite components, usually publicly specified and not frequently changed, whereas a soft basket has components that are often not publicly specified and change often, leaving the monetary authority more discretion to alter the exchange rate.

Finally, in some cases the country tables note that a particular exchange rate exists as part of a currency union, meaning that the exchange rate is fixed across political jurisdictions. A currency union may occur because of a political union or because of political union or membership in a joint monetary authority. Martinique and other French overseas departments (administrative divisions) have equal legal status with departments on the French mainland, hence they are part of a political union. France itself belongs to the European Central Bank, a joint monetary authority whose initial membership consisted of eleven countries. Within a currency union, exchange rates are fixed; between a currency union and the outside, exchange rates may be of any type.

Exchange rates in the country tables are rates in a unified official exchange market unless there is a mention otherwise. Many countries have operated dual or multiple official exchange rates. In a dual rate system, two official rates exist. Typically, the main official rate is pegged, and applies to government transactions and some private transactions. The other rate is a pegged or floating rate that applies to other transactions, and offers less advantageous terms for buying foreign currency. A multiple rate system carries this concept further, imposing three or more official exchange rates, each rate applying to different kinds of transactions. The champions of multiple rates have been centrally planned economies, which have had thousands of exchange rates. One way multiple rates can arise is from mixing a main rate and a depreciated second rate in different proportions for different kinds of transactions. Countries have often called these the official and commercial rates.

Where exchange controls exist, black (unofficial) markets arise. Black markets can exist whether the official exchange rate is unified, dual, or multiple. The broader term “parallel market” applies to situations where exchange controls result in more than one rate either officially or unofficially.

The International Monetary Fund’s *Annual Report on Exchange Arrangements and Exchange Restrictions* distinguishes between dual or multiple exchange rates and exchange taxes. From an economic perspective, this seems a distinction without a difference. From a legal perspective, though, it has enabled some member countries of the IMF to claim they are not violating their promise to avoid dual or multiple exchange rates.

The country tables treat a country as having had a separate currency when it had a local issuer of notes (or coins, in a few 20th-century cases where coins were at first much more widely used than notes). Thus Mozambique is considered to have had a separate currency when its government began issuing notes in 1854, even though they were officially denominated in Portuguese currency units and a legally separate Mozambican currency unit did not exist until 1922. In many colonies it was ambiguous whether the local currency unit with the same name as the metropolitan unit was legally distinct.

Where exchange rates have been fixed or pegged, the table lists the parity of exchange (par value)—the official central rate. The market rate often deviated from parity. The range of the deviation is called the exchange points, or, in the specific case of a gold standard, the gold points. In some cases, long-lasting deviations from parity have occurred because of high costs of arbitrage, despite a free market in currency trading. Arbitrage operates through traders shipping precious metals, goods, or (most commonly) financial instruments such as bills of exchange from where they fetch a lower price to where they fetch a higher price. The higher price can be a market price or it an official parity, which governments accept, for example, in payment of taxes. No central bank or other government issuer of currency is necessary to make arbitrage work. Until the 1800s, though, exchange rate arbitrage between distant parts of the world could take months. News traveled across oceans no faster than a sailing ship. Traders could not lock in profits from arbitrage quickly. Exchange rates, in the form of bills of exchange on a distant financial center some months in the future, included a discount to allow for the risk that the profit opportunities might disappear or turn into losses, plus a further discount for the time value of money, plus costs of record keeping, transportation, and insurance.

The telegraph reduced the time necessary to transmit news between major cities around the world from weeks or months to minutes. The steamship and railroad reduced the time necessary to ship precious metals or other goods from weeks or months to hours or days. For countries with rigid exchange rates, these 19th century innovations reduced deviations from the parity of exchange from as much as the upper single digits to below +/-1 percent. Many currency boards charged exchange commissions of only +/-0.5 percent. In some cases there was no commission, collapsing the exchange points to zero. Under the Bretton Woods system, member countries of the International Monetary Fund, which began operations in 1947, agreed to maintain exchange points no wider than +/-1 percent around a parity with gold or the U.S. dollar, for a total spread of 2 percent between the official buying and selling rates. In 1971, the Bretton Woods system began to break down after the United States abandoned the gold standard. On 18 December 1971, the IMF's Executive Board approved a resolution allowing wider margins of +/-2.25 percent around the parity, for a total spread of 4.5 percent between buying and selling rates. In 1978, the Second Amendment to the International Monetary Fund's Articles of Agreement officially eliminated gold parities, removed the obligation of members to maintain margins within +/-1 percent of the central rate, and permitted them to maintain exchange rate arrangements of their own choice.

