

*The Political Economy  
of the Middle East*

*The Gold  
Standard  
Anchored in  
Islamic Finance*

Hossein Askari &  
Noureddine Krichene



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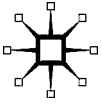
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# The Gold Standard Anchored in Islamic Finance

*Hossein Askari and Nouredine Krichene*

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Softcover reprint of the hardcover 1st edition 2014

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First published in 2014 by  
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in the United States—a division of St. Martin's Press LLC,  
175 Fifth Avenue, New York, NY 10010.

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Basingstoke, Hampshire RG21 6XS.

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ISBN: 978-1-137-48582-3

Library of Congress Cataloging-in-Publication Data

Askari, Hossein.

The gold standard anchored in Islamic finance / Hossein Askari,  
Nouredine Krichene.

pages cm. — (The political economy of the Middle East)

ISBN 978-1-137-48582-3 (hardback) —

ISBN 1-137-48582-5 (hardback)

1. Finance—Islamic countries. 2. Gold standard—Islamic countries.  
3. Financial crises—Islamic countries. I. Krichene, Nouredine. II. Title.

HG187.4.A86 2014

332.4'222091767—dc23

2014026556

A catalogue record of the book is available from the British Library.

Design by Newgen Knowledge Works (P) Ltd., Chennai, India.

First edition: December 2014

10 9 8 7 6 5 4 3 2 1

ISBN 978-1-349-50382-7 ISBN 978-1-137-48583-0 (eBook)

DOI 10.1057/9781137485830

To all those who have suffered from financial crises



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## Preface

The message of this book is simple. As international payments systems, the gold standard and the gold-exchange standard have historically failed because governments could not resist printing excessive quantities of money relative to their gold stock, the fractional reserve banking system created more and more money through the credit multiplier, and government intervention rendered prices and wages less flexible. The failure was not in the gold system but in the hostile environment of its operation.

The printing of money by reserve currency central banks, such as in the United States and Great Britain, was particularly problematic as they could finance their budget and external deficits simply by printing. This fueled inflation and speculation, creating asset bubbles and eventually resulting in financial crashes. The fractional reserve banking system encouraged banks to create mountains of debt that were of questionable quality, endangering their own solvency, and in turn requiring government bailouts and more money being printed. All along, government interventions in financial, product, and labor markets have impaired the adjustment mechanism. No international payments system could have survived under these conditions. Establishing a gold standard, or any standard based on any other real commodity or commodities, does not require a global conference and agreement. Countries, or a group of countries, can achieve the same goal if they follow a few recommended steps.

It is our contention that the Islamic financial system affords the best financial setting for one or more countries to establish a link to gold. The Islamic financial system has the following essential features: (i) a banking system that embraces two distinct categories of banks—depository banks that are based on 100% reserve banking, and investment banks that essentially act as pass-through institutions channeling investor funds to desired projects—that prevent banks

from taking risks with, and leveraging, their clients' deposits; (ii) prohibition of interest-bearing debt and encouragement of risk sharing through equity participation and Islamic bonds, whereby the bond holder has direct access to the underlying asset, and is thus sharing the risk.

The adoption of a gold standard by the Western economies in 2014 is a nonstarter. It is not even on their radar. It is something that would not be given a moment's attention by senior decision makers. Yet, it is something that Muslim countries may consider today as a very attractive option in a world of continuing financial turmoil. And who knows? In the future, its demonstrated success may begin to attract non-Muslim countries to a financial system that embraces 100% reserve banking, risk sharing, and a link to gold or to other real commodities. We hope that our presentation provides a fruitful direction toward a more stable financial future.

## Acknowledgments

We are grateful to our editor Farideh Koohi-Kamali and her team at Palgrave Macmillan—Sara Doskow, Alexis Nelson, and Susan Eberhart—and to Bhavana Nair of Newgen Knowledge Works. We thank Hossein Mohammadkhan for the index. Most importantly, we are indebted to our families, who, as always have supported and encouraged us throughout this endeavor.

## Introduction

### On the Necessity of a Gold Standard Anchored in Islamic Finance

The 2007–2008 global financial meltdown revealed a dangerous feature of the inconvertible reserve currency system that replaced the gold standard of the pre-1914 era. Reserve currency countries could do almost what they wished, with adverse fallouts for other countries. Facing practically no foreign exchange restraint, reserve currency governments undertook one of the most expansive fiscal and monetary policies on record. They forced interest rates toward zero, printed unlimited quantities of money, bailed out those among their institutions that had floated or acquired toxic debt, pushed more debt into the financial system, and attempted to re-inflate prices. Some of the real losses associated with the crisis were transferred from reserve to non-reserve countries, causing the most vulnerable people to suffer much of its consequences. The reserve country banking system has, in turn, played the part of a wealth redistributor, with a historical pattern of over-indebtedness–crisis–bailout followed by over-indebtedness–crisis–bailout, a pattern that can become pervasive and endless as long as the reserve currency is widely accepted. The reserve currency governments and central banks have prevented the liquidation of debt, which would not have been possible under a gold standard system. Under this system, no country was able to issue unlimited quantities of currency that amounted to a tax on other countries for the benefit of its debtors and speculators.

In this chapter, we cover:

- The crisis of the present inconvertible paper system
- Brief history of the gold standard and the reasons (excessive monetary expansion) for its failure
- Brief anatomy of financial crises (focusing on debt and leveraging)
- Vulnerability of the gold standard under fractional and central banking systems
- Restoration of gold based on the financial principles of Islam.

Undoubtedly, an inconvertible paper system enjoys tremendous support from politicians, financial groups, academics, the media, and profiteers as a class. Reforms are not imminent in the near future; it would never be a political decision; it would only come about under forced conditions, such as a total collapse of reserve currencies caused by the loss of trust. Despite wide support from the political, financial, and business sectors, an inconvertible currency had opponents wherever it was introduced. These opponents formed what was called the sound money school. Such a school held that any reform of the monetary system at the domestic or international level could only be a gold standard; it rejected Adam Smith's (1776) theory that called for substituting costless paper for gold so as to divert resources from gold mining to more socially useful sectors. Their principles can be summarized as follows:

- Money is a commodity that obeys the law of value, namely, cost in labor and other resources for producers and utility for the users. Although any commodity may serve as money, over centuries, gold and silver were found to be the most suitable form of money by most markets and countries.
- Fractional banking has to be abolished and replaced by a system of 100% reserve depository banking that does not create money, is confined solely to safekeeping, and is only used for the settlement of payments.
- The mandate of central banking has to be changed. Central banks often suspended the gold standard. In 1931, the Bank of England dealt it a fatal blow, and immediately thereafter, all the other central banks also stopped using the gold standard.
- Financial intermediation is confined to capital markets only. Investment banks intermediate between savers and users. They receive no deposit money and issue (create) no money. They only buy and sell debentures, bonds, and equities.

Islamic finance fully concurs with these principles, except that it strictly forbids any form of interest-based debt. Debt is not forbidden; it has to be in form of *Quard al-Hassan*, that is, an interest-free loan.



## The Crisis of the Present Inconvertible Paper System

Inconvertible paper money is, by definition, a piece of paper that is not convertible into any commodity by its issuer. It is a “thing in itself.” Since the cost of a bit of paper is negligible and can be assumed to be equal to zero, the issuer, whoever it might be, cannot resist issuing such paper at 100 percent seignorage until the purchasing power of the paper money reaches its actual cost, that is, zero. Inconvertible paper is not market money, but can circulate only with the force and backing of the state.<sup>1</sup>

Inconvertible paper fails to satisfy some basic properties of money; namely, a standard of value, a store of value, and a standard of deferred payments. The erosion of its value depends upon the speed at which the issuer, bank or government, wants to inflate. For instance, a barrel of crude oil was \$0.8 in 1913 and it reached \$147 in 2008, a multiple of 184 times. Gold was \$18/ounce in 1913 and it reached \$1,744/ounce in 2012, a multiple of 97 times. In contrast, under the gold standard, the US consumer price index was 12.17 in 1800 and fell to 8.14 in 1900, that is, by 33 percent. Inflation is related to money supply; the more money is inflated, the higher will be the price level. With the ability to issue paper money, the size of governments has expanded.

As the role of paper money increased, central banks were given the conflicting mandate of securing full-employment and moderating inflation to achieve sustained prosperity, and the role of governments increased. Much of the classical economics of Adam Smith’s invisible hand, Say’s law of the markets, David Ricardo’s free trade, and Bohm-Bawerk’s capital theory were thrown out and replaced by government intervention and management.

The creation of paper money out of thin air is, by definition, a redistribution of wealth in favor of the beneficiaries of its creation. There is a forced saving imposed on the victims of paper creation, which could be the workers, the annuitants, and the poor in general. Often, the victims of inflation pay three inflation taxes: one tax for the state, one tax for the speculators, and one tax for the debtors. The wealth concentration becomes exacerbated.

The 2007–2008 meltdown unmasked the dangerous nature of a dominant reserve currency. The central bank holding the issuance power of the dollar can bankrupt the whole banking system of the United States as well as the Eurozone. The central bank can bail out

the entire banking sector with the stroke of the pen and make the general citizenry, who are the victims, pay for crimes they did not commit, and transfer some bank losses to the poor in the vulnerable countries. The central bank can be a Plutus who drowns speculators and debtors into abundant wealth and opulence at the expense of those who lose real income and wealth. Milton Friedman, long before 2007–2008, feared the power of the Federal Reserve.<sup>2</sup> A monetary chaos took hold after 2007: zero interest rates; massive money creation; unlimited wealth gains in stock markets and in debt; highly unstable exchange rates; large monetized fiscal deficits; unjust rise in income inequalities; and wealth concentration. A worker who labors all day gets poorer; a speculator or a debtor gets rich with little or no contribution toward a real output, thanks to zero-interest rates. At the same time, leading industrial economies were plagued by intractable and high unemployment; meager growth; and declining real incomes. Practically, governments blocked the liquidation of the crisis and forced re-inflation of assets and commodity prices in an effort to recover from the crisis. Government and private debt has far exceeded the pre-2008 levels. It is likely that much of this debt can never be paid except by more debt, inflation, or general bankruptcy.

Taking a long view, the future will only be as chaotic as the past. Too much uncertainty prevails with deranged domestic investment and international trade and capital flows. Sound economic calculations are practically impossible in the context of such uncertainties. Another major financial meltdown is very likely to follow soon. An inconvertible paper money system imposes no discipline on the issuers of the reserve currency and lacks many of the properties of sound money. In 1971, the then US Secretary of the Treasury, John Connally said to Europeans, “The dollar is our money, but it is your problem.”

## **Brief History of the Gold Standard and the Reasons (Excessive Monetary Expansion) for Its Failure**

The gold standard made gold the basis for measuring and transacting all other commodities. Trade was settled in gold among domestic and international traders. For centuries gold circulated as a commodity in form of coins, bullion, or raw metal (gold dust). It circulated by weight or by tale, that is, number of coins to be paid in a transaction. When gold was the standard of value, silver was a commodity

as any other commodity such as wheat or tea. When silver was a standard of value, gold became a commodity as any other commodity. In large transactions within and across countries, gold was subject to an assay and was used according to its true weight and fineness. In small transactions, gold coins were rarely used. Silver, copper, and nickel were used instead of gold. Credit instruments existed as mean for circulating commodities and settling trade; they were promises to settle debt at maturity in terms of gold. There were also bills of exchange, checks, compensation, and clearing mechanism among traders within or across countries that economized on the use of gold. Bills of exchange offset the payments concerning exports and imports without necessarily importing or exporting gold.

Originally, gold circulated without interruption; there were no paper substitutes as there were no printing presses. Adding more alloys to sovereigns, or clipping and sweating by people debased gold coins. Occasionally, sovereigns raised the value of the coin in terms of the units of account.<sup>3</sup> Then, goldsmith houses and a small number of banks appeared; banks multiplied; and governments promoted central banking. Banks, goldsmith houses, and central banks emitted notes convertible in gold against deposits. These deposits were either gold deposited by depositors at the depository institutions, or credit created by the banking institutions in favor of their debtors. Besides banks of issues, governments occasionally resorted to issuing paper money redeemable in gold through their treasury departments. As it were, often-issuing institutions, such as goldsmith houses, banks, central banks, or states, were compelled to suspend the conversion of their paper into gold for excess of issuance; that is, liabilities far exceeded gold reserves. The government, as in the case of the Bank of England in 1797, might order the suspension of gold payment. The Parliament ordered the bank not to redeem bank notes. In the same vein, the Parliament ordered the Bank of England to resume gold payments in 1819. Private banks failed to pay gold. Some were able to regain solvency while others disappeared following bankruptcy. In every country, the gold standard was terminated by decrees of the government. It was not the private market that ended the gold standard. It was a legislation forced by the government that made it a felony to use gold money. Governments eliminated gold as the standard and stood against its restoration.

With the advent of modern fractional reserve banking in the seventeenth century, and the substitution of banknotes, particularly starting from the seventeenth century, the gold standard came under

increasing stress and frequent suspensions. Governments could not resist printing paper money and expanding their power, military force, and expenditures. Bankers could not resist expanding loans and earning interest and commissions.

There were two sources of paper emissions: the government and banks of issue emitted notes convertible into gold. Often, each institution of issue emitted notes in excess of its gold reserves. Particularly, banks practiced leveraging; a bank realized that deposited gold was withdrawn on average only up to a small fraction. For instance, on a deposited amount of 100 coins, only 10 coins were withdrawn during a given period. The bank decided to lend 90 coins in banknotes. It realized that it could increase its loans to an amount of 1,000 coins in banknotes. However, if depositors decided to pull more than 100 in physical coins to pay for foreign goods, the bank was not able to redeem all demands of withdrawals. It found itself in an illiquid, but not necessarily insolvent, position. It was not able to convert into gold the notes presented to it. A panic developed. The suspension of convertibility lasted for few months, or even few years. It happened that banks failed completely, and therefore depositors lost all their gold. The history of the period is replete with financial crises and suspensions. Examples of suspension of gold payments were the Bank of England during 1797–1821 and US banks in 1907. The causes of the suspension were low interest rates, high expansion of credit, high degree of leveraging, high speculation, and default.

## **Brief Anatomy of Financial Crises: Debt and Leveraging**

Economic history shows that gold and silver were most widely used metals in minting monies from time immemorial until 1914. Gold was the standard value in some countries; silver was the standard of value in other countries. Nonetheless, both metals were used as monies in almost all countries; one metal is standard, and the other is an auxiliary metal for fulfilling certain needed money functions. For instance, in the United Kingdom, gold was the standard of value from 1816 to 1914 and silver was auxiliary money for fulfilling small payments such as wages. In France, silver was the standard of value during 1803–1870. However, gold coins were used as money, particularly in settling international transactions.

With the advent of modern banking and the depository system beginning in the fourteenth century, banknotes were issued by banks of issues and circulated along metallic money at a nominal fixed rate with metallic money, called par value of the bank note. The issuing bank promised to redeem its paper money into metallic money at the request of the holder of the banknote. Moreover, with the genesis of modern banking and the development of industry and commerce, credit instruments such as discounts, advances, bills of exchange, promissory notes, and book credit became instruments of payment and fulfilled the same functions as metallic money in circulating commodities and assets. Banks, the state, the merchants, and corporations issued the instruments of credits.

An inherent feature of the modern banking and credit system was the recurrence of financial crises. These crises were characterized by panics during which holders of banknotes rushed to respective issuing banks and asked for redemption in metallic money. Often, these panics led to suspension of redemption by issuing banks facing deficiencies in metallic reserves. The financial crisis did not lead to a suspension of the gold standard. Only banking institutions, or governments facing a mismatch between gold and notes, suspended the redemption of their respective notes. The mints continued to operate with gold bullion minted into coins according to the prevailing laws of weights and fineness. Suspending institutions were either in temporary deficiency in gold and restored cash payments following a strengthening of their gold reserves or disappeared completely, inflicting losses on their creditors. The notes of suspending institutions might have circulated during the suspension period at a discount in relation to their par value.

The financial crises of the eighteenth and early nineteenth centuries led eminent philosophers to ponder on the causes of these crises and to prescribe reforms for preventing their recurrence or attenuating their severity. Many reforms were aimed at ensuring the convertibility of the paper currency into gold and controlling the issuance of paper money.

John Stuart Mill (1826) studied the financial crises of 1814–1815 and 1824–1825. He attributed these crises to speculation and overtrading. In fact, many investment opportunities, such as the new trade opportunities with newly independent Latin American states—which led to the formation of new companies, the floating of new shares, and to high prices of the new shares. Speculation led to rapid price increases. Banks accommodated the new demand for credit. At some

point, many of the projects turned out to be less remunerative than initially expected by speculators; the latter rushed to sell shares before they collapsed; debtors defaulted on their loans; there was a sudden credit freeze, forced sales and, therefore, a general financial and economic crisis. John Stuart Mill downplayed the role of banknotes issuance as a cause of a crisis, simply because banknotes were not the main instruments for circulating commerce and stocks. He showed, based on data, that credit instruments, such as bills of exchange, discounts, advances, and book credit settled more than 90 percent of the trade. Hence, the cause of the crisis might not be necessarily the circulating banknotes. However, banks and merchants had unlimited capacity for issuing credit and therefore fueled speculation and overtrading until the speculative mania burned itself out. The panic was very quick and the collapse of prices was fast. John Stuart Mill also analyzed interest rate determination and its pattern over the business cycle. He noted that the interest rate depended on the rate of profit and on the demand for credit. High expected rate of profit and high demand for credit might have caused the interest rate to rise; however, as banks extended credit, they kept interest rates at a moderate rate. He criticized the British usury laws, which prevented the interest rates from rising above a fixed ceiling of 6 percent.

Among the most celebrated attempts to analyze financial crisis and find their remedy was the Sir Peel's 1844 Act. Noticing the severity of the 1825 and 1837 crises, legislatures and professionals wanted to study the causes of business cycles and find a remedy for them. Two opposing schools of thought developed: the Currency School, which originated in the 1810 Bullion Report as well as in the writing of David Ricardo, versus the Banking School, which was influenced by Henry Thornton and Thomas Tooke. The Currency School maintained that over-issuance of notes in relation to gold reserves was the source of gold suspension. The Currency School wanted to secure the payment of gold and decided to follow the models of the Bank of Amsterdam (1609) and the Bank of Hamburg (1619), where notes were 100 percent backed by metal. Hence, beyond an amount backed by government securities, banknotes were on the margin, 100 percent backed by gold reserves. The Banking School emphasized the convertibility principle of banknotes; however, based on the real bill doctrines, it maintained that credit would not expand beyond business needs.<sup>4</sup> Credit accommodated business expansion and was self-liquidating.

Juglar (1862) studied both the theory and the statistical facts of financial crises. He examined annual banking data for France, the

United Kingdom, and the United States spanning 1800–1860. In France, commercial crises recurred during 1804, 1810, 1813, 1818, 1826, 1830, 1836, 1839, 1847, and 1857. In the United Kingdom, they recurred in 1803, 1810, 1815, 1818, 1826, 1830, 1836, 1839, 1847, and 1857. In the United States, they recurred in 1814, 1818, 1826, 1837, 1839, 1848, and 1857. Juglar noted that financial crises were rarely local and spread to industrial countries inter-related by trade and capital markets. He selected four indicators for his study; these were: (i) discounts and advances; (ii) metallic reserves and their counterparts; (iii) circulation (paper and coins); and (iv) deposits and checking accounts. Juglar showed that credit and metallic reserves displayed an immutable pattern in each episode. Prior to the crisis, credit increased rapidly and metallic reserves decreased to low levels in each of the three countries. During the liquidation phase, credit contracted sharply and metallic reserves rose considerably; interest rates rose significantly; and prices fell sharply. Juglar noted that the liquidation phase was very brief; its severity depended on the intensity of the prior boom. Powerful boom was followed by a severe contraction, whereas a moderate boom was followed by a moderate contraction. Juglar stressed the high leverage of the banking institutions; he called the credit structure an inverted pyramid built on a diminishing metallic reserves; it was very vulnerable to the smallest disturbance, such as the inability of a bank or commercial corporation to meet its liabilities.

Juglar also described the symptoms that preceded the crises. There were signs of high prosperity, new enterprises, and speculations of all kinds. Juglar showed, using available data, that there were rapid price increases of all commodities, securities, and houses. There was full-employment and very high increases of wages; there was a significant decline in interest rates; there was the credulity of a number of people who wanted to become rich as instantaneously as in a lottery. Juglar mentioned the high level of luxury spending, based not on income earnings, but on the tremendous appreciation of securities as quoted in stock markets. He stated explicitly that investment exceeded real savings and credit was in large part fictitious, exerting pressure on prices. All the newly created enterprises found credit almost immediately and were able to fund all capital requirements; investors rushed to buy new securities and raised their prices with overwhelming confidence in the future!<sup>5</sup> He mentioned that both fictive shares as well as fictive credit caused bankruptcy. In his statistical analysis of financial crises during 1800–1860, he claimed that financial crises were an inherent

feature of advanced banking systems such as in the United Kingdom, France, and the United States; they did not occur in countries with a small banking sector and a small stock market. He established that with the advent of modern banking and the development of credit instruments, financial crises became recurrent and even periodic, with a periodicity of ten years. He noted the futility of Sir Peel's 1844 Act in staving off credit expansion and therefore urged no regulation, except letting liquidation operate. He established that the economy recovered very quickly following liquidation and experienced higher prosperity than the one enjoyed before the crisis. In contrast, in the aftermath of the 2008 crisis, the US Federal Reserve has not allowed liquidation. It socialized losses; reduced interest rates towards zero; injected more money; preserved numerous bankrupt and inefficient enterprises; and in turn may have fueled more speculation.

## Vulnerability of the Gold Standard under Fractional and Central Banking System

The conventional gold standard was vulnerable to crises caused by over-issuance of notes and paper money by the fractional reserve banking system or the government. There were recurrent gold suspensions, caused by over-issue, as occurred during the John Law's Mississippi speculation, the French assignats, the Bank of England suspension during 1797–1821, the Panic of 1818 in the United States, and many other frequent episodes during the heydays of the gold standard were mostly retraceable to over-issuance and leverage by fractional banking. Fractional and central banking turned out to be mutually exclusive with specie.

Lord Liverpool (1805) delivered a diatribe against banknotes which displaced gold out of circulation; these banknotes were emitted by the British fractional reserve and central banking system: "Paper currency, which is carried to so great an extent, that it is become highly inconvenient to Your Majesty's subjects, and may prove in its consequences, if no remedy is applied, dangerous to the credit of the kingdom. It is certain, that the smaller notes of the Bank of England, and those issued by country Bankers, have supplanted the gold coins, usurped their functions, and driven a great part of them out of circulation... If this practice is suffered to continue, as at present, without any limitation, there can be neither use nor advantage in converting bullion of either of the precious metals into coins... When the



situation of the Bank of England was under the consideration of the two Houses of Parliament, in the year 1797, it was my opinion, and that of many others, that the extent to which paper currency had then been carried, was the first and principal, though not the sole cause of the many difficulties, to which that corporate Body was then, and had of late years, from time to time, been exposed, in supplying the cash (gold) occasionally necessary for the commerce of the kingdom . . . The state of the paper currency of this country, in its manner and extent taken together, is, I believe, without example in the history of mankind" (Lord Liverpool 1805).

Lord Liverpool described the injustice and wealth redistribution of bank credit: "But this new sort of fictitious capital, thus introduced within the kingdom, has contributed more than any other circumstance to what is called over-trading; that is, rash and inconsiderate speculations, and what is almost a necessary consequence, unworthy artifices to support the credit of adventurers already ruined, as well as other evils, which tend to corrupt the morals of the trading part of the community, and to shake the credit on which not only paper currency, but the internal commerce of the kingdom is founded. In every commercial system, capital is certainly a necessary ingredient: but the prosperity of the British commerce depends not singly on capital; it depends still more on the good faith, honor, and punctuality of British merchants, for which they are so justly celebrated." He was convinced that paper currency and gold were mutually exclusive: "Impressed as I am with the idea, that no system of coinage can be adopted with the prospect of permanent advantage, till some regulations have been made for remedying the evils resulting from the present state of paper currency, I have thought it right thus to lay before Your Majesty some account of the excess to which it has of late been carried within Your kingdoms. I am unwilling to enter into further discussion on a question so important, and so much agitated, because it is not a fit subject for a Letter to Your Majesty, nor will I treat of the remedies, which ought to be applied, because these cannot be administered by the authority of Your Majesty, as in the case of coins; but they require the authority of the Two Houses of Parliament, in conjunction with that of Your Majesty. Certain I am, that in a kingdom like Great Britain, the most commercial, and for its extent the richest perhaps that ever existed in the world, every branch of circulating medium, of whatever it may consist, should be founded on solid, wise, and honest principles; and coins in particular, which are the only true measure of property and instrument of commerce, and by which every other circulating

medium must be regulated, should be made and kept as perfect as the nature of the subject will admit” (Lord Liverpool 1805).

An American school developed around Thomas Jefferson and Andrew Jackson’s anti-banking views. This school resented the transplanting of the English banking system, including the model of the Bank of England, to the United States. Such a central bank afforded a rediscount to banks and business, contributed to inflate money and credit, and caused frequent financial crises and gold suspension as well as displacement of specie. President Andrew Jackson banned central banking in 1836. Appalled by the robbery of inflationism, intense asset speculation, the defrauding of workers, and the alliance of political and financial power, Jackson terminated the charter of the central bank, called the Second Bank of the United States. He declared to a delegation from the bank, “You are a den of vipers and thieves. I intend to rout you out, and by the eternal God, I will rout you out.” Jackson restored sound money and free markets, and immunized the capital markets against destabilizing speculation. Workers enjoyed significant gains in real wages and financial crises were relatively rare from 1836 to 1914; when they appeared, they were narrow in scope, short-lived, and self-correcting without government interference. They often penalized and weeded out corrupt bankers.

A “sound money school” based on gold evolved in the United States on the principle of 100% reserve banking and the termination of fractional reserve and central banking. This school shared David Hume’s advocacy of 100 percent specie-reserve in the image of the Bank of Amsterdam. Hume (*Political Discourses*) wrote: “Of those institutions of banks, funds, and paper credit, with which we are in the kingdom so much infatuated. These render paper equivalent to money, circulate it throughout the whole state, make it supply the place of gold and silver, raise proportionately the price of labor and commodities, and by that means either banish a great part of those precious metals, or prevent their further increase. What can be more short-sighted than our reasoning on this head? We fancy, because an individual would be much richer, were his stock of money doubled, that the same good effect would follow were the money of every one increased; not considering, that this would raise as much the price of every commodity, and reduce every man, in time, to the same condition as before.” Hume added: “There appears no reason for increasing that inconvenience by a counterfeit money, which foreigners will not accept in any payment, and which any great disorder in the state will reduce to nothing. To endeavor to increase paper credit artificially,

then, merely increases money beyond its natural proportion to labor and commodities, thereby increasing their prices.”

The Boston merchant Charles Holt Carroll (1799–1890) was a vocal critic of fractional reserve banking and the organization of debt as a currency where most transactions were carried through debt and very few with cash. He was also hostile to central banking, as transpired from his severe criticism of the Bank of England. Carroll was not an armchair economist; he developed his theory from his business practice and the disorder inflicted by banks on business. He urged 100% reserve banking as the only remedy for banking instability. According to Carroll, banks should not be allowed to create and contract money. He observed that debt currency is extremely expensive; it requires considerable resources to process loans, to follow up on payments, to litigate loans, etc. A simple cash payment will obviate all the complex and costly debt operations. Carroll enunciated two fundamental principles: (i) fictive debt can be paid only through a fictive debt or bankruptcy; and (ii) gold and paper currency cannot circulate together, they are like water and fire.

Regarding the first principle, Carroll stated, “The origin of this debt currency, or bank money, generally called ‘paper money’—although the deposits are as much currency as the circulation—explains its nature. It is *debt organized into currency* through the agency of a bank, over and above all the money in the world. In its nature it cannot be paid, because it adds itself to the price of property, and consequently to all money obligations, which can only be paid while the currency exists, on the measure of which they were contracted. The contraction of this currency contracts prices and the means of payment, creates a pressing demand for money to discharge the counter debt, and, to discharge itself, an equal demand for money which was never created. While its volume remains entire, it may be exchanged against commodities and may transfer debt, but it cannot make a final payment of debt. If final payment is demanded, either of banks or individuals, bankruptcy alone can discharge the sum required. If the bank gets paid, the deficiency must fall somewhere else in the community, for the money is missing. Like the Kilkenny cats, one debt eats up the other and no value remains... The banks attempt to collect \$10, five of which they never loaned and never possessed. The people possess nothing for it but the debt of the banks, and the banks possess nothing for it but the debt of the people. It is a reciprocal demand for coin that is nowhere, or for an equivalent value that is nowhere—that never existed. It is reciprocal destruction—the fight

of the Kilkenny cats. Payment is impossible, and the \$5 of artificial currency thus created, inevitably creates in this transaction \$15 of bankruptcy” (Carroll 1850s).

In respect to the second principle, Carroll stated, “The debt currency is not a value; it is a fiction of money manufactured virtually out of nothing, and is, when created, like every other debt, in excess of all the money and property in the world...but, by the present system, we expel the gold, and thence comes the necessity of debt to create the debt currency and maintain the banks...And what capital is employed in these transactions? Clearly not a dime but yours and mine; your cloth and my wool: our capital maintains the merchant and the bank, and all their clerks and rent and charges; we are entangled in a useless debt, with the fluctuating values of a currency continually expanding and contracting to accommodate the cupidity or necessities of the bank, and we run the risk of bankruptcy, out of the proceeds of our own labor, which, under a money currency, would have been exchanged without any risk whatever. Every time the cloth or the wool is exchanged in its progress to the consumer, more debt and more currency of the same sort are created, and an oppressive mass of debt is thus built up and maintained to expel money, postpone payments, and embarrass everybody. Instead of using money as the common equivalent to buy and sell for cash, we entangle ourselves in debt, which, being organized into currency by discounting, occupies and obstructs the money channel, and drives the money out. And this we call the ‘Credit System.’ It is a miserable fallacy; more properly, it is the counterfeit system. Money is the product of labor, never of credit. Credit borrows capital legitimately, not by producing currency; when it produces currency it produces false money and is but legalized counterfeiting. Money is naturally in repletion; by no possibility can it be sent out or kept out of the country, till it is in natural excess, but by adulterating it in the currency with false money, so as to make it cheaper than merchandise” (Carroll 1850s).

A promise is a debt, and nothing else; and the attempt to make debt serve the purpose of money always has been and always will be problematic. Money and debt are as opposite in nature as fire and water; money extinguishes debt as water extinguishes fire. Debt in the money channel is a violator of natural law; an intruder that can remain there only so long as money can be kept out by the interference of legislation. The buying of goods is one thing, the paying for them, another. Credit may be a good medium of exchange, but never can be the object of exchange. The seller is not paid for his goods in a note

or a check; the exchange is not completed until his capital is restored to him in real goods, such as in gold or its equivalent value. Hence the debts of the community, so far as they are contracted in price without value; that is, in price formed by credit in excess of the natural money value, below which prices cannot permanently fall, must be kept in existence by continued renewal and by maintaining in full activity of circulation the volume of currency in which they were contracted, or prices will fall, debts must be discharged in bankruptcy, and banking comes to grief, like other credit business. Carroll rebutted Adam Smith's contention that the use of paper as a substitute would be a gain, by saving the use and cost of gold and silver in the currency.

The Carroll reform plan was 100% reserve banking: "I therefore propose to the banks to abandon the theory that debt is money, which is false and pernicious—return to first principles, and change the system of banking from depending upon the mere expansion of debt—which must always go on increasing, by reason of the competition of the banks for dividends, expelling the coin from the country, until checked by the pressure for specie caused by the excess of the export over the receipts—to the normal and just principle of borrowing at a low rate of interest, and lending at a higher; dealing plainly in real money capital, and not in the capital of debt, and charging a proper commission on accounts according to service rendered" (Carroll 1850s).

Asama Walker (1873) was hostile to fractional reserve banking as well as central banking and the mixed currency of this banking. The composition of a mixed currency consisted of promissory notes issued by individuals or corporations legally authorized to do so, in excess of the actual specie held for their redemption. Mixed currency was, in fact, composed in part of value (gold and silver) and in part of credit. So far as specie is held for the payment of these notes, this kind of currency was actually convertible, and equivalent to money; but, insofar as the credit element exceeded the specie, it was only a promise to pay money, and was inconvertible. Walker noted that mixed currency was a modern invention, vaguely understood in those countries into which it had been introduced, and that the Bank of England (1694) was the parent of all mixed currency institutions throughout the world. This bank made a grand suspension in 1797, and continued in that state for over 23 year. This was an occurrence that practically demonstrated the true nature of this kind of currency, and the contradiction between a central bank and gold.

Walker maintained that mixed currency was unable to perform the functions of money satisfactorily. The essential feature of such a

currency that did not allow it to serve as either a standard of value or a medium of exchange was that it was not governed by the law of value. This law controlled the expansion or contraction of gold. If gold was increased, as it might be in the natural course of commercial transactions, it was because actual money has been brought into the country by the balance of trade; but a mixed currency was increased by the voluntary and interested action of bank managers, without regard to the laws of value, and without the addition of a dollar to the real money, or wealth, of the country. The increase of gold by importation took place in obedience to causes that were gradual and appreciable. If gold was in excess, it easily and naturally passed off to other countries, until the balance was restored. No artificial appliances or legal enactments were needed to keep true money at a level the world over.

The laws of value did not govern the quantity of a mixed currency in circulation. With respect to expansion, the more that was issued of a mixed currency, the more was wanted. The supply did not satisfy the demand; it excited it. Like an unnatural stimulus taken into the human system, it created an increasing desire for more, and the more it was gratified, the more insatiable were its cravings. There were two reasons for this. First, as the currency was expanded, prices rose correspondingly, and more currency was demanded to effect the same exchanges. Second, speculation inevitably following the rise of prices led to an enormous extension and repetition of indebtedness, which required, for its discharge, a greatly increased amount of the circulating medium. Thus, by the action and interaction of these causes, the demand for the issue of this kind of currency was certain to be greatest when it was already redundant. All this, of course, was quickened and helped by the fact that the issuers of this currency were ready and eager to crowd upon the public all it wanted to take. Since the currency is emitted at the stroke of the pen, it kept rising without being governed by the law of value that governs the supply of any commodity. There were no labor or other resources that constrained its expansion.

With respect to contraction, the cause that limited expansion, and finally produced contraction, was the liability of the notes to be presented for payment in gold. The occasion for this cause to operate might be almost anything: an adverse balance of trade or a failure of some large trading or banking company. Consider the most common cause—an adverse balance of trade. A mixed currency had, in itself, no power whatever to satisfy a foreign creditor. If ten million dollars

were to be paid abroad, they had to be taken from the specie of the banks; the basis of the currency was so much diminished, and the circulation must be curtailed accordingly. If the credit multiplier was 10, mixed currency shrank by one hundred million dollars. Assume another trade deficit required more specie that banks could not pay. Panic spreads. Instantaneously, banks curtailed their loans and drastically increased their interest rates to prohibitive levels. Debtors could not pay their creditors; creditors could not pay their debtors; debt fell into general default; banks, not able to recover their loans, failed. Because of its violent expansion and contraction mixed currency failed to meet the properties of medium of exchange and standard of value that were intrinsically embedded in gold.

Walker dismissed the fallacy that confused money and capital; this fallacy held that, by means of mixed-currency banks, the capital of a country was greatly increased. Capital was the portion of wealth employed in reproduction. Gold was one form of capital. To the banker or moneylender, it may be his entire capital; but, to the merchant, manufacturer, or agriculturist, it is capital only as the instrument by which he obtained those commodities that constituted his main capital, upon which he did his work, and from which he made his profits. Emission of bank credit did not increase either gold or the real commodities on which it commended a purchasing power. He was hostile to the popular idea that mixed currency was cheaper than gold, more economical, and therefore more desirable. Specie cost much labor. Paper cost but little in comparison; therefore, as it answered the same purpose, and was more conveniently handled, it conferred a benefit. Adam Smith presented this argument of economy in the use of credit money, despite the danger that was apparent during his time, though the system had not been developed to its proper character and consequences. Had Adam Smith witnessed the great convulsions from 1797 to 1866, he might have dismissed the scheme of substituting the “Daedalian wings” (say, rather, the Icarian wings) of credit for the “solid ground” of value as wholly an idle fancy.<sup>6</sup>

Walker rejected the fallacy according to which there was not enough gold and silver in existence to produce adequate currency for the rapidly extending operations of commerce; and, therefore, resort had to be made to paper substitutes. He noted that only a very small fraction of the then existing stock of world gold was coined; moreover, annual gold production kept overflowing sometimes with sudden huge discoveries and great leaps in output that depreciated the metal. He observed that in the United Kingdom, only a small fraction

of transactions were settled through gold, the rest through banking facilities. He underscored that most of mixed currency was debt; if cash payment ever became the habit, all this debt would become unnecessary, and the economy would have no need for higher gold quantities to meet expanding commerce.