The wider the exchange points, the more a supposedly rigid exchange rate can behave like a floating rate. I generally consider exchange rates from 1900 to 1971 not to have been unified if the spread between the buying and selling rates was more than 2 percent. Since 1971, I allow spreads of up to 4.5 percent to be considered unified exchange rates for some IMF member countries. The rationale is that in those cases, the purpose of wider margins has been to avoid frequent changes in central rates when the exchange rates of other countries were changing frequently, rather than to discourage certain transactions or produce extra revenue for the central bank. Most such cases occurred in the mid 1970s, when there seemed some chance that the Bretton Woods system might be restored.

In other cases, banks or monetary authorities have established exchange points around the parity of exchange. The exchange points establish the limits within which the market exchange rate fluctuates, if at the limits banks or monetary authorities are willing to exchange domestic currency for the anchor currency in unlimited amounts. Under the gold standard, monetary authorities sometimes resorted to techniques called gold devices to alter market exchange points compared to the official points. Gold devices included such things as changing the point of shipment for gold so as to alter shipping costs, making payment in bullion where gold coin was wanted and expected, and absorbing or charging for expenses involved with handling and refining gold.³

In still other cases, governments imposed exchange restrictions that made the parity of exchange deviate from the market rate by overvaluing (or, in rare cases, undervaluing) the parity. The monetary authority was not willing to buy or sell its currency in unlimited amounts at the parity or at exchange points, so a parallel market developed. In some cases it took the form of an official dual exchange rate or multiple rates, an unofficial black market, or sometimes both; the deviation of the parallel market rate from the official parity reflected the intensity of demand unsatisfied by the monetary authority. Reinhart and Rogoff (2004) have compiled much of the parallel market data from *Pick's Currency Yearbook* and its successor publication *World Currency Yearbook*. Parallel markets have been most common under central banking systems. They have typically been absent under free banking, free issue systems, dollarization, currency unions (within the union), and currency boards (with respect to the anchor currency, though not with respect to third currencies if the anchor currency has had exchange controls).

Under the Bretton Woods monetary system (1945-1973), the currencies of many countries were officially linked to the U.S. dollar or gold but in fact linked to the pound sterling, French franc, or other currencies. Countries that belonged to the Bretton Woods system typically registered exchange rates in terms of gold for the currencies of their colonies, but I have almost never listed them because in almost no case did colonial monetary authorities of the period offer direct convertibility of their currencies into gold. Rather, convertibility was dependent on the behavior of the central bank of the metropolitan country, and colonial governments lacked the opportunity that independent countries had to break away from the currency area of the metropolitan country. Among independent countries, many former British and French colonies quoted official exchange rates in terms of the dollar but their central banks dealt mainly in pounds sterling or French francs in foreign-exchange markets. Judgments about what constituted the “real” anchor currency are open to debate in some such cases. Similarly, until about 1914 many countries at some point had bimetallic monetary systems, but in practice most bimetallic systems were dominated by silver or by gold (depending which was undervalued in the market compared to the legally established ratio), and the other metal had a distinctly secondary role. The table is not complete: in particular, it does not attempt to describe movements in parallel markets. Its purpose is to trace the movement of *official* exchange rates. However, in a few cases where the official exchange rate arrangement fell into such disuse that it had virtually no influence on monetary policy, I distinguish between the official arrangement and the

³Until not so long ago, exchange points of a kind existed even inside some countries. In the early days of many banking systems, banks charged a fee on banknotes or checks from out of town, even those from their own branches. In the United States, nonpar collection of checks lasted until the late 1970s.

arrangement that prevailed in practice. The IMF's *Annual Report on Exchange Restrictions* and its successors note some of these cases.

The country tables use these abbreviations or symbols regarding exchange rate arrangements: g = gram, £ = pound, \$ = dollar, SDR = Special Drawing Right of the International Monetary Fund.

Exchange rate arrangements—source

The same comments apply as for “Monetary authorities—source.” In most countries, changes in exchange rate arrangements have been more frequent than changes in monetary authorities. Since the final collapse of the Bretton Woods system in 1973, changes have increasingly been made through administrative decisions rather than laws passed by legislatures. Frequently I found no primary source on changes in exchange rates, and have relied on the IMF's *Annual Report on Exchange Restrictions*, which generally does not supply information about the legal basis of changes in exchange rate arrangements. I would be grateful if knowledgeable readers could supply the missing references.

Exchange rate arrangements—other arrangements

This category notes places where arrangements different from the main official exchange rate existed. For instance, some countries with multiple rates have had pegged main rates but floating secondary rates. More transactions in fact took place at some “secondary” rates than at the main rates. I have also noted cases where countries that were officially bimetallic had a monometallic gold or silver standard in practice because the official ratio between gold and silver diverged from the market ratio, driving out of circulation whichever metal the law overvalued. Another aspect in which the unofficial exchange rate arrangement may differ from the official arrangement is that, even where no exchange controls exist, the deeds of the monetary authority may differ from its words. An arrangement that is officially a managed float may be so heavily managed that the exchange rate remains within a narrow band with respect to a de facto anchor currency. Recent research has revealed that it has been quite common for words to differ from deeds. I have relied heavily on Reinhart and Rogoff (2004) here.