Walker analyzed the adverse effects of mixed currency on the US economy in terms of wide fluctuations in prices, disorders in value and contracts, and business depression. Those who held commodities while prices were advancing gained. Debtors discharged their obligations with less value. Speculators made favorable operations. The value of every commodity had been interfered with; and the integrity of every contract to pay value has been impaired. Walker called mixed currency, that is, fractional reserve banking, a grand system of insidious swindling. In its place, Walker proposed 100% reserve banking: "We want the reliability of coin and the convenience of paper. With these perfectly united, there is nothing more to desire. We have no occasion to increase the currency beyond its natural volume, because that would impair the standard of value. We wish only to have so much currency, and of such a kind, as the laws of trade demand, and, if undisturbed, will always secure" (Walker 1873). The Bank of Genoa, the Bank of Amsterdam, and the Bank of Hamburg received specie and distributed fully covered notes that circulated as money. These banks were purely depository institutions and extended no credit. Referring to these individual banks was not to give a history of their operations, but to show that the essential principle of a mercantile currency, fully backed by specie, has been long recognized, and thoroughly tried in practice. There would then be no expansions or contractions, except from the legitimate operations of trade; and the currency of the nation would be perfectly sound. Notes may be safely issued, in any denominations, and to any amount; still it would be desirable that no small notes should be put out, because it is better that the people should have coins, so far as practicable and convenient, in their own possession, rather than that it should be needlessly accumulated in banks.

Walker urged the remodeling of the Bank of England after the Bank of Genoa: "England affords the best illustration of the necessity for such a currency at the present day, when the commerce of the world is perhaps one hundred times greater than when Genoa was its chief market. The monetary condition of England is peculiarly appropriate in this connection, because its present currency is probably the best in quality of all the mixed currencies, and one with which the public generally are well acquainted. Yet, notwithstanding this superiority,



we find the currency, on which depend the trade and commerce of the British Empire, in a state of continual fluctuation... Why all this fluctuation and anxiety? Why this constant watching of the amount of bullion in bank? Why this nervous solicitude about the reserve? There is only one reason; and that is, that the Bank of England has issued from ten to fifteen millions sterling of notes, for which it holds no specie! That is all the difficulty. It has disturbed the laws of value, by issuing that as money, which had only the promise of value; and, consequently, has expelled the actual value from the country where it was needed. And what does the Bank of England gain by all this? The interest upon the excess of its notes over the bullion in bank... So, then, it is for this paltry consideration that the currency of Great Britain is kept in constant fluctuation, and the business community in continual anxiety. This gain is equivalent to about four pence per head for the population of the nation. Yet for this the public must, on an average, suffer to the amount of many millions per annum" (Walker 1873).

In parallel to the 100% depository system, there should be an investment banking system that would be forbidden to issue any promises as currency. Investment banks could be constituted in form of joint-stock companies. They accept no deposit. They issue debentures, bonds, or equities. Investors in these banks would either lend money at specific conditions or hold equities. In their turn, the banks lend money to business on specific terms, and acquire bonds or equities in other companies. Investment banking presented no danger and would have no effect on the quantity of gold money. Walker maintained that his proposals could be easily implemented: "The remedy for all these evils is a very simple one, and perfectly feasible whenever government sees fit to make the needful enactments. If the principles we have previously laid down, and the practical results which follow, are such as we have stated, then no one nation need to hesitate in making this experiment for fear that other nations may not follow their example; for the community which has the soundest currency will, other things equal, have the most profitable industry and the most advantageous commerce."

The fractional reserve and central banking under the gold standard drew the hostility of many other writers and politicians during the eighteenth-nineteenth centuries. Banks and central banks had a check on their notes through convertibility as well as foreign drain on gold reserves. Exchange rates were fixed among trading partners since each currency was defined in terms of a weight in gold. This system has evolved into the present system in the post-Bretton Woods era with

inconvertible paper and fluctuating exchange rates. Practically, all the checks against over-leveraging and money creation were removed. Central banks sterilize foreign exchange outflows and refinance the banking sector.

A revival of 100% reserve banking and the abolition of fractional and central banking was formulated in 1933 in the Chicago Reform Plan. The Plan did not explicitly address the gold standard; either because the United States was still under classical gold standard or it did not perceive the necessity of restoring gold coins in lieu of paper money. A main advocate of 100 percent gold money, in the tradition of Carroll and Walker, was Murray Rothbard (1962, 1994). Regarding central banking, Rothbard stated, “The central bank has always had two major roles: (i) to help finance the government’s deficit and (ii) to cartelize the private commercial banks in the country, so as to help remove the two great market limits on their expansion of credit, on their propensity to counterfeit: a possible loss of confidence leading to bank runs; and the loss of reserves should any one bank expand its own credit. For cartels on the market, even if they are to each firm’s advantage, are very difficult to sustain unless government enforces the cartel. In the area of fractional-reserve banking, the central bank can assist cartelization by removing or alleviating these two basic free-market limits on banks inflationary expansion credit” (Rothbard 1994).

Dismayed by the upheavals since 1914, Rothbard urged abolishing central banking and return to the gold standard: “The Fed and the banks are not part of the solution to inflation; they are instead part of the problem. In fact, they are the problem... It is undeniable that, ever since the Fed was visited upon us in 1914, our inflations have been more intense, and our depressions far deeper, than ever before. There is only one way to eliminate chronic inflation, as well as the booms and busts brought by that system of inflationary credit: and that is to eliminate the counterfeiting that constitutes and creates that inflation. And the only way to do that is to abolish legalized counterfeiting: that is, to abolish the Federal Reserve System, and return to the gold standard, to a monetary system where a market-produced metal, such as gold, serves as the standard money, and not paper tickets printed by the Federal Reserve... It would be easy to return to gold and to abolish the Federal Reserve, and to do so at one stroke. All we need is the will. The Federal Reserve is officially a ‘corporation’ and the way to abolish it is the way any corporation, certainly any inherently insolvent corporation such as the Fed, is abolished. Any corporation

is eliminated by liquidating its assets and parceling them out *pro rata* to the corporation's creditors" (Rothbard 1873).

The reason Rothbard advocated 100% reserve banking was to uphold the free market and property rights: "In my view, issuing promises to pay on demand in excess of the amount of goods on hand is simply fraud, and should be so considered by the legal system. For this means that a bank issues 'fake' warehouse receipts—warehouse receipts, for example, for ounces of gold that do not actually exist in the vaults. This is legalized counterfeiting; this is the creation of money without the necessity for production, to compete for resources against those who have produced. In short, I believe that fractional-reserve banking is disastrous both for the morality and for the fundamental bases and institutions of the market economy" (Rothbard 1994).

Rothbard noted that a main objection to the gold standard was its vulnerability to great and sudden deflations and the difficulties that national authorities face when a specie drain abroad threatens domestic bank reserves and forces contraction. Effectively, under fractional reserve banking, if the credit multiplier is 10, a drain of \$10 million in gold would cause a contraction of bank money by \$100 million sending the economy into serious deflation and bankruptcy. With 100 percent gold, none of these problems would exist. Under a 100 percent hard-money international gold standard, the currency of each country would consist exclusively of gold. The governments would not have to worry about any drain on their reserves. Banks would never be embarrassed when requests are made to redeem paper money in gold, since each dollar of paper money in circulation would represent a dollar of gold actually in a bank. There would be no such thing as independent national monetary policies, as market forces would determine the volume of money in each country. The world's gold supply would be distributed among the various countries according to the demands for cash balances of the individuals in the various countries. There would be no danger of gold deserting some countries and piling up excessively in others for each individual would take care not to let his cash balance shrink or expand to a size which he considered inappropriate in view of his own income and wealth and transaction needs.

Under a 100 percent gold standard, the various countries would have a common monetary system, just as the various states of the United States have a common monetary system. There would be no more reason to worry about disequilibrium in the balance of payments of any particular country than there is reason to worry about

disequilibrium in the balance of payments of New York City. If each individual (and institution) took care to avoid persistent disequilibrium in his personal balance of payments that would be enough. The actions of individuals in maintaining their cash balances at appropriate levels would “automatically” take care of the adequacy of each country’s money supply.

The problems of national reserves and deflation are also in large part due to the fractional-reserve nature of the gold standard, and not gold itself. National fractional reserve banking systems are the major source of most of the difficulties attributed to the gold standard. With fractional reserves, individual actions no longer suffice to automatically assure the proper distribution of the supply of gold. Difficulties arise because the mixed national currencies—currencies that are largely paper and only partly gold—are insufficiently international. The main defect of the historical gold standard was the necessity of protecting national gold reserves. Central banking and its management probably made things worse: In short, whether a central bank amplified the effects of gold flows, remained passive in the face of gold flows, or offset gold flows, its behavior was incompatible with the principles of the full-fledged gold standard. Indeed, any kind of monetary management would run counter to the principles of the pure gold standard.

Ron Paul, a medical doctor, has decried central banking, fractional reserve banking, and paper money. Confronted with the inflation and deteriorating economic conditions of the United States in early 1970s, he decided to quit the medical profession and dedicate his time and energy to restoring the gold standard. Ron Paul’s views were based on many decades in the Congress and research into money literature. In his book *End the Fed* (2009), Ron Paul was dismayed by the role of the Federal Reserve (Fed) in manipulating monetary policy. He considered the trillions of dollars in bailouts as the worst injustice a government could inflict on its innocent citizens, by socializing the losses incurred by greedy bankers and debtors. He was also disenchanted with the Fed’s role in preventing liquidation and blocking recovery: “Even today, with an economic crisis raging, the response by our government and the Federal Reserve has been characteristic. Interest rates are driven to zero and trillions of dollars are pushed into the economy with no evidence that any problems will be solved” (Paul 2009). He portrayed the Fed as a public-private partnership; a coalition of large banks that are the owners working with the blessing of the government, which appoints its managers.

Ron Paul contended that sound money is essential for preventing unnecessary wars. Prosperity and peace in the long run are impossible without it. He emphasized that the US Constitution had disbanded paper money. He cited Thomas Paine,<sup>7</sup> who saw paper money as the enemy of individual liberty on grounds that it always gives rise to despotism: “As to the assumed authority of any assembly in making paper money, or any paper of any kind, or in other language, a compulsive payment, it is a most presumptuous attempt at arbitrary power. There can be no such power in a republican government: the people have no freedom—and the property no security—where this practice can be acted” (Paine 1776). Ron Paul observed that bad economic policy could destroy a civilization—no policy is more dangerous than a bad monetary policy; he contended that central bank’s despotism inflicted inflation with its attending consequences and it spread and worsened business cycles. It yielded no economic benefit as stated by F. A. Hayek (1976): “I doubt if central banking has ever done any good except to the rulers and their favorites...Money is certainly too dangerous an instrument to leave to the fortuitous expediency of politicians.”<sup>8</sup>

Ron Paul discussed the origin and the nature of the Fed. The purpose of the Fed was to provide elastic money, which Paul interpreted as allowing the banks to expand credit without any restraint since the central bank bails out troubled banks, as effectively demonstrated in 2008. The Fed creates moral hazard by inciting banks to great risk and socializes losses. Fractional reserve banking is vulnerable to panic as shown in 1907 and needed a government bailout system to survive bad loans and runs.

## Restoration of Gold Based on Islamic Financial Principles

Islamic finance is based on the teachings of the *Qur’an* and the *Sunnah*. It strictly prohibits positive or negative interest (*riba*). No economic entity, be it an individual, enterprise, state, bank, or central bank, is allowed to contract interest-based debt. Free-of-interest lending, called *Quard al-Hassan*, is permitted. However, since this form of lending has no pecuniary reward for investors, it can be assumed to be negligible. Therefore, in contrast to conventional finance, credit plays no role in Islamic finance. Because credit is almost absent in Islamic finance, there is no credit expansion or contraction, no fixation of interest rate by the state, and no conflict

between borrowers and creditors. Islamic finance can be defined as a two-tier financial system:

- A 100% reserve depository and safekeeping banking system for domestic and international payments.
- A profit-loss sharing investment banking that places real saving directly in private or public projects or indirectly via the stock market. Investors are shareholders and not lenders.

So far, the inquiry in the history of gold standard and insights from the work of the proponents of gold system has led to a number of key propositions:

- the gold standard can effectively survive only in a 100 percent reserve banking system; this system should be strictly regulated in a way it makes no money emission, no borrowing or lending, and be confined only to safekeeping and payments operations
- the gold standard cannot survive with government issuance of inconvertible paper money
- gold cannot survive with obstruction of free labor, capital, and product markets, and with interference with free international trade
- financial intermediation has to be in form of investment banking that issues no credit money; with investment banks strictly regulated that they accept no deposit money and issue no money; they sell debentures and bonds at market interest rates, and sell equities, and lend or buy bonds and shares on the capital market

These propositions are in full accord with the precepts of Islamic finance, except that investment banking has to be solely equity banking, with no interest-based debt. Once established according to Islamic financial principles, a gold standard is immune to causes that undermined the classical gold standard. Fractional reserve banking and its bail out and rediscounting the central bank are inherently interest-based entities; they breach the property rights and trust by creating money.<sup>9</sup> *Money in the Qur'an* as well as in the *Sunnah* was gold and silver. Many verses referred to these two monies. The use of the right measures and the interdiction of cheating and diminishing the measure have been stressed repeatedly in the *Qur'an* and *Sunnah*.<sup>10</sup> Moreover, these two commodities obey the laws of value and are determined neither by the central bank nor by the deficit of the state. This is how governments pay back their debt in devalued or even worthless paper.

## Conclusions

Under the present inconvertible paper system, monetary expansion at near zero-interest in reserve currency countries has pushed debt to such levels that make another financial crash and general bankruptcy highly likely. This policy, in turn, draws large flows of real resources from vulnerable countries, undermining their development and growth. These countries in part pay for a price for a crisis they did not cause.

The present international payments system is under strain in the aftermath of the 2007–2008 financial crisis. How much and how fast it will fall depends on how fast confidence in reserve currencies erodes and how fast competitors, such as China, demand change and in what direction. Hyperinflation will simply wipe out all debt of reserve currency countries, which would be a most favorable outcome in their favor, that is, real borrowed wealth will be paid by a paper of zero value.

What reforms may be envisaged? Certainly envisaging another paper system, such as the Bretton Woods, would be unlikely this time around. It would amount again to choosing reserve currencies and inflating paper currencies on the top of each other as under the Bretton Woods system. A reform that a major creditor, such as China, might champion is a gold standard. In this chapter, we showed the preferred gold standard, which was tried in early fourteenth century by the Bank of Genoa, the Bank of Amsterdam, and the Bank of Hamburg consistently and without suspension. Such standard required the abolition of fractional reserve banking as well as central banking. However, debt was allowed under this system.

A preferable system would be gold standard anchored in Islamic finance. In such system, interest-based debt is excluded; moreover, debt would be negligible and limited only to *Quard al-Hassan*. Besides being strictly forbidden in Islamic finance, interest-based debt antagonizes debtors and creditors; debt always carry a high risk of default whether intentionally or unintentionally; debt affords the borrowers greater benefits over those who have no access to debt and causes undeserved inequalities. Risk sharing-equity-based investment is the most equitable financial system; there is no debtor-creditor conflict, nor unfair sources of wealth and income inequalities.

## The Shortcomings of the Present Payments System

The money supply of the United States, as measured by  $M2$  (i.e., currency in circulation and demand and time deposits), rose from \$15.78 billion in 1913 to \$11,287.7 billion in 2014, a multiple of 715 times. The volume of gold money could not actually be increased by this huge multiple, nor could the volume of US real GDP, which rose from \$648 billion in 1913 to \$15,759 billion in 2013, a multiple of 24 times. Paper money can, therefore, be multiplied as fast as desired, and has no practical connection to the real economy. In this chapter, we address the following topics:

- Description of the present system of inconvertible paper money
- The Post-Bretton Woods International Payments System—a paper money system
- Self-multiplying money creation and inflation
- The inflationary taxation (seigniorage) and distortive effects of inconvertible paper money
- Financial crises and the role of central banks
- Government intervention in the price and wage mechanism
- Financialization
- Consumption of capital

The chapter unravels some of the features of paper money and ends with a discussion on financialization of the economy, a decoupling of the real economy from finance with a financial sector that is relatively too large and built on debt and speculation, and the destruction of real capital.



## Brief Description of the Present System of Inconvertible Paper Money

The present international payments system is a system of inconvertible paper money where notes are not convertible to either gold or silver. Each country, or each monetary zone, has inconvertible paper and credit money. Exchange rate regimes vary from floating, to fixed, managed, or pegged. International payments use reserve currencies. Often, reserve currencies are created out of “thin air,” that is, legally counterfeited,<sup>1</sup> and used to buy large amounts of goods, securities, and wealth by the beneficiaries of the newly created money. Reserve countries extract large resources from non-reserve countries through printing huge amounts of reserve currencies. International inflation has increased. Inconvertible paper money existed at different episodes in many countries and ended up in hyperinflation and financial and economic ruin. Among the experiences, we can cite the John Law paper emission in France, the French assignats, the American continentals, and the German hyperinflation (1919–1923).

An international payment system in the form of inconvertible paper money did not exist prior to 1971. During 1914–1971, a system, called the gold-exchange standard prevailed. Countries accepted currency of the gold standard country, for example, the US dollar, or the pound sterling (before 1931), instead of gold, in the settlements of their balance of payments. The objective of the gold exchange was to economize on gold, reduce monetary demand for it as well as its price. A few key currencies were convertible to gold, while most currencies were pegged to convertible currencies. Some of the pegged currencies were convertible to the dollar; many others were not convertible and were under foreign exchange control regimes.

The present international payments system of inconvertible paper currencies (with a number of different exchange rate arrangements), the fractional reserve banking system, and uncontrolled monetary expansion have been important factors promoting global financial uncertainties and instability as illustrated by the 2007–2008 financial crisis and its aftermath.<sup>2</sup> In fact, the US Federal Reserve’s (the Fed) accommodating monetary policy channeled excessive credit to subprime markets, which by definition, can repay neither interest nor loans (Minsky 1986) and fired up asset bubbles. The collapse of credit and asset prices triggered general bankruptcies.

Free of any gold constraint, the US Federal Reserve created \$3.6 trillion in new money during 2009–2013, equivalent to six times the

amount of money it created during 1914–2008. Under a gold standard system, the central bank can control neither the flow of money nor the interest rates. In part because of its inflationary bias, the inconvertible paper system is supported by governments, bankers, speculators and debtors and also by academics (Keynes 1936) that maintain debt and interest is essential for the financial system.<sup>3</sup> Most governments (e.g., the United States, Japan, and the European Union) strongly believe in Keynesian macroeconomics, which supports that “big government” and deficit financing are the way to restore full-employment and prosperity when countries find themselves in a deep recession.

Free of gold or foreign exchange constraint, a number of central bankers (e.g., the Fed) have full-employment while keeping inflation within a certain range as their mandate, which effectively means that in the short run, some inflation can be tolerated as a trade-off for full-employment, as suggested by the Phillips curve. Present day policymakers in leading industrial countries firmly believe that expansionary fiscal and money policies are the way to restore employment and prosperity. Moreover, under special circumstances, some economists are even saying that a degree of inflation may be desirable: “The Fed has worked for decades to suppress inflation, but economists have long argued that a little inflation is particularly valuable when the economy is weak. Rising prices help companies increase profits; rising wages help borrowers repay debts. Inflation also encourages people and businesses to borrow money and spend it more quickly.”<sup>4</sup> Nonetheless, as reserve currencies lose value with inflation, economic agents will hedge against inflation and turn to gold and other real assets as a preferred form of holding wealth.

Proponents of gold have called for restoring the position of gold in domestic and international payment systems and opposed the monetary and fiscal policies that led to the exit from the gold standard. They have criticized the gold-exchange standard, employed in systems such as the Genoa and Bretton Woods systems (Rueff 1964), and are opposed to today’s paper money (Rist 1938; Rothbard 2008; and Paul 2009). They maintain that fictitious credit and un-backed printing are legal counterfeiting, insidious swindle, and redistributive;<sup>5</sup> and that the setting of interest rates at near zero through money printing does not increase real saving, but only induces financial booms and busts. Carroll (1850s), Walker (1873), and Rothbard (1994) noted that a gold standard with interest-based debt suffered repeated financial crises resulting from excessive credit creation. They strongly advocated a gold standard with 100% reserve money as a viable international

payments system. Their recommended reforms called for abolishing the fractional banking system (Rothbard 1994; de Soto 2012), replacing it with 100% reserve money, and abolishing central banking (Rothbard 1994; Paul 2009).

Although paper money has a number of convenient facets, it has become attractive for countries as a means to tax without limit, and by bankers as a mean to issue fictitious credit without limit while earning income on nonexistent capital (Carroll 1850s). Under inconvertible paper monies, exchange rates are more volatile and adjustment of balance of payments relies on currency depreciation instead of the classical price-specie flow mechanism.<sup>6</sup> The recent financial crisis and its aftermath show that the financial system—with paper money and fractional reserve banking—may have become a source of instability and crises.<sup>7</sup>

## The Post–Bretton Woods International Payments System: A Paper Money System

Jacques Rueff (1964), a fervent supporter of the gold standard, argued that any payments system not based on gold was doomed to fail. He noted that the gold-exchange standard promoted by the Genoa Conference in 1922 to economize on gold<sup>8</sup> and increase the use of reserve currencies culminated in the Great Depression (1929), Britain's exit from the gold standard (1931), and a period of deep instability (1929–1939) leading to a devastating world war. He predicted the collapse of the Bretton Woods system of fixed parities, which was a gold exchange arrangement similar to the Genoa arrangement, for the same reason that undermined the Genoa system, namely excessive liabilities of reserve central banks in relation to their gold reserves.<sup>9</sup> The period following the collapse of the Bretton Woods system in 1971 was marked by severe instability. Not surprisingly, absence of financial discipline, high inflation, exchange rate instability, financial crises, recession, and rising unemployment followed the establishment of the paper money system in 1971 and became permanent features of this system.<sup>10</sup>

In the post–Bretton Woods system, each country or each money zone, has inconvertible paper and credit money. Each country, if it chooses to, has independent fiscal and monetary policies. Floating exchange rates measure how far currencies have depreciated with respect to each other. In contrast to classical gold system, the exchange

rate devaluation or depreciation has become the main instrument of balance of payment adjustments. All currencies keep losing purchasing power over the years. In 2012, as measured by the US consumer price index, the dollar had the same purchasing power as 2 cents did in 1913, and has depreciated considerably in relation to gold. The price of gold rose from \$35/ounce in 1971 to over \$1,800/ounce in 2011, for a considerable depreciation of the dollar. As the reserve currencies keep on depreciating under expansionary monetary and fiscal policies, gold (and other commodities)<sup>11</sup> will regain preeminence as a reserve asset. Countries with current account surpluses, as well as other asset holders, will be tempted to convert their foreign exchange into gold at prevailing market prices, or invest in real assets in foreign countries.

Over the past four decades, the dominance of few reserve central banks and financial instability has been features of the current system.<sup>12</sup> The 2007–2008 financial crisis is a culmination of unlimited credit money creation, debt buildup, and intense speculation. Critics see the prevailing system, in large part, as penalizing non-reserve countries, and as a system that will eventually collapse beyond repair.<sup>13</sup>

In the aftermath of the recent financial meltdown, the absence of a foreign exchange constraint has enabled the United States, the Eurozone, and the United Kingdom to undertake expansionary policies and deflect some of the burden of adjustment on non-reserve countries as well as on creditors. Yet, despite its inherent defects and the free flows of real resources that it confers upon reserve currency countries and debtors, there are no official initiatives for reforms to the international payments system.<sup>14</sup> While deep concern has been expressed by leading trade partners about unorthodox fiscal and monetary policies in reserve currency countries and exchange rate instability, no official and concrete reform plan has been proposed. Reform initiatives are highly unlikely to come from reserve currency countries as they enjoy abundant transfer of wealth from the rest of the world, conferred by their reserve currency status (or 100% seigniorage). As with most change, reforms will come under forced conditions when wealth-holders turn to safe, real, and natural money, which historically has been gold. Gold has historically been the world's single currency; it has no nationality; it was chosen in pre-historical times as the soundest form of money, and has remained so throughout the ages (Menger 1892).

A *stable* monetary system should be based on a real asset that preserves its purchasing power, gold (or a basket of internationally

traded commodities) is one such asset that has historically been used; and it cannot be built artificially on inconvertible paper since paper has no inherent value and no reserve currency central bank can resist the temptation of printing more and more paper money when it runs into financial difficulties.<sup>15</sup> The inconvertible paper and credit system is inherently unstable because there is no limit to money printing and fictitious credit multiplication (Thornton 1802; Carroll 1850s; Rothbard 2008; and de Soto 2012). Banks gain wealth and interest income by expanding credit with the stroke of a pen; they emit credit until they reach either insolvency or debtors' default.<sup>16</sup> Examples of credit collapses are many; we may cite the Great Depression and earlier crises throughout the nineteenth century in Europe and in the United States.

Money fulfills four basic functions: unit of account, medium of exchange, standard of value, and a store of value, that is, standard of deferred payments. When money is no longer a standard of value and a standard of deferred payments, it is impaired. The problem of paper money as a sound form of money resides in value theory, or in the law of supply and demand. Commodities that incorporate value (e.g., corn) are exchanged against commodities that incorporate value (e.g., cloth). Value may originate from labor incorporated in a commodity, and the value of a commodity is its power to be exchanged for another commodity; its price lies only in its power to be exchanged for money.<sup>17</sup> Menger (1892) stated that commodities could be classified according to their salability or liquidity in a barter economy. The most marketable, that is, most liquid, is selected as money. Intrinsically, paper has no value and, thus, cannot be chosen by the market as sound money. Governments decree it to be legal tender. A small piece of paper has a negligible cost; hence, its supply can be almost unlimited, and the demand for it could be very low, driving its value to almost zero. Moreover, paper can be consumed by fire, or destroyed; it can be counterfeited; it cannot serve as a store of value since it has no intrinsic value.<sup>18</sup>

A natural form of money has to be selected by the market to be liquid, scarce, and costly to produce, with its value determined by the law of demand and supply. For instance, a country endowed with gold mines cannot produce gold as the US Federal Reserve (US Fed) produces trillions of dollars electronically. Gold from mines is not as instant and free for injection in the economy as the Fed's multi-trillion dollar quantitative easing program. For gold to be produced from mines, the producer has to undertake investment in machinery

and installations, employ labor, and incur significant cost to produce a few kilos of gold. He produces gold only if the price of gold exceeds its marginal cost.<sup>19</sup> Counterfeiters cannot counterfeit gold.

Under the inconvertible paper system and with floating exchange rates, each country pursues its domestic policies independently. The country inflates to any extent necessary to overcome structural rigidities in its price and wage system, monetizes fiscal deficits, or prevents deflation that ensues from the classical balance of payments adjustment mechanism. It can also inflate to prevent any deflation that follows from the collapse of a financial boom. For its external balance, it depreciates its currency to the extent required for correcting an external deficit. Under the present system, exchange rates fluctuate widely and give rise to significant exchange rate risks and destabilizing short-term capital movements. There are large losses arising from foreign exchange inflicted on those who hold depreciating currencies. There are huge resources devoted to the speculation on foreign exchange and to hedging against exchange rates depreciation.

### Self-Multiplying Money Creation and Inflation

Unlike the gold standard, the reserve currency country, by definition (the United States in the Bretton Woods system, as long as other countries held its currency and did not insist on conversion), is free of any foreign exchange constraint. Theoretically, it could import any quantity of goods without exporting any goods. It only needs to print paper or emit credit to import without any need for any exports' proceeds.<sup>20</sup> Its importers need no foreign currency to import. Its consumers can even remain idle and enjoy imported goods through bank credit or government transfers financed through deficits!<sup>21</sup>

Consider the reserve currency country and the rest of the world with no reserve currency. Let us assume that in the rest of the world there are 100 bushels of wheat and that there is local money in circulation converted to \$100. Assume the reserve currency country wants to import a quantity of wheat from the rest of the world for \$50.<sup>22</sup> It prints \$50. Hence, the total amount of money to be offered for wheat is now \$150. The clearing price of wheat is now \$1.5/bushel instead of \$1/bushel. The rest of the world now buys 66.7 bushels and the reserve country buys 33.3 bushels of wheat. The rest of the world has been compelled to export 33.3 bushels of wheat, a forced saving, a curtailment of investment and growth. The reserve country acts in the same way as the government deficit in the one country

model where the government buys goods with new printed money. The result of this action is an inflation tax, an increase in price level and a decline in the real consumption of the private sector of the rest of the world. In the next period, assume the reserve currency country decides to buy wheat for another \$50. It prints \$50; the quantity of money is now \$200. The supply of wheat is fixed at 100 bushels in the rest of the world. The price of wheat is \$2/bushel. The reserve currency country imports 25 bushels of wheat at this price. If the reserve currency country wants to increase its real share (tax) of wheat, it has to print more money. Let us assume that the reserve country wants to import 50 bushels. Knowing that there is available money of \$150 in the rest of the world that will be spent for wheat, it has to match this money by printing \$150. It will be able to buy 50 bushels at \$3/bushel. If the reserve country wants to import 60 bushels, this means that the rest of the world can acquire only 40 bushels for an amount of \$150. The price is, therefore, \$3.75/bushel. The reserve currency country has to print an amount of money equal to  $60 \times \$3.75 = \$225$ . The reserve currency country can, therefore, go on importing wheat with printed money. It determines the exports of the rest of the world in the same way a government determines how much tax it wants to extract by money printing. The consequence is higher price of wheat in each consecutive period and the rest of the world is consuming less wheat, investing less, and having to hold more dollars.

Often the recipients of the reserve currency redeposit it in the banking system of the reserve currency country, or use it to buy goods or securities from the reserve currency country or make transfer payments to the reserve currency country. The residents of the reserve currency country who receive dollars in payments will deposit these dollars with the reserve currency country's banking system. The bank that receives the check sees its reserves rise by an equivalent amount. The bank will expand credit. If the reserve ratio is 10 percent, then the credit multiplier is 10. If \$100 is deposited, there will be an expansion of credit money by \$1,000. This expansion will feed into imports since there is no foreign exchange constraint and the reserve money is automatically accepted in payments. In other words, importers in the reserve currency country can import without constraint. Moreover, the expansion of credit in the reserve currency country will increase the volume of debt through the banking system and put added pressure on domestic prices.

The demand for imports of the reserve currency country seems, therefore, to be increasing without limit *as long as* its currency is

widely accepted throughout the world as a settlement currency in international payments. All repatriated money flows are deposited in the banking system of the reserve currency country, in turn expanding its credit base and the demand for imports. The ability of a reserve currency country to emit currency without any restriction on foreign exchange pushes its fictitious credit and domestic debt to excessive levels.<sup>23</sup> Since the reserve currency country has the ability to print money and keep its domestic credit expanding, demand for imports also keeps expanding; necessarily the non-reserve currency countries have to be net exporters to meet this demand. In other words, the expanding demand of the reserve currency country financed through credit or money printing has to crowd out the demand from the non-reserve currency countries by increasing forced savings (i.e., reducing consumption) in the form of net exports. Even if there is a small supply of wheat in the rest of the world, the wheat demand of the reserve currency country will crowd out part of the wheat demand in the rest of the world and, therefore, force net exports.

Hence, with printed paper, the reserve currency country will buy crude oil, raw materials, and industrial products, even though demand in the non-reserve currency countries could absorb these products. Thus, there will be a structural imbalance as long as the rest of the world accepts the reserve currency, with a persistent external deficit in the reserve currency country and a persistent forced surplus in the rest of the world. With no foreign exchange constraint, the credit in the reserve country keeps expanding far above what the economy is able to pay as debt service. Furthermore, a large component of the debt may be in the form of subprime debt and government debt that has little or no capital base to generate real output for debt servicing. The credit structure is, therefore, eventually bound to collapse and break out into a debt crisis as happened in 2008 in the two principal reserve currency areas—the United States and the Eurozone.

Below we illustrate the simple model of money creation in the reserve and non-reserve currency countries using the balance sheets of each country. We assume that the reserve currency country does not require foreign exchange (currency backing) to issue reserve currency (denoted by X). We assume also that the non-reserve currency country can issue currency (denoted by Y) only against foreign exchange (backing). Assume that the reserve currency country has emitted X100 in reserve money. The initial balance sheets of the banking system of each country are represented in Table 2.1.



**Table 2.1** Initial monetary position

<i>The reserve country banking (in reserve currency)</i>				<i>The non-reserve country banking (in local currency)</i>			
<i>Assets</i>		<i>Liabilities</i>		<i>Assets</i>		<i>Liabilities</i>	
Loans	X100	Money	X100	Foreign exchange	Y0	Money	Y0
Total	X100	Total	X100	Total	Y0	Total	Y0

**Table 2.2** Monetary position following the import transaction

<i>The reserve country banking (in reserve currency)</i>				<i>The non-reserve country banking (in local currency)</i>			
<i>Assets</i>		<i>Liabilities</i>		<i>Assets</i>		<i>Liabilities</i>	
Loans	X100	Money	X100	Foreign exchange	Y50	Money	Y50
Total	X100	Total	X100	Total	Y50	Total	Y50

**Table 2.3** Monetary position following credit multiplier effect

<i>The reserve country banking (in reserve currency)</i>				<i>The non-reserve country banking (in local currency)</i>			
<i>Assets</i>		<i>Liabilities</i>		<i>Assets</i>		<i>Liabilities</i>	
Reserves	X100	Money	X100	Foreign exchange	Y50	Money	Y50
Loans	X1,100	Deposits	X1,100	Credit	Y500	Deposit	Y500
Total	X1,200	Total	X1,200	Total	Y550	Total	Y550

Let the exchange rate be  $X=2Y$ . Assume the residents of the reserve currency country import goods for X100 from the non-reserve currency country. The reserves in the non-reserve currency country rise by Y50 (Table 2.2). The check for X100 is redeposited in the reserve currency country’s banking system. Thus, its reserves are again built up to X100. We assume the money multiplier in each country is 10. The change in monetary positions can be presented as in Table 2.3.

The inconvertible paper system is highly inflationary.<sup>24</sup> We observe that the gain in foreign exchange of the non-reserve currency country generates a double money creation: it creates local money (Y) in the non-reserve currency country and expands credit in the reserve currency country (X). The expansion of credit will, in turn, lead to higher imports from the non-reserve country. The process is self-multiplying.

The more the non-reserve currency country gains in foreign exchange, the faster credit expansion becomes in the reserve currency country. The reserve currency country has practically no market mechanism for preventing an abnormal expansion of its credit and a continuing deterioration of its trade balance as long as its currency remains a reserve currency. Barring mandatory ceilings of credit or strict import prohibitions, the reserve currency country has only to revert to commodity standard to maintain financial stability and balance in its external trade.

## Features and Fallouts of Inconvertible Paper Money

The inconvertible paper money system of the post-Bretton Woods era has lasted for over four decades. The new system has been characterized by unchecked money and credit expansion in most of the countries. Interest rates are no longer market-determined. They are directly set by the central banks that keep credit expanding, fuel speculation, and propel commodity and asset prices to higher levels. Central banks have acquired powers that they could not have held under the gold standard.<sup>25</sup>

A natural consequence of unfettered money expansion is high price inflation of assets and goods, excessive instability of interest and exchange rates, intense speculation in assets, foreign exchange, and commodities markets, and intense speculative hot money flowing across borders (Kindleberger and Aliber 2005, Rueff 1964). The paper money system has led to the financialization of the economy (Askari et al. 2011), meaning a decoupling of the real and financial sectors and a superfluous increase in the relative size of the financial sector (relative to the real sector). Unrestrained credit expansion has led to a sequence of severe financial crises in many countries, including Japan, South East Asia, and recently the United States, the United Kingdom, and the Eurozone countries. The US dollar is the main pillar of the new system and has conferred on the United States the privilege of being able to perennially run external trade deficits while enjoying a living standard far above its real national output.

### *Unlimited Credit Expansion*

There is no balance of payments constraint on credit expansion in the reserve currency country (Rueff 1964). Credit can expand without

limit. Subprime markets are main recipients of credit; they use it mainly for consumption, and therefore, they have little capital base to service loans. Even general bankruptcy, as in 2007–2008, becomes ineffective to check credit expansion. Since the central bank has no constraint on money printing, it buys all toxic assets from financial institutions in exchange for freshly printed money under massive bail-outs.<sup>26</sup> Moreover, to push credit even to higher levels beyond the general failure point, the central bank pushes interest rates to zero levels and undertakes quantitative easing programs with the aim of pushing more cheap money into the economy. In addition, financial institutions have resorted to securitization, a device invented in the 1970s, to transform loans into marketable securities to be sold to investors in order to absorb ever-increasing liquidity and issue more loans. The risk of loans is transferred from the issuing institution to investors. A derivative, called credit default swap (CDS), may be purchased from an insurer to protect against default of the securitized loans.

The ratio of the United States total domestic credit to GDP exhibited an unprecedented path. It has kept rising without limit. The ratio was steady at about 140 percent of the GDP during 1956–1971 (Figure 2.1). Under the new system, the domestic credit ratio reached 366 percent in 2009.<sup>27</sup> A healthy progression of credit is to be roughly in line with the GDP; it contributes to fixed capital formation, real economic growth, and enhancing price stability through faster economic growth. Figure 2.1 shows that the removal of the money flood-gates has inundated the US economy with excessive liquidity and credit

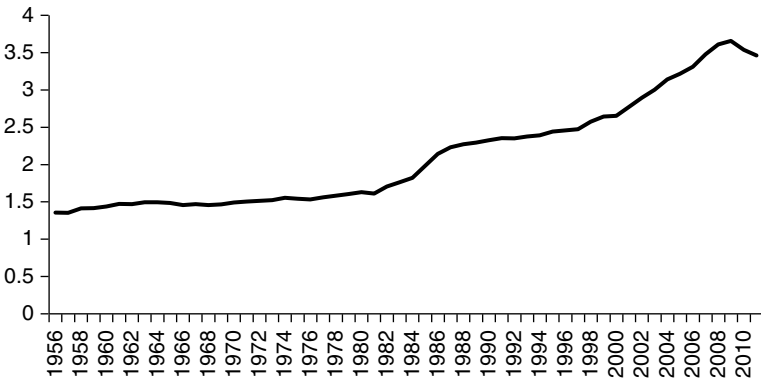


Figure 2.1 The US domestic debt-GDP ratio, 1956–2011

creation. Evidently, credit expansion has a very weak relation with real saving in the United States. It is sustained by the balance of payments surplus of the rest of world deposited in the US banking system. Credit has been extended to subprime borrowers who enjoy wealth, and who may not repay their debts. To illustrate, if the debt service is 10 percent of the amount of the loan, this means that 37 percent of US GDP has to be devoted to debt service every year; consequently, consumption will have to be squeezed to the bare minimum and most unreasonable levels, implying inescapable debt default.