Since the start of the First World War in 1914, almost all countries have had exchange controls at some point. The result has been legal or illegal foreign-exchange markets parallel to the official market, offering different rates of exchange from the main official rate. Often the difference between the official rate and the parallel rate has been large. A number of researchers, notably Reinhart and Rogoff (2004) have recently emphasized the differences and their importance for the exchange rates faced by participants in foreign-exchange markets. The parallel rate is useful as an indicator of activity at the margin, but it is not sufficient for a full understanding of how the exchange rate arrangement worked because typically some transactions took place within the margin, at official rates, rather than at the margin. A full understanding of exchange rate arrangements in such cases requires knowledge of the official

rate and the parallel market rate.

Typically, I note the parallel market rate only if there are persistent parallel market premiums exceeding 5 percent. The data, mostly from *Pick's Currency Yearbook* and its successors as compiled by Reinhart and Rogoff (2004), are insufficiently reliable to note fleeting premiums or those in very low single digits. For example, they show premiums from time to time for countries with floating exchange rates that have no important exchange controls.

Exchange rate arrangements—remarks

For some changes of exchange rate, the tables contain a brief remark describing the reason for the change and perhaps giving additional information. In addition, the tables list information on currency confiscations where available. A currency confiscation is an administrative measure to reduce the real value of the public's notes, coins, or bank deposits. For example, during a switch to a new currency, people may be allowed to exchange up to 1000 units of old notes (paper money) for new notes without penalty, but after that they may be forced "pay" two units of old notes per unit of new notes. The tables also list the date of decimalization. Unless otherwise noted, once decimalization was introduced it has continued to the present. Typically, the tables do not list the submultiples of currency units. For master lists of submultiples, see Global Financial Data's "Global History of Currencies," Shawn Vincent's Web page on "A List of Historic Denominations," or Berlin (2006).

For countries that belonged to the IMF in the early 1970s, the term "wider margins" refers to the agreement they made to widen the maximum permissible fluctuations from +/-1 percent to +/-2.25 percent around the central rate. The IMF's Executive Board approved a resolution on 18 December 1971 allowing wider margins, as a consequence of the breakdown of the Bretton Woods version of the international gold standard, which had begun earlier that year with the United States ceasing to redeem dollars in gold.

Convertibility

The separate spreadsheet on convertibility ranks degrees of convertibility year by year since at least 1931. The classification is that described for the exchange rate triangle above, which divides convertibility into the types listed in Table 3.

The spreadsheet is not as detailed as the main tables and is meant only as a rough-and-ready investigation in the absence of more detailed, publicly available work. Dennis Quinn (1997) of Georgetown University is compiling a detailed database of exchange controls based on the International Monetary Fund's *Annual Report on Exchange Restrictions* (later known by slightly different names; see the References.) Quinn has also done some work to extend the database to include years before the IMF's data begin. Some of his work is available on request, but he has not released all his underlying data. In contrast, Jacques Miniane (2004) of the IMF has completed work on a smaller set of years, but has made his database readily available. From my limited experience with it, it seems reliable.

Table 3. Degrees of convertibility

<i>Degree</i>	<i>Characteristics</i>
Full	No significant exchange controls.
Liberal	Convertible for current-account or capital-account transactions, but not both.
Payments area	Exchange controls apply to current- and capital-account transactions alike, but participation in a payments union yields liberal or full convertibility with an important set of trading and investment partners.
Restricted	Exchange controls apply to current- and capital-account transactions alike, but something of a market in foreign exchange exists.
Inconvertible	Comprehensive exchange controls exist, so there is no market where large volumes of currency can be legally traded.

Acknowledgments and conclusion

I thank several people who have filled gaps in my understanding: Bryan Taylor of Global Financial Data for queries and comments about several countries; Adrian Tschoegl for comments and writings about banking in the Pacific and use of the Maria Theresa thaler; Nuno Valério for information about the workings of the escudo zone; and Yuri Wierda for information on Samoa during and after the First World War.

That finishes what some readers will consider an overlong explanation. Readers with questions may contact me by e-mail.

Appendix

Other notes

Officially, the Free French government that existed during the Second World War was called the Conseil de Défense de l'Empire from 27 October 1940, the Comité National Français from 24 September 1941, the Comité Français de la Libération Nationale from 3 June 1943, and the Gouvernement Provisoire de la République Française from 3 June 1944. Free France was known as France Libre from 24 September 1941, France Combattante from 27 July 1942, and the Gouvernement Provisoire de la République Française from 3 June 1944.

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