As the credit ratio kept rising, the likelihood of a general default became imminent.<sup>28</sup> Although the debt crisis happened in 2007–2008, it has led to more debt for the US government, exceeding \$17 trillion in 2014. It may be difficult to service the large volume of outstanding credit in an orderly manner. Without massive bailouts from the central bank, the debt will be self-liquidating and will entail the disappearance of thousands of financial institutions, as happened during the Great Depression and prior financial crises. The central banks of reserve currency countries will force inflation as a way out of debt. If the central bank increases interest rates rapidly or reduces liquidity significantly, the whole credit pyramid will collapse into default, with home foreclosures and bank liquidation. The credit structure is artificially maintained by the central bank and cannot stand on its own.<sup>29</sup>

### *Central Banks Force Cheap Money with Near-Zero Interest Rates*

Reserve currency countries face limited international reserves constraints. Despite its large external deficits, the United States has faced little pressure in lowering interest rates to the lowest levels in its history. Under the gold standard, a country facing external drains on its gold would increase its interest rates; when it has large inflows of gold, it would decrease its interest rates. Likewise, under the gold standard, in the aftermath of a financial crisis, interest rates became very high, reflecting the true scarcity of real capital. The Fed, free of any constraint on balance of payments, lowered its interest rates during 2001–2004 to stimulate credit and reflate asset prices (Figure 2.2). This interest rate policy pushed loans to high levels and forced massive lending to subprime markets in form of home and consumer loans. It sent housing, equities, and commodities prices racing to high levels. Food and energy prices rose to levels that stalled real economic activity. The level of indebtedness severed all connections with the

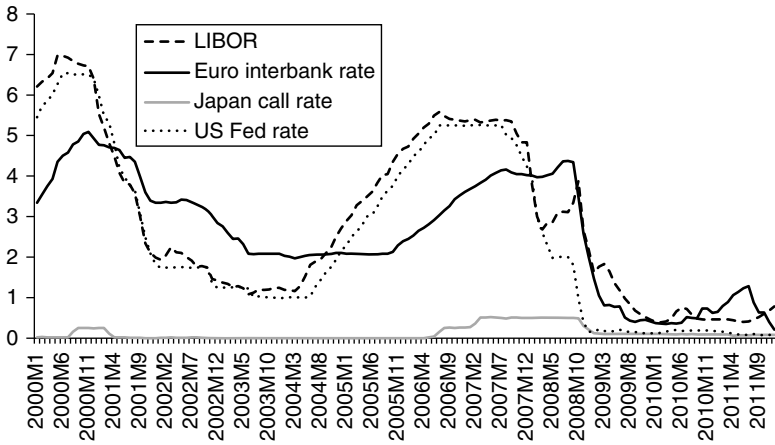


Figure 2.2 Money market interest rates, 2000–2011

real economy. To increase debt further, banks and finance companies resorted to securitization of loans in order to absorb the ever-flowing dollar liquidity. Very low interest rates in advanced industrial countries have caused high speculation in assets and speculative movements of hot money to emerging countries such as Malaysia, Korea, and Indonesia in the 1990s. The yen-carry trade was an example of borrowing in a cheap money country, that is, Japan, and lending in higher interest rates markets. Such arbitrage has led to massive destabilizing capital flows that disturbed exchange rates.

In the aftermath of the recent financial meltdown, the objectives of the reserve currency central banks were to re-inflate asset and commodity prices and reduce the real burden of debt. Hyperinflation, as happened in Germany during 1922–1923 and many other countries, would be one approach to extricate debtors from debt. Such policy will wipe out all the financial wealth of savers. Interest rates may be maintained at these depressed levels for decades. Savers will be denied any return. Progressively, near-zero interest rate policy will reduce real capital, that is, consumption of capital and redistribution of wealth in favor of borrowers, at the expense of creditors and those on fixed incomes. To some observers, central banks want to prevent corrections in mal investment, make nonprofitable investment profitable, and re-establish the prices that prevailed at the peak of the boom, even though these prices were inflated prices and were not sustainable (Hayek 1931).<sup>30</sup>

### High Volatility of Exchange Rates

Under the system, each country, or each monetary zone, follows an independent exchange rate policy in line with its external or fiscal objectives. Exchange rate depreciation improves external competitiveness, ignites domestic price inflation, reduces real costs, and may enhance fiscal revenues. Exchange rates displayed wide gyrations under the new system (Figure 2.3). They were manipulated through interest rates and direct interventions by central banks, as under the 1985 Plaza Accord, whereby central banks would sell their dollar holdings or borrowed dollars against their currencies and the Fed would buy foreign currencies in order to halt the appreciation of the US dollar. As shown in Figure 2.4, the period 1971–2011 was marked by high exchange rate volatility resulting

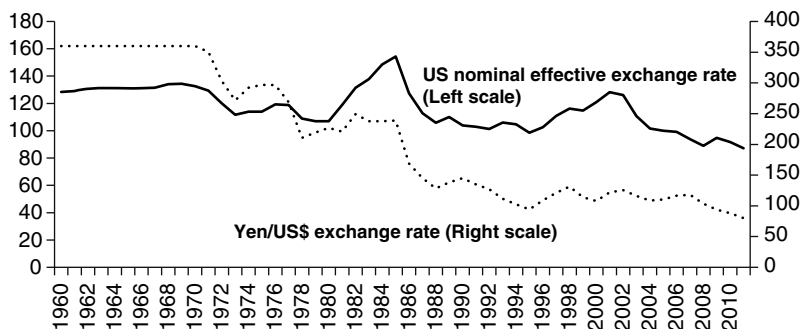


Figure 2.3 Instability of exchange rates under paper money, 1960–2011

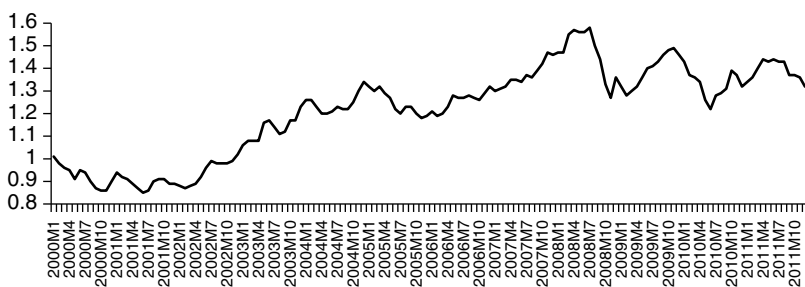


Figure 2.4 The dollar-euro exchange rates, 2000–2011

in speculation, loss of capital, high foreign exchange risk, and price distortions. Countries were striving to maintain depreciated exchange rates with a view to safeguard their exports and obviate pressure for protective tariffs. Rarely will a country accept an appreciation of its currency that reduces its export competitiveness. It may be noted that the Japanese yen has appreciated considerably in relation to the US dollar since 1985.<sup>31</sup> Japan's exports have lost their momentum; nevertheless, the yen's real exchange rate has depreciated owing to slower growth of wages and faster productivity gains in Japan. Figure 2.3 shows that exchange rates were fixed prior to 1971, but thereafter, the exchange rates exhibited wide gyrations influenced by interest rate movements, changes in money aggregates, and external current and capital account balances. Figure 2.4 displays another manifestation of exchange rate instability, namely the behavior of the dollar-euro rates during 2000–2011. The dollar depreciated significantly in relation to the euro until 2008; thereafter, the exchange rate kept gyrating under attempts of the US Fed and the European Central Bank to maintain near-zero interest rates and inject massive liquidities under quantitative easing programs. This instability increases foreign exchange risk and speculation and is detrimental to trade.

### *Unabating Price Inflation under the Inconvertible Paper Money System*

**Consumer price inflation:** As predicted by the quantity theory of money, the inevitable effect of ever-rising credit and currency is a corresponding ever-increasing price level. All prices, including gold, commodities, real estate, durable goods, equities, and consumer goods prices, were rapidly rising under the impact of rapid credit expansion. Inflation accelerated immediately after the collapse of the Bretton Woods system. US consumer prices rose to two-digit level as shown in the Figure 2.5, with no episode of price deflation (only alternating between acceleration and deceleration), whereas under the gold standard, inflation was followed by a period of price decline and vigorous economic growth (Figure 2.6).

**Gold prices:** The fast depreciation of the paper money in relation to gold shows the nature of paper money. The price of gold rose from \$35/ounce in 1971 to over \$1,800/ounce in 2011, or a 51-fold increase.<sup>32</sup> No commodity has appreciated or depreciated in relation to gold by such a significant percentage. For instance,

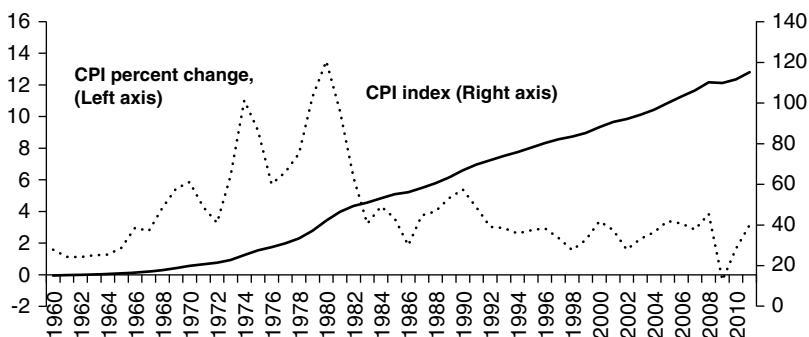


Figure 2.5 US consumer price inflation 1960–2011

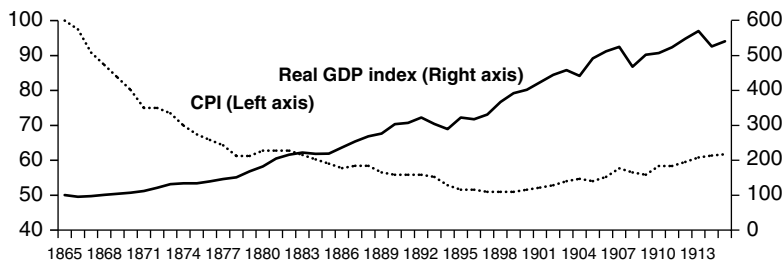


Figure 2.6 US consumer price index (CPI) and real GDP index, 1865–1915

crude oil has appreciated relative to gold by about 25 percent during 1971–2011. The fast depreciation of paper money in relation to gold shows a number of important facts. First, paper money and credit have no constraint to their supply and may keep rising at a high rate, as central banks and governments have not always resisted increasing the money supply for diverse reasons, including deficit financing or re-establishing full employment. Second, after four decades of the fast increase of dollar liquidities, wealth holders no longer saw paper money as a good store of value and took refuge in assets that afforded a hedge against inflation. Third, reserve currency central banks have impaired the value of paper currency through unprecedented monetary expansion. The faster the dollar depreciates in relation to gold, the less inclined are wealth holders to keep dollars as a reserve asset. The rise in gold prices was exponential during 2002–2010 (Figure 2.7).



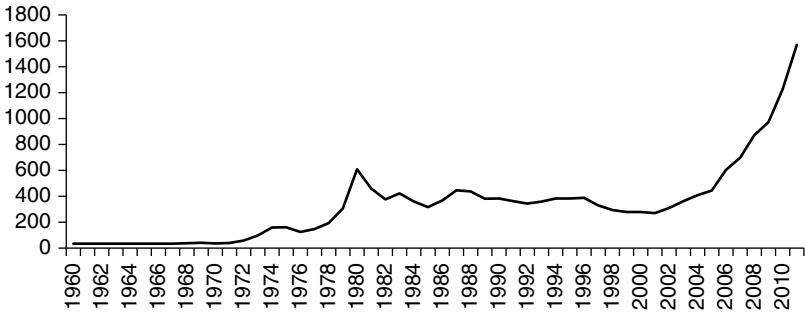


Figure 2.7 Gold prices (US\$/ounce), 1960–2011

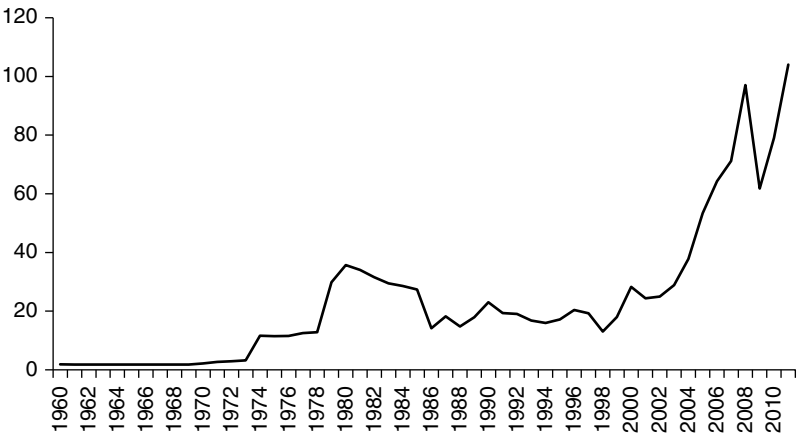


Figure 2.8 Crude oil prices (US\$/barrel), 1960–2011

Crude oil prices: The inflationary effect of paper money on oil prices is depicted in Figure 2.8. Oil prices exploded immediately after 1971. During 2001–2011, oil prices raced upward exponentially, reaching \$147/barrel in 2008, and have remained under rising pressure with quantitative easing and near zero-interest rates. The inflationary episodes of 1973–1982 showed that oil prices would remain in an upward mode as long as money and credit keep expanding and the US dollar keeps depreciating. The fast increase in oil prices has an inflationary effect on costs and has usually had a depressing effect on real economic activity.

Food, agricultural raw materials, and metal prices: The general inflationary effect on a number of commodities is seen in Figure 2.9. Such inflation would not be likely under a gold standard system. The inflation was severe during 2001–2011, under the effect of very low interest rates and the fast rise of credit and paper money. All commodity prices continued to rise with cheap money injected by reserve currency central banks. As the inflation episode of 1972–1982 demonstrated, commodity prices will keep rising as long as a cheap money policy is maintained.

Equity prices: The impact of paper money on equities prices is depicted in Figure 2.10. As equities were in part financed through credit, capital markets lost some of their efficiency and became increasingly speculative. Equity prices kept rising under the impact of abundant liquidity. Equity prices in 2011 were 14-fold their level

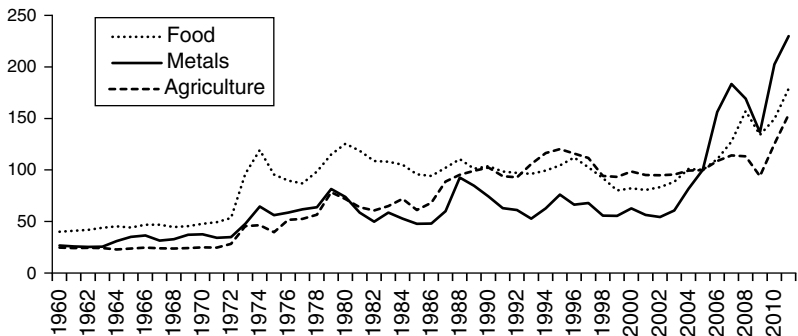


Figure 2.9 Food, agricultural raw materials, and metals price indices, 1960–2011

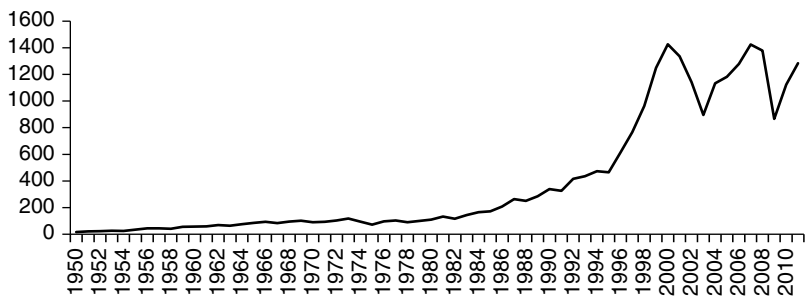


Figure 2.10 S&P 500 index, 1950–2011

in 1971. The dividend rate fell to less than 1 percent, while gains were partly in the form of speculative capital gains paid by purchasers of equities. The Fed kept on inflating asset prices. It re-inflated these prices when they fell in 2001, by injecting liquidities and lowering interest rates, largely irrespective of the impact on commodity and housing prices, balance of payments, and employment. Very low interest rates forced investors away from bonds into higher yield equities and commodities.

All prices appear to show more volatility. Wages usually lag price increases. There is, therefore, constant erosion of real purchasing power for workers and fixed income recipients. The higher the prices, the smaller are the quantities of food and other necessities consumed.<sup>33</sup> This is an inherent injustice of the paper money, as it taxes through inflation creditors and workers. Trends in prices illustrate clearly the long-run quantity theory of money. An increase in the quantity of money (credit and currency) induces a general increase in prices. The removal of money brakes under the paper money following the collapse of the Bretton Woods system has inflated all prices. Although short-term changes in prices are volatile, the longer-term price trends have been strongly inflationary. The price trends for the future will be a mere extrapolation of the past. The monetary authorities of the reserve currency countries are likely to reward debtors, be they governments or private debtors, by inflating to reduce the real debt burden. The inherent inflationary attribute of paper money illustrates its serious inefficiencies: it does not possess the classic properties of money; and is an indirect instrument for government taxation and wealth redistribution.

### *Fast Expansion of International Reserves*

International reserves held by central banks expanded at a fast rate of about 18 percent per year during 1970–1980, in contrast to 2.9 percent per year during 1960–1969 (Figure 2.11). International reserves more than doubled during 1970–1973, as soon as the US exited the gold standard. The fast expansion of international reserves in early 1970s flooded US banks with dollar reserves of surplus countries; these banks had to recycle a large part to foreign borrowers, mainly middle-income countries. In early 1980s, a middle-income countries debt crisis erupted and inflicted large losses on lending institutions.

International reserves expanded at about 17 percent per year during 2001–2011. Part of these reserves were recycled to sub-prime markets

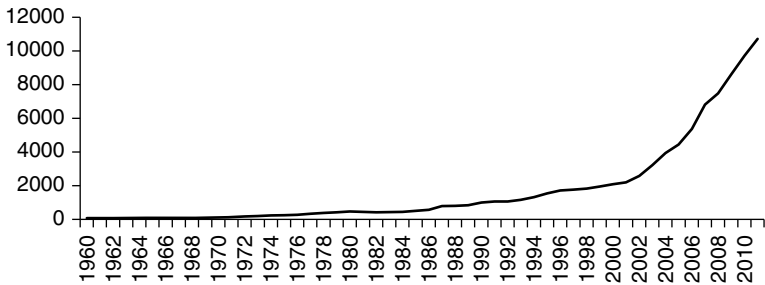


Figure 2.11 International reserves (in billions of US\$), 1960–2011

and contributed to fuel credit expansion in the United States. Their expansion is directly related to the credit structure in reserve currency countries. The more reserve currency countries expand credit, the more international reserves expand. Under a paper system, international reserves have a double money creating effect. When reserve currencies, that is, foreign exchange, are bought in the recipient countries, there is a money creation of local currencies against this foreign exchange. The foreign exchange in reserve currencies is redeposited in the reserve countries in which the reserve currencies originated. The reserves of the banks are increased which leads to a renewed credit expansion in the reserve country (Table 2.1 above). For instance, a surplus central bank may purchase securities in the United States using its US dollar foreign exchange. The proceeds of securities sales are deposited by the seller in the US banks, and US banks, in turn, seeing their reserves rise, expand credit.

### *Persistent Structural Trade Deficits*

Credit and monetary expansion increases imports and reduces exports, otherwise, it becomes inflationary, as available domestic supplies would not be enough to meet expanding domestic aggregate demand. There is no market mechanism in reserve currency countries that curtails money and credit expansion. In fact, paradoxically, every external deficit brings back money and constitutes a new basis for renewed credit expansion and further expansion of imports and deficits. Figure 2.12 describes the structural change in US international trade that took place upon the inception of the paper system. In contrast to its history before 1971, when the United States had trade surpluses as well as deficits, it became a net importer of goods

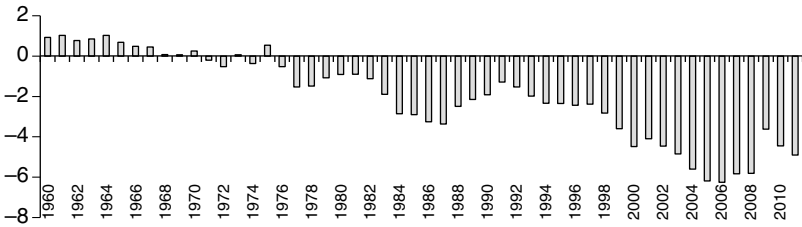


Figure 2.12 US trade balance (in % of GDP), 1960–2011

under the paper system. Its trade deficit is self-perpetuating, as foreign exchange in dollars of surplus countries is redeposited in the US banks and constitutes a renewed basis for credit expansion and higher imports demand. There is a close relationship between new credit and imports' expansion. Carroll (1850s) and Walker (1873) have meticulously elaborated on this relationship; they showed that additional credit entailed an increase in cheaper imports and a deterioration of the balance of trade. Figure 2.12 shows that US trade worsened during 2001–2011, which corresponded to a strong credit boom. The depreciation of the US dollar during 2001–2011 mitigated the effect of credit expansion on trade deficit; however, it could not prevent a worsening of this deficit.

The position of the dollar as a reserve asset has conferred a privileged position on the United States, enabling it to live beyond its means. It draws considerable flows of real resources against printed paper and enables the US government to run large fiscal deficits and US consumers to enjoy high standards of living on credit which may never be repaid. This external trade deficit will end in the event of a dollar collapse. The persistent trade deficits attest that a reserve currency country has no reason to propose a reform of the system that affords it considerable amount of real resources and higher living standards.

The US trade deficit has contributed to keeping core inflation in the United States within moderate rate as affluence of industrial products imports enabled to adequately extend supplies and satisfy a growing credit-fuelled domestic demand. However, for food and energy products, worldwide supplies are inelastic, and expanding demand has contributed to very high price inflation for these products. The US trade deficit constituted a saving-investment gap, implying that domestic demand could not be met by domestic output. Figure 2.13

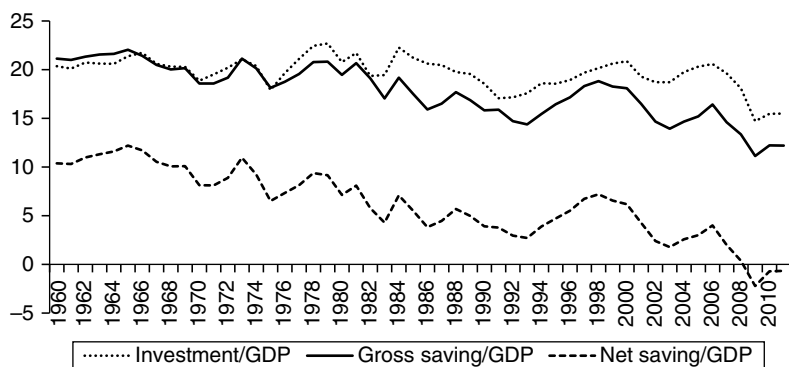


Figure 2.13 US investment and saving gap (in % of GDP), 1960–2011

shows that under the international paper system, the saving-investment gap has become persistent since 1971 and has considerably deteriorated during the credit boom of 2002–2008.

### *Economic Growth*

The ratio of total domestic credit to GDP exhibited a rising path, hitting 366 percent in 2011. However, credit did not contribute significantly to investment and real economic growth, and did not enhance price stability through increasing supplies. The investment-GDP ratio averaged 20.5 percent during 1960–1970. It remained at 20.4 percent during 1971–1980. It averaged 19.5 percent during 1980–1999 and fell to 18.5 percent during 2000–2011. Hence, the spectacular rise of credit largely fueled consumption and not investment; it has still not made a significant contribution to the capital base, which makes the servicing of the debt more tenuous. Consequently, the impact of mountainous credit on economic growth was less noticeable; it could have been negative as illustrated by the deep recessions of 1979–1982 and 2008–2010. Figure 2.14 depicts the annual real GDP growth rates and the unemployment rates of the US economy. Real growth averaged 4.1 percent per year during 1960–1970, 3.2 percent per year during 1971–1980, 3.3 percent per year during 1981–1999, and 1.8 percent during 2000–2011. These averages were still lower than average real growth during 1870–1907, at 4.5 percent per year. It would appear that slower growth has been a feature of the post-Bretton Woods system, with higher unemployment rates—averaging 4.8 percent per year during 1960–1970, 6.4 percent per year during

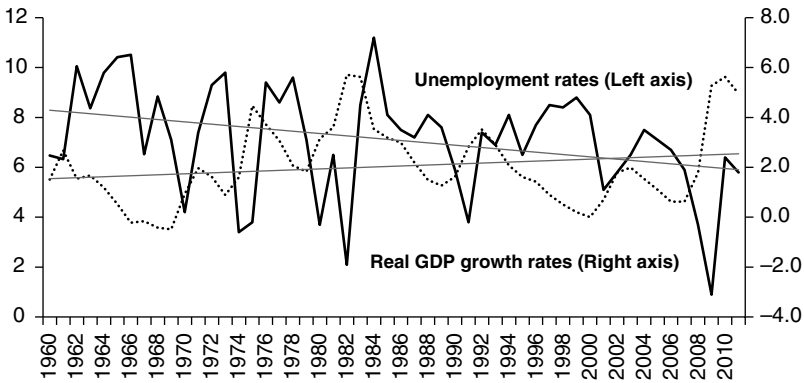


Figure 2.14 US real GDP growth and unemployment rates (in %), 1960–2011

1971–1980, 6.5 percent per year during 1981–1999, and 6.2 percent per year during 2000–2011, and hitting their highest rates in the post-war period at 9.7 percent in 1982 and 9.6 percent in 2010.

The post-Bretton Woods system may have distorted the structure of the US economy. Since demand is in large part generated by credit, and to a lesser extent, by economy-generated incomes, the structure of demand was distorted in favor of imports. Moreover, the demand for home goods could not be satisfied through imports. There was a higher price increase in the home goods industries in relation to tradable goods industries where prices are determined in the international markets (akin to the classical resource boom associated with the Dutch Disease leading to an appreciation of the real exchange rate). Hence, there was a diversion of resources toward home goods industries and away from tradable goods industries due to an overvaluation of the real exchange rate. If aggregate demand was generated by domestic incomes, exports pay entirely for imports, and the United States should have remained competitive in tradable goods. Figure 2.15 shows the structural changes in the US economy under the post-Bretton Woods system. Comparing the two periods 1960–1970 and 2000–2011, the relative size of agriculture declined from 3.1 percent of GDP to 1 percent; the relative share of manufacturing declined from 25 percent of GDP to 12 percent; the relative share of finance rose from 14.4 percent to 20.6 percent; and the relative share of home industries rose from 70.4 percent of GDP to 85.2 percent. The significant contraction of agriculture and manufacturing in favor of sizeable expansion of the home industries in part reflects the

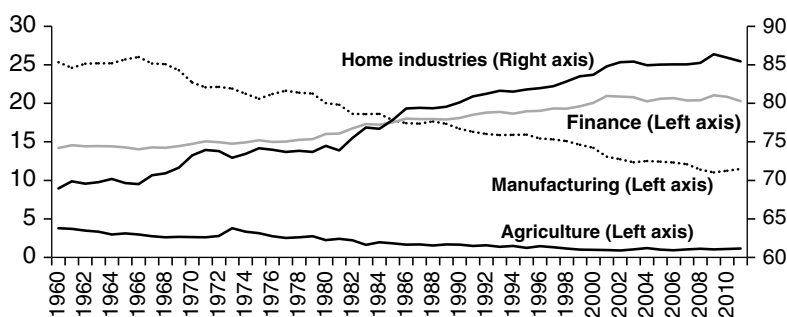


Figure 2.15 Structural changes in US economy, 1960–2011

pressure of aggregate demand fuelled by credit alone, the overvaluation of the exchange rate, and the transfer of considerable resources from tradable goods industries in favor of sectors that produce imperfectly or non-tradable goods and services.

Under the post-Bretton Woods system, there has been little or no constraint shown in the creation of money by the United States; the US banking system has no constraint in expanding credit, which has risen to levels never seen in the US monetary history. Contrary to a gold standard, a reserve currency country's trade deficit does not cause loss of money. Paradoxically, it reconstitutes the money base and provides for further money and credit expansion. The system set off financial crises in 1970s, 1980s, 1990s, and in 2008; it has fueled inflation, a significant instability in exchange rates, high credit in main reserve countries, competitive devaluations and persistent trade deficits for the United States. The banking system has become an intermediary for channeling cheap loans. Most of the loans cannot be repaid since they have little capital basis for their servicing, including government loans, which are used to finance current government expenditures. If the Fed had to quickly increase interest rates and withdraw liquidity, the credit pyramid would crumble into general default and bank liquidation.

## Financial Crises and the Role of Central Banks

Although a bank is chartered by the State to issue banknotes and credit money, it cannot become a central bank without being conferred some unique privileges by the state. A main privilege is a monopoly in the issue of paper notes with unlimited legal tender. Once this monopoly is granted, no other bank is allowed to issue banknotes (Peel's 1844 Act).



Any other bank can only issue credit money and must use the central bank's notes as reserve money. The central bank provides a rediscount facility for the rest of banks, and is a lender of last resort. In view of its privileged position, the central bank has a strict control on the money supply and sets money interest rates in the economy (Thornton 1802); it can expand or contract credit and money as dictated by the government. In a banking system with no central bank, known as free banking, no banking institution can gain control of either the money supply or interest rates. Each bank is prudent not to expand notes and credit beyond safety limits. With a central bank, significant moral hazard can be introduced because the central bank can extend credit to illiquid banks.

A classical central bank was the Bank of England (1694). This bank was a major force behind the developments of credit and prices and had a role in the financial crises that hampered the United Kingdom's economy at certain intervals. Henry Thornton (1802), who served at the Bank of England as a director, postulated the theory of two interest rates, the money rate of the bank, and the rate of profit. When the bank rate was below the expected profit rates, or business indicated that profit rates would be higher than the bank rate, the demand for credit expanded and so did commodity and asset prices. The bank accommodated this demand liberally, without increasing the interest rates. Credit kept increasing until the moment of reckoning suddenly arrived. Gold reserves of the bank dwindled, businesses defaulted, banks failed, interest rates rose, and prices contracted.

The Federal Reserve became the central bank of the United States in 1913, with the purpose of providing an elastic money supply. After its creation, financial crises did not end, but arguably became more severe: the 1929 stock market crash, the Great Depression, a decline of real GDP by 50 percent in 1929–1933, tariff walls, massive unemployment at 25 percent, confiscation of gold in 1933, depreciation of the dollar, and finally a tragic world war. Some US politicians had a vague idea on banking disasters that might follow, disasters that were predicted by Thomas Jefferson in 1811 and Andrew Jackson in 1832. Figure 2.16 shows that Wall Street speculators were restrained under the gold standard. The S&P 500 index during 1871–1900 exhibited little indication of bubbles. The S&P 500 index did not display an appreciable trend and was fluctuating around an almost stationary trend. No private banker wanted to risk his bank in speculative loans. The restraint on speculative borrowing was removed with the advent of the Fed and the suspension of the classical pre-1914 gold standard. The Fed rapidly inflated the money supply during 1914–1929 and

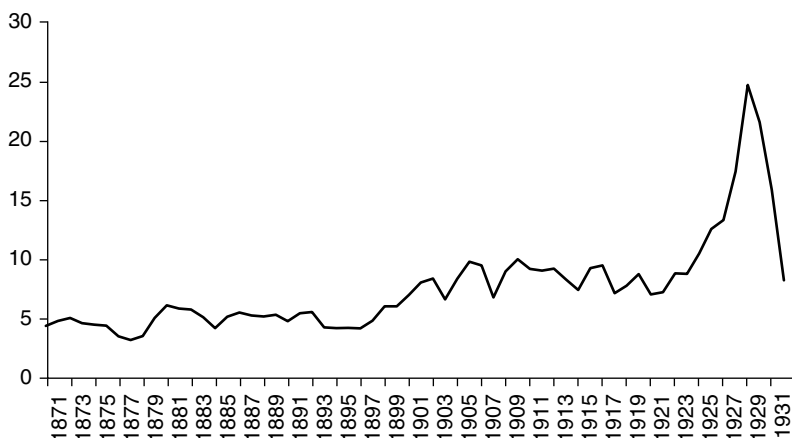


Figure 2.16 Annual S&P 500 index, 1871–1932

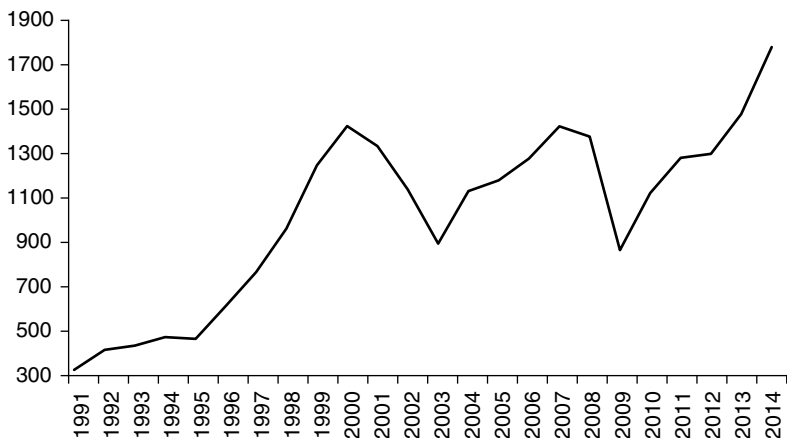


Figure 2.17 Annual S&P 500 index, 1990–2014

kept interest rates at a very low level. Abundant liquidity from the central bank fired up asset prices; Wall Street experienced the biggest bubble since its creation, with stock prices being pushed upward recklessly until they reached the crash point in 1929.

A similar scenario was replicated during 1990–2000 and 2002–2008 (Figure 2.17); abundant liquidity and low interest rates fired up speculative shares until the market crashed on its

own in 2000, then in 2007–2008. This was evidenced in most stock market booms including the Mississippi Company and the South Sea Company stock booms in 1720; economic growth alone did not fire up stock prices. By its nature and politically, the Fed would be reluctant to arrest a stock or a housing boom. Invariably, the boom has to evolve until the point of crash. Accordingly, the Fed followed most expansionary money policy after each crash to re-inflate stock asset prices to pre-boom level and rescue failing banks, and in the process, redistribute wealth to profiteers. It was, in large part, the forceful anti-deflation policy of the Fed during 2002–2008 to re-inflate stock prices to their 2000 level that caused the 2007–2008 episode. In its re-inflation drive, the Fed forced interest rate to 1 percent and injected massive liquidity causing, the housing, stock, and commodity prices to explode and degenerate into the 2008 meltdown. Zero-interest rates and massive debt prevented any recovery of the US economy and kept the economy in agonizing state.

Under gold standard, the Fed would never be able to fire up the S&P 500 index from 8.36 in 1914 to 1,962 in 2014, by 235 times, as the gold standard imposed discipline. Based on past trend, one might predict that S&P 500 would reach  $235 \times 1,962 = 461,070$  by the end of the twenty-first century!

## Government Intervention in the Price and Wage Mechanism

Paper money was never a market money, but was instead backed by a government; naturally it led to increasing government power and intervention in the free market mechanism. The anti-market forces hampered many economies. Financial groups fought for propping asset prices; business and farmers' groups fought for inflating goods' prices, reducing supply, reducing planted acreage, and preventing imports; and labor groups battled for increasing wages. Very strong rigidities emerged and precluded the deflation inherent in the gold standard for re-establishing equilibrium in separate markets

It could be argued that the economy adjusted more rapidly to a financial crisis in the pre-Fed era. For instance, the unemployment rose to 6.3 percent in 1907 and fell quickly to 1.9 percent in 1908 and 1.5 percent in 1909 (Figure 2.18).<sup>34</sup> The United States had the

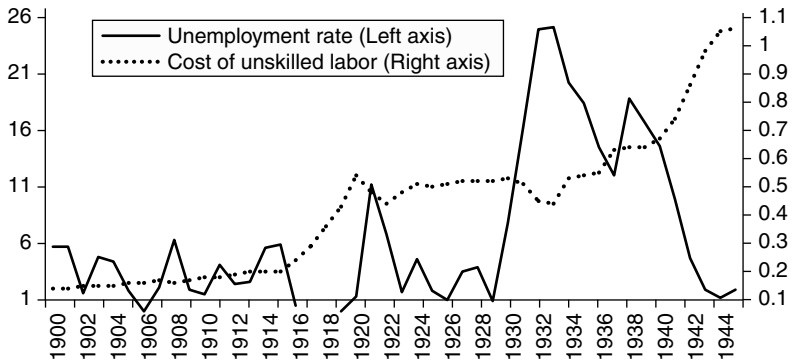


Figure 2.18 US unemployment rate in percent and unskilled labor wage in dollars, 1900–1945

potential to operate at more than full employment, as illustrated in 1906 when people not defined among the labor force were recruited to fill the employment needs. The US economy could also operate at more than full-employment during wartime when the government renounced any unemployment enhancing policy, such as extending benefits to unemployed workers at the expense of food and ammunition to soldiers. Most strikingly, the government prevented any wage adjustment and extended generous unemployment benefits when unemployment hit its highest level in the history of the United States, when it reached 25 percent during 1932–1933. Nominal wages of unskilled labor were kept at the pre-1929 levels. The government roadblock to unemployment was removed only during the war; unemployment fell to 1.2 percent in 1944.

In a free market, simple economic theory stipulates that price be determined by supply and demand. A producer who faces an excess supply in his respective market spontaneously lowers the price of his produce to a point where he is able to sell all his inventory. This mechanism operated freely in the labor market prior to government intervention. Prices, wages, and interest rates have to be perfectly flexible for the smooth functioning of the gold standard—to adjust to gold flows as observed by David Hume (1752). Wage and price rigidity compelled the United Kingdom, the hallmark of the gold standard, to exit without a return to gold in 1931. All other countries followed it almost immediately.

## Financialization

Financialization has been defined in various ways: (i) the financial sector surpassed in relative size agriculture and industry; (ii) fast expansion in financial institutions and products outside traditional banking and traditional instruments;<sup>35</sup> (iii) considerable real resources devoted to speculation and hedging in paper currencies, securities, commodities, and real estate; (iv) excessive volatility and uncertainties in financial markets with prices; (v) a large amount of gains and wealth drawn from speculative activities; and (vi) a decoupling of the financial and real sectors. Epstein (2005) considered that financialization refers to the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international level. It was a pattern of accumulation in which profit making occurs increasingly through financial channels rather than through trade and commodity production.

The financial sector in leading industrial countries became a dichotomous system. It has traditional instruments such as shares and bonds, and nontraditional instruments such as financial derivatives. It comprises traditional banking and unregulated banking. Besides its role of intermediation between savings and investment, the financial sector has sprawled its activities into proprietary trade and speculation and has become over-leveraged. Financialization is a process whereby financial markets, financial institutions, and financial elites gain greater influence over economic policy and economic outcomes.

Michael Hudson<sup>36</sup> described financialization as “a lapse back into the pre-industrial usury and rent economy of European feudalism. Only debts grew exponentially, year after year, and they do so inexorably, even when—indeed, especially when—the economy slows down and its companies and people fall below break-even levels. As their debts grow, they siphon off the economic surplus for debt service. The problem is that the financial sector’s receipts are not turned into fixed capital formation to increase output. They build up increasingly on the opposite side of the balance sheet, as new loans, that is, debts and new claims on society’s output and income. Companies are not able to invest in new physical capital equipment or buildings because they are obliged to use their operating revenue to pay their bankers and bondholders, as well as junk-bond holders. The aim of financialization is not to provide tangible capital formation or rising living standards, but to generate interest, financial fees for underwriting mergers and

acquisitions, and capital gains that accrue mainly to insiders, headed by upper management and large financial institutions. The upshot is that the traditional business cycle has been overshadowed by a secular increase in debt. Instead of labor earning more, hourly earnings have declined in real terms. There has been a drop in net disposable income after paying taxes and withholding ‘forced saving’ for social Security and medical insurance, pension-fund contributions and—most serious of all—debt service on credit cards, bank loans, mortgage loans, student loans, auto loans, home insurance premiums, life insurance, and private medical insurance. This diverts spending away from goods and services.”

Financialization was not all beneficial, and even turned out to be harmful to the economy. In fact, besides financial crises, the economic consequences of financialization have been summarized in terms of drop in shares of wages and nonfinancial profits in national income, a consequent drop in investment in fixed capital nonfinancial sector, tepid economic growth, and intensification of speculation, bankruptcies, distortions, and social inequities. Financialization transformed the functioning of economic systems at both the macro and micro levels. Its principal impacts were to: (i) elevate the significance of the financial sector relative to the real sector, (ii) transfer income from the real sector to the financial sector, and (iii) increase income inequality and contribute to wage stagnation. Additionally, there are reasons to believe that financialization may put the economy at risk of debt deflation and prolonged recession.

Under a gold standard, many financial activities were either nonexistent or very narrow in scope. These included oversized speculation in financial and commodities markets, risk hedging in currencies and financial assets, and large increase in nonproductive debt. All these new activities absorbed considerable resources and represented a real drag on economic efficiency and growth.

## Consumption of Capital and Impoverishment

Capital consumption is the opposite of capital accumulation. Capital can be consumed or destroyed through various means including earthquakes, fire, wars, excessive consumption and low savings of annual output, debt-default, and mal-investment. Capital accumulation proceeds from real savings. Assume a farmer saves 5 metric tons of corn seeds every year with which he produces 100 metric tons of corn. His working capital is therefore 5 tons of corn seeds. If his seeds

are consumed by rodents or he was compelled, because of famine, to eat them up, then his capital is consumed; he will be exposed to serious suffering. If he saves 10 metric tons of corn seeds, then his output of corn will double and he will be far better off. More specifically, capital destruction brings poverty and capital accumulation brings prosperity. Under the gold standard, no country was able to run regular surplus or deficit; it had necessarily to alternate between a favorable and an un-favorable trade balance; long-term capital was invested freely across borders. Capital accumulation was very high for many reasons, that included very small governments, free labor and capital flows across countries, efficient resource allocations, narrow, brief, and self-correcting financial crises, and very limited debt within and intra-countries.

The dismantlement of the gold standard may have led to significant capital consumption, resulting in slower growth, especially after the abandonment of fixed exchange rates. Capital destruction manifested itself in many ways including huge debt that fell irreparably in default, trillions of dollars in bailouts, large amounts of mal-investment that can never be made productive or reconstituted through amortization, huge degree of inflation that reflects the growing scarcity and decrease of real capital, persistent trade deficits in a large number of countries, etc. With zero-interest rates, the process of capital destruction can only intensify and will weight considerably on growth.

## Conclusions

In this chapter, we have addressed some negative aspects of the inconvertible paper system. The system confers inflation taxation by reserve currency countries at the expense of non-reserve countries. Reserve countries have little constraint on building a mountain of debt that can only fall into default, as illustrated in the 2007–2008 financial meltdown. Inflation, an inherent feature of paper money, has been an important factor in redistribution and a destructive force for growth; redistributing wealth from creditors to debtors, from worker, pensioners, to speculators and other profiteers of inflation.

Inflation makes economic calculations and decisions more difficult; the real value of shares, profits, currencies, labor, and capital become unknown. A firm may be profitable while it is in reality making losses; it was made profitable only via inflated shares, prices, zero-interest rates, and other distortions. If interest rates become market-determined, the whole credit structure could collapse and

many banks and firms could be bankrupted. The dominance of the major reserve currency banks, abnormal speculation, exchange rate instability, and steady inflation demonstrate the inefficiencies of the system. High inflation, particularly of food prices, is plaguing many economies. The system is inequitable as it enables reserve countries to run perpetual external deficits without tears. A reserve currency country can continue to import without limit, year after year, just by printing costless paper and exchanging it for commodities, in contrast to a system under a gold standard, where a country cannot go on an import spree without running out of gold. Gold reserves operate as an indicator—when they run low, a country increases its export and reduces its imports. When a country absorbs commodities without an exchange of commodities, overall world saving is reduced with lower growth and employment.

The inconvertible paper system led to deep-rooted rigidities in the economy; prices and wages have become less flexible, especially in the downward direction. The economy has become too dominated by financialization, where superfluous financial activities have flourished as an inherent feature of inconvertible paper money. Capital consumption has become a significant factor. It is portrayed by mountains of nonproductive and nonrepayable debt, debt crises and default in many countries, trillions of dollars in bailouts, inefficient investments, and huge fiscal deficits; and in turn, undermining growth and employment.



## The Horrors of Hyperinflations

Paper money refers to a monetary system where currency and credit are based on government-issued inconvertible paper money. It is the money system that evicted the gold standard, where money and credit were anchored in gold. As paper is costless and nonconvertible into gold, practically, most governments faced no limit on inflating paper issues. Moreover, governments increasingly intervened in free markets, leading to the increased rigidity of wage and price structures in the economy (especially in the downward direction). As a result, a number of countries experienced disastrous hyperinflations that dislocated their economies for many years.

Paper money and credit set aside classical economics where money is outside data that serves only as a medium of exchange and a standard of value, and not a policy tool. Some may confuse money with capital and consider printing money as a creation of real capital. Academics and politicians in the United States and Eurozone consider money as a policy tool; credit and money printing can be expanded, interest rates could be driven to zero, and deflation has to be combated. Income distribution is no longer based on the contributions of factors of production; monetary policies, and especially inflation and asset price bubbles also affect it.

This chapter reviews some episodes of hyperinflations, namely the John Law's System, the US continental money, the French Assignats, and the German mark. Each experience ended in disorder and economic decline. We also review the concept of money from the perspective of the US Constitution as well as some classical authors.

Based on historical facts, paper money is not market money, and can lead to problems if expanded without caution, especially if it degenerates into hyperinflation. In the views of some economists,

money should not be a policy tool, and inflationism is no substitute to real solutions such as liberalizing labor markets, enhancing savings, and sound financial intermediation. Economic crisis cannot be solved with money alone; there should be necessary a liquidation of the crisis, and a redirection of resources to the most profitable uses. Interest rates and wages should be market determined and not set by governments. Moreover, in the view of those who support a gold standard, money should be gold, and paper should be a representative of gold only.

## John Law, the Father of Paper Money

The writings, as well as the practice, of John Law had a major influence on monetary economics. Admittedly, as of today, that is, 2014, every country in the world has established a system of a monopoly bank of issuance and paper money, as originally formulated by John Law in 1705.<sup>1</sup> Every government demonetized gold and silver as John Law did in France in 1720. Today, by government decree, only a central bank issues paper money with unlimited legal tender. The central bank holds the deposits of the state. The principle expressed by John Law was that money belonged to the Sovereign (i.e., the State); the latter has the absolute power to legislate in money power and even extort money from those who possess it.<sup>2</sup>

Today, many countries have adopted “Law’s System.” Under this system, Law brought the Banque Generale and the Mississippi Company under a common authority with a view to controlling both money emission and the capital markets. “Law’s System” has become dominant in the United States and many other advanced countries where perfect alliance exists between the central bank and the financial groups; namely, the central bank in large part appears to serve the interest of financial groups and keeps pushing asset prices constantly upward.

The amazing economic boom and stock market bubble fueled by Law’s incredible paper money creation collapsed in 1720, within four years from the inception of the Banque Generale. Total chaos prevailed. Some people became very wealthy from speculation, as others were ruined. In the aftermath of the 2007–2008 financial meltdown, the United States and the Eurozone bailed out Law’s System; in 1721, the French government abandoned it; abolished the central bank, and returned to metallic money. Paper money was disbanded in France and reemerged only during the French Revolution (1789–1785) under

the name of assignats. Nonetheless, the French government was an amazing beneficiary of Law's system. The government was bankrupt in 1715 with a debt that amounted to 22 times its tax revenues. Law monetized it through the banknotes of the Banque Generale. These banknotes became worthless paper after 1720, and all government debt vanished.<sup>3</sup>

Born to a Scottish goldsmith banker and educated in money and banking, Law was a distinguished writer, and a strong advocate of the supremacy of paper money over commodities such as silver or gold. He inquired into the nature of money. He determined that money was only a medium of exchange and not a store a value. Recognizing that silver had inherent qualities that made it money, nonetheless, he contended that paper money possessed more qualities than silver, such as negligible weight and cost, which made it far superior to silver. The cardinal point of Law's theory was that money was only a voucher for buying goods. This function can be performed by costless paper instead of costly metal.

Law was a man of practice and innovation. Practically, he translated his writing into reality through his private bank, the Banque Generale, which he founded in France in 1716. Initially, a private bank with a monopoly to issue banknotes, the Banque Generale became a state-owned bank in 1718 under the name of Banque Royale. Its banknotes were fully convertible to silver (ecus) at a fixed parity and were decreed as unlimited legal tender to discharge taxes as well as debt. Law emphasized the importance of maintaining the voluntary nature of banknotes, of insuring the regularity of payments, that is, the immediate convertibility of banknotes into species upon demand. Unfortunately, as his system was collapsing in 1720, Law espoused the principle of forced paper by the state. A careful reading of Law shows that he changed from an advocate of free-markets to an advocate of state control. In his early writings, Law was interested in capital mobilization and wealth creation. A main foundation of Law's theory was a landed bank, whereby paper money would be issued as a fixed quantity based on the value of land, and hence would not be exposed to changes in the metallic reserves.<sup>4</sup> A major observation of Law was that rich countries had more money than poor countries; and that some poor countries had idle labor and uncultivated land. If money becomes available to pay wages and buy tools, then wealth will be increased. Since silver was costly and was not available in adequate proportion to population and idle resources, he suggested that paper money could supplement silver and therefore enable both

labor and land to be put to work. He showed that while men cannot control the quantity of crops; nonetheless, through paper money, they can increase money supply when demand for money increases. In his later writings, Law called for state monopoly to force paper money, forbid gold and silver money, and establish a government monopoly over trade.

To issue paper money, Law was aware that both banking and credit institutions had to be developed. His banking model was inspired by already existing banks such as the Bank of England, Bank of Amsterdam, and Bank of Sweden. He showed that these famous institutions economized on the use of metallic money by settling payments between merchants and supplied adequate paper and credit money to circulate commodities and employ labor. Contrary to these issuing institutions, Law wanted a landed bank of issue, that is, a bank that issue paper backed, not by silver, but by the value of land. He argued that, as silver became more abundant, prices expressed in terms of silver rose over time. Moreover, credit was subject to fluctuations and paper money contracted when credit was repaid. Paper backed by land would be stable. The theory of paper backed by land was also advanced by Hugh Chamberlain (1695); it was the theory underlying the French Assignats (1789) and the German Rentenmark (1923); however, it had not been put to practice.

Law advocated his plan for a bank that emitted paper money to the Scottish Parliament in 1707. He pleaded that his plan would help Scotland recover from the dire debacle of the Panama war and grow richer. Aware of the risks besetting paper money, the Scottish Parliament flatly rejected the Plan. In 1715, suffering huge debt and losing totally its credit, the French government was favorably disposed to Law's Plan. It offered a salutary exit from bankruptcy. Immediately, Law, upon the establishment of the Banque Generale, emitted banknotes against the government debt, "effets publics," at discounts reaching about 70 percent of the nominal value of debt. Law founded the Company of the Occident, known as the Mississippi Company, which acquired ownership of other French government trade companies. The Banque Generale and the Mississippi Company were under the same authority. The shares of the Mississippi Company could be bought only with the banknotes emitted by the Banque Generale. The margin on purchasing shares was fixed at 10 percent. With very low interest rates, speculators were able to borrow from the Banque Generale and bid up share prices. The higher the share price rises, the higher the demand for banknotes become and the more paper is

emitted. The shares of the Mississippi Company were issued initially at 150 livres; at the peak of the speculative delirium, they reached 18,000 livres!<sup>5</sup>

As expected, a brief but powerful boom took place in France; as paper money kept flowing, people felt rich, the world of the “millionaire” appeared for the first time as many people got rich instantly from speculation.<sup>6</sup> Consumption rose; balance of trade deteriorated dramatically; prices rose at frantic speed; inflation became fully anticipated; merchants kept hiking up prices ahead of higher money injection. In 1719–1720, inflation turned into hyperinflation. The government was threatening merchants who increased their prices and called for price controls. Housing prices skyrocketed. At the peak of the bubble, speculators sold out their shares and acquired real assets. As panic took place, shares prices collapsed, since no buyers were willing to invest anymore. To prevent a flight to gold and silver, the government issued a decree forbidding the use of metallic money in trade as well as its possession.<sup>7</sup> Paper money no longer had any value and those holding it (the last holders) were ruined! There was total money madness during 1716–1720. Law wanted to build real wealth and employ idle resources; it turned out into an unjust and disastrous Ponzi scheme. Some got wealthy at no cost; others were ruined; there was a pure arbitrary redistribution of wealth with no economic growth. A long economic decline followed after 1720 and the French became adamantly set against money paper.

Law fled France in 1721 and died poor in Venice, Italy, in 1729. The French government dismantled the Banque Royale and restored metallic money in 1721. It did not insist, as modern governments do now, on bailing out bankrupted speculators using its central bank and paper money. Coins reappeared and coinage was resumed. Contrary to Grasham’s law, the good money drove out the bad money. Law’s experiment violated the ancient Aristotelian notion that economic exchange and social association were impossible without sound money, that is, a fixed and unaltered weight of gold or silver money that measures the price of all commodities. Paper money kept losing value on a daily or even hourly basis. Law’s experiment helped generate a strong consensus, extending from d’Aguesseau to Turgot and Montesquieu that money derived its real exchange value from the intrinsic value of its metal, as determined by market forces, and not from printing paper. Considerable literature developed attacking the fallacies of Law’s system that included the writings of Jean-Baptist Say (1803), David Ricardo (1817), Frederic Bastiat (1877), and

Mises (1953). However, it could be argued that a modified version of Law's system found supporters that include Keynesian economists. The Law's episode of 1716–1720 kept repeating itself. Each time, the government kept bailing out paper money, and inflicting losses on victims of paper money.

Law's system was instructive in many respects. The system was rejected in Scotland and favored by the French government. The latter was overly indebted and virtually bankrupt. This established the notion that a government with no credit and unable to pay debt could accept paper money to inflate its way out of debt. The system was built on a popular fallacy that confuses money and capital; this fallacy considered money creation as identical to real capital creation. Because of its overwhelming redistributive feature, the system of paper money encouraged luxurious consumption financed by credit and speculative gains and destroyed productive capital. The economy consumed its real capital and lost resources for investment. The system could not make money more abundant; in fact, it ended up by depriving the economy from money. The system was contagious; the excess of liquidity and speculative boom spilled over to other capital markets and their caused collapse. The system was short lived and fell on its own. Only government force and powerful interest groups could keep it alive.

An important lesson was that the Banque Royale fell within four years of its creation, whereas the Bank of Amsterdam (founded in 1609), the Bank of Sweden (1668), and the Bank of England (1694) remained in existence. Contrary to his principle, Law did not build his bank on the value of land. He built it on government debt and private debt for speculative shares that financed the capital of a loss making company, that is, the Mississippi Company. The Banque Royale combined both a money and capital markets functions. Metallic reserves or real bills did not regulate its issues. The other banks above were regulated by metallic reserves and real credit. They did not have a mechanism that made them lose control of their notes issuance. Although the Bank of England had to suspend cash payments during 1797–1821, it did not operate along Law's principles of monetizing government debt and financing speculation; its banknotes did not fall in total discredit.

Law's failed bank showed that paper money was not market money. It had to be supported by the government. Regardless of the convenience of paper, trade is an exchange of commodities. Paper money has to be a representative in value of a commodity. Paper money can

only be imposed by the force of the government and through demonetization of gold and silver. Facing the danger of general revolt, the French government restored the metallic system. Nonetheless, the economic chaos left by Law's system planted the seeds for the French Revolution in 1789. After the French government restored metallic money, the Banque Royale fell into discredit. France had to wait until 1803 to have a central bank, called the Banque de France, which was modeled after the Bank of England, and whose issues were regulated by species.

### War Finance: The American Continental Currency, 1775–1783

After the American Revolutionary War began in 1775, the Continental Congress decided to issue paper money known as Continental currency, or Continentals, to finance the war. The Continental Congress had no taxing power or mechanism in place; it had to emit paper money. Continental currency was denominated in dollars, from 1/6 of a dollar to \$80, including many denominations in between. It had no backing in gold or silver. Continentals were backed by the “anticipation” of tax revenues. It was understood that the money would be redeemed in gold or silver by the states after the war. For the first time in the United States, the currency's value was derived solely from its purchasing power, as it is today. During 1775–1783, Congress issued \$241,552,780 in Continental currency.

During the American Revolution, the colonies became independent states; freed from British monetary regulations, they issued paper money to pay for military expenses. The States also continued to issue bills of credit in large quantities with no coordination with the Continental Congress. Bills of credit were usually fiat money; they could not be exchanged for a fixed amount of gold or silver coins upon demand. Bills of credit were usually issued by colonial states to pay debts. The states would then retire the currency by accepting the bills for payment of taxes. Congress and the states lacked the will or the means to retire the bills from circulation through taxation or the sale of bonds. In parallel to the Continental Congress issuances, the British government, with a view to wage economic warfare, issued counterfeited continentals.

The multiplication of the sources of paper money and its unrestricted issuance created huge pressure on resources and degenerated

in hyperinflation. Both the state and continental currencies depreciated rapidly, becoming practically worthless by the end of the war in 1783. The continental currency financed the war. It was replaced with the adoption of the US dollar in 1785, because people simply stopped accepting it as payment for goods or trade. The invention of the US Mint and the US Coinage Act of 1792 all quickly replaced the continentals and provided a new monetary system for the United States.

At first, Continental bills were accepted at face value. One ominous result, however, was that all hard money disappeared almost immediately. It was a case of Gresham's law. No one wanted to spend his gold coins when paper was just as acceptable. The trouble was, of course, that paper was not as acceptable, and many merchants preferred real (hard) money to paper. In fact, this became so frequently the case that Congress had to pass a resolution in January 1776 that "whoever should refuse to receive in payment Continental bills, should be declared and treated as an enemy of his country and be excluded from inter-course with its inhabitants." Persons who refused to sell their land, houses, or merchandise for nearly worthless paper were stigmatized as misers, traitors, forestallers, and enemies of liberty. However, prices continued to rise, as the inflation of the currency proceeded apace. George Washington condemned "the monopolizers, forestallers, and engrossers," who he said should be hunted down as "pests of society" and "hanged upon a gallows."

As the value of the Continentals dropped, Congress had to print more of them—and as more money flooded the countryside, its value dropped even more rapidly. In November of 1776, \$19 million had been issued and one could still buy \$1 worth of goods for \$1 in paper. By November of 1778, \$31 million had been issued, and it took \$6 in paper to buy \$1 worth of goods. By November 1779, \$226 million were in circulation, and it took \$40 in paper to buy \$1 in goods. After that, it was all rapidly downhill. A June 1777 letter from Boston read, "We are all starving here. People will not bring in provision, and we cannot procure the common necessaries of life." Two years later, the same person wrote, "We are likely to be starved throughout Boston. Never such a scarcity of provisions." Inflation, price controls, and legal tender laws combined to produce chaos and want. Stores were closed or pillaged, and merchants were mobbed, fined, or imprisoned; but such action merely drove men out of business, and tended to produce a real scarcity.

Moral suasion, private threats, ostracism, boycotts, and fines—all proved useless against the flood of paper money. The price of common



labor in Boston, which was fixed at three shillings a day in 1777, had risen to 60 shillings by mid-1779. In April 1779, George Washington complained that “a wagon-load of money will scarcely purchase a wagon-load of provisions.” Congress attempted to reform the currency by removing the old bills from circulation and issuing new ones, without success. By May 1781, Continentals had become so worthless that they ceased to circulate as money. The depreciation of the currency had, in effect, acted as a tax to pay for the war.

The painful experience of the runaway inflation and collapse of the continental dollar prompted the delegates to the Constitutional Convention to include the gold and silver clause into the US Constitution so that the individual states could not issue bills of credit or “make anything but gold and silver coin a tender in payment of debts.” This restriction of bills of credit was extended to the federal government, as the power to “emit bills” from the Articles of Confederation was abolished, leaving congress with the power “to borrow money on credit.” The Framers of the Constitution had clear ideas about what was and was not money. The metallic foundation of US money was plainly embedded in Article I, which stated the following provisions:

- Congress shall have the power “to coin money, regulate the value thereof, and of foreign coin, and fix the standard of weights and measures.” (Article I, section 8, clause 5.)
- Congress shall have the power to punish the counterfeiting of money. (Article I, section 8, clause 6.)
- No state shall coin money, emit bills of credit, or make anything but gold and silver tender in payment of debts. (Article 1, section 10, clause 1)

This belief that a sound economy required a sound currency—one based on something rare and enduring like gold rather than common and infinitely replicable paper—was not just theoretical. The framers of the Constitution had first-hand experience with paper money and an uncontrolled printing press thanks to the Continental dollar, the first and shortest-lived US currency.

Although the Continental dollar had succeeded in allowing the Continental Congress to wage its victorious war, the Continental currency was a disaster. The common phrase “not worth a Continental” was inspired by the disaster, and it gave Americans for generations to come a strong bias against paper money, a bias held by many presidents throughout US history such as Thomas Jefferson and most famously Andrew Jackson, who believed his crowning achievement was his

defeat of the Second National Bank. In fact Jackson has the words “I killed the Bank” engraved on his tombstone. Duly frustrated by the experience with Continental currency, America resisted the urge to again issue new paper notes until the breakout of the Civil War.

The issuing of paper money for war financing has been a subject of much debate. Some contended that printing paper would not add to the real resources for waging the war. The military strength would not be enhanced through paper money. Special taxation earmarked to war and/or borrowing was considered as a better means for mobilizing the army and paying for wages and provisions. Citizens would be forthcoming in defending their territory. This method of war financing would not cause the disruption to the economy and public disenchantment that would ensue from inflation, as happened in the United States when the continental currency depreciated considerably. Other views contended that taxation was not politically attractive and required administrative and legislative capacity; it was of utmost urgency to proceed and mobilize resources with the least costly method. In the case of the American war, the Continental Congress had no administrative or legislative capacity for taxation. The federal Government was in its infancy with very limited powers. The method used by the Congress to finance war could be easily defended as a temporary measure based on the conditions that existed during 1775–1789.

## The French Assignats: A Revolution Paper Money

The French assignats, a paper money initially intended to buy confiscated church property, had been diverted from its original objective and turned into an unlimited currency emission that led to hyperinflation during 1790–1796. The assignats provided a model for the destructive nature of an uncontrolled printing press for financing fiscal deficits. Printing money consumed real capital as money operated not as a medium of exchange, but as a mean of redistribution and taxation; further, it paralyzed trade and production by reducing the mass of real money for circulating goods. By the end of the assignats’ hyperinflation in 1796, France had practically no real money for circulating commodities. Assignats drove out gold and silver; farm products and all life necessities disappeared from the markets; and riots and starvation spread.

During the French Revolution in 1789, the newly formed National Assembly wrested power from the monarchy. People were starving,

the public deficit was enormous, and the kingdom was virtually bankrupt. Inheriting a financial mess, and worried about invasion from neighboring monarchies, the government responded with a military buildup; it undertook massive public spending on public works and buildings and paid large subsidies on bread consumption. Having just thrown off the shackles of royal authority, the people were in no mood to resume paying taxes, much less paying more. Many of them, no doubt, interpreted the Revolution to mean the cessation of taxes, and the obliteration of the oppressive and coercive collecting apparatus. Meanwhile, obligations of the national debt in form of interest and principal were accruing and had to be paid. The Assembly rejected debt repudiation because they feared antagonizing the moneylenders of Paris, Amsterdam, Hamburg, and Geneva. They had already incurred the enmity of the kingdoms of Europe; they did not want to be in conflict with the bankers. Besides, the new government needed to borrow funds too. A formidable republican army would be needed to defend the revolution from its enemies, at home and abroad. Thus, they decided to honor the debts of the monarchy.

The Assembly knew that it was politically inconceivable to institute new taxes and expect them to be paid without sending an army into the countryside to shake down the peasants, but who would pay the army? Further borrowing was out of the question until new taxes could be laid. That left one resource—plundering the privileged orders. In November 1789, the Assembly expropriated the vast lands and estates of the French church and declared them to be “national properties.” From thenceforth, they would be “at the disposal of the Nation.” Hence, the government, still in its infancy, had adopted despotism and expropriation.<sup>8</sup>

It was not long before the Assembly realized that the sale of church lands alone would not yield the fiscal bonanza they had envisioned. For one thing, throwing all those properties on the market would diminish their selling price. Second, there was just not enough floating capital (i.e., specie) in France to make large-scale purchases. What to do? It was time for “the last remedy” for fiscal insolvency—government fiat paper currency. Here, the American Revolution furnished a pernicious precedent. In March 1790, the Assembly authorized the printing of 400 million livres of paper assignats of denomination of 200, 300, and 1,000 livres, bearing five percent interest, then reduced to 3 percent, and receivable for taxes and the purchase of the national properties. In character, they were like English exchequer bills or American bills of credit. Originally meant as bonds, the assignats

evolved into a currency used as legal tender in April 1790. Supporters argued that the assignats would furnish payments to the state creditors, provide a means for the people to purchase lands and properties, draw specie out of hiding, and stimulate commerce and industry.

Many delegates of the Assembly opposed the measure on economic principles. They argued that the new currency would depreciate, that it would be followed by additional emissions, further depreciation, and that the calamities of John Law's Mississippi Bubble (1717–1720) would be reenacted across republican France. Their objections and warnings were brushed aside. The enthusiasts essentially argued that economic laws did not apply to France, that she had learned from John Law's failed experiment never to overdo paper money, that a republican government could more safely inflate than a monarchical one (the precise opposite of the truth), and that the immense landed wealth of France provided solid security. Even though the issue was relatively moderate, the assignats promptly depreciated 5, and later 7, percent, against gold.<sup>9</sup>

The government was again short of funds, so it naturally turned to a second issue of assignats. However, this time it doubled the dose to 800 million, dropped the interest payment to zero percent, and made them legal tender for all purchases and debts across France. When the opponents again remonstrated, paper advocates replied that the backing of the state would guard against depreciation, that assignats paid into the treasury would be destroyed, and that this would be the last emission. Many of the advocates of the second emission of assignats had cited the notes of the Bank of England as a source of English prosperity and proof that paper money was safe. However, there was an invidious contrast between the Bank of England's redeemable notes and the French assignats. In contrast to the latter, English bank notes had their origin in gold actually deposited; and were convertible at pleasure, in an instant, and without the slightest loss, into gold again. The French mistakenly assumed that the flourishing state of England was due to bank paper. The French assignats were coercive, inconvertible, and without limit; their quantity was subject to the needs or whims of the revolutionary assembly. They were made legal tender by force. The consequences of the second issue were just as opponents had foretold: depreciation in their value, rising prices, feverish speculation, complaints about a shortage of money, calls for more assignats, the prostration of commerce and industry, inordinate consumption, and declining savings. Economic calculation became impossible, but speculation quite profitable (or ruinous). The fast depreciation of

assignats made it unprofitable for farmers to take their crops to market. They stayed home and produced only for themselves or for barter with their neighbors. The government had to send troops into the countryside to confiscate grain and other foodstuffs.

The revolutionary government decided to cure the evils generated by inflation with more inflation. Instead of destroying assignats received for the national properties, it reissued them in the form of smaller notes. It cancelled interest on assignats. In June 1791, they issued another 600 million assignats, the previous promise not to issue more was conveniently and predictably forgotten, and in December an additional 300 million. By the end of 1791, its market value had fallen to 66 percent of its face value. In 1792, the government issued 600 million more. In April of the same year, the government confiscated the estates of the émigrés (those who fled France to avoid being arrested or murdered) and added them to the national properties. Then came 1793—the year of *la Terreur*. Having tried inflation and legal coercion, the government tried terrorizing the population into accepting the plunging assignats at par, and producing and selling at a patriotic loss!

In March 1793, the National Convention created the Committee of Public Safety, which was a committee of terror, dedicated to expropriating and murdering those deemed to be “traitors” to France or enemies of *la Revolution*. In May 1793, they passed *le Maximum*, imposing price ceilings on grain. It worsened the grain shortage. In June 1793, they passed the Forced Loan as well as a progressive income tax, whose progressivity was progressively lowered to reach more and more citizens. They also passed increasingly draconian and deadly laws designed to force people to accept the assignats at par and forbidding them from exchanging them for anything less than their face value. In July 1793, the Convention repudiated the first issue of interest-bearing assignats.

In August 1793, trading (i.e., buying or selling) specie was prohibited. In September 1793, the Convention passed the General Maximum, extending price ceilings to all foodstuffs, as well as firewood, coal, and other essentials.<sup>10</sup> In that month, despite the deadly coercion, the assignats fell to 30 percent against gold. During 1793, the Convention issued 1,200 million assignats and in 1794, 3,000 million. Next came the deluge. In 1795, 33,000 million were printed, and in October 1795, when a new government—the Directory—assumed power, the assignats’ purchasing power had fallen to almost nothing.<sup>11</sup> On the black market, 600 francs of assignats traded for one

gold franc. In total, 45,000,000,000 livres in form of assignats were issued during 1790–1796.

The Directory was done with the assignats, but it was not done with inflation. In February 1796, it issued a new paper currency, the *mandat*, and made it exchangeable for assignats at the rate of 30 to 1. By August 1796, after 2,500 million had been issued, the *mandat* had fallen to 3 percent of its face value. In 1796, the Directory had had enough, finally, and it withdrew the legal tender character of both the assignats and the *mandats*. It took Napoleon to restore hard money and gold standard to France. As First Consul (1801), he introduced the 20-franc gold piece and insisted that from thenceforth soldiers, contractors, and merchants would be paid only in gold, or its equivalent. Napoleon's success gives the lie to generations of scholarly and academic excuse making that for all its pitfalls the assignat "saved" the Revolution. On the contrary, it helped bring on the Terror and set French progress back a generation. The relationships between work, savings, debt and more generally honesty and fair play, are all perverted when money ceases to function as a store of value.

## The Weimar Republic Hyperinflation

Preceding the American Great Depression, the German hyperinflation of 1922–1923 was one of most disastrous central banking calamities of the twentieth century, a horrifying tragedy during 1919–1923.<sup>12</sup> The starvation, social injustice, and economic dislocation it caused bred extremist forces in 1923 that arguably steered up Germany to another world war in 1939. German inflation was already high during the war period 1914–1918. Becoming a taxation instrument on holders of marks in favor of the government and the profiteers of inflation, it escalated to a hyperinflation during 1922–1923. Its victims paid inflation tax to the government as well as to the debtors, businessmen, speculators, and all other profiteers of inflation. The taxation paid by the victims of inflation to nongovernment profiteers far exceeded the taxes paid to the government.

Rudolf Havenstein was the architect of the horrifying German hyperinflation during 1919–1923. A lawyer, with no knowledge of economics,<sup>13</sup> Havenstein was the president of the German Reichsbank during 1912–1923. He combatted every reform to stop inflation. Even when inflation was running at 100% a day, he believed that Germany was suffering a money shortage. He was boasting that, besides the printing presses of the Reichsbank, he contracted 133

additional printing firms with 1,783 machines to print marks, and more than 30 paper manufacturers worked at full capacity solely to provide paper for the Reichsbank notes. Havenstein urged the provinces, municipalities, and large concerns to print and put their own emergency money notes into circulation. He gave the assurance that he would redeem these notes exactly as if they were Reichsbank own banknotes. He kept interest rates at 5 percent per year when inflation was 100% per day.

By November 15, 1923, the day inflation officially ended, the amount of paper money issued by the central Bank, the Reichsbank, was an incredible sum of 92.8 quintillion (92,800,000,000,000,000,000) German marks.<sup>14</sup> Despite this incredible number, Germany had literally no real money. Germany's cost-of-living index, measured at 1 in 1914, reached 1,535 billion by November of 1923; the index of internal wholesale prices was 1,374 milliards, whilst the index of the dollar rate (i.e., marks/dollar) was 1,000 milliards. The currency depreciated from 4.2 marks/US\$ in 1914 to 4,210,500,000,000 marks/US\$ in November 1923. The faster depreciation of the internal value of the German mark in relation to its external value caused a great loss of competitiveness in the late stage of the hyperinflation.

Prodded by Havenstein, the government expanded its expenditures at lightning speed; unable to keep pace, taxes represented only 0.7 percent of expenditures in 1923. The use of figures on the scale of quintillions became hard to fathom. Authors resorted to physical measures. For instance, the British Embassy in Berlin stated that the number of marks per pound, equal to 1 in 1913, became equal to the number of yards to the sun in 1923. Dr. Hjalmar Schacht said the price of one egg in 1923 would have bought 500 billion eggs in 1913. Dr. Frank Graham (1930) reported that nominal mortgages were 1/6 of Germany's wealth in 1913; they were less than one US cent in 1923, meaning that one US cent in 1923 was more than enough to pay off all 1913 nominal mortgages. Countless stories abounded—a man went to the bakery with a wheelbarrow full of marks. He went inside the bakery to check how much the price of bread had increased. A thief dumped the marks on the ground and stole the wheelbarrow. A teacher saved for 30 years but his savings could not buy a tramway ticket. He committed suicide. Municipal workers cleaned streets littered with tons of dumped marks; people burnt marks in their fireplaces. Teachers and workers were paid twice a day. Shops remained closed, or they closed as quickly as they opened. All calculations, accounting, and contracts became impossible. A class of profiteers

was strong supporters of inflation; these were businessmen, speculators, and borrowers.

Most strikingly, the hyperinflation, as any other hyperinflation, ended instantly on its own in November 1923 with vain attempt of both the central bank and the government to further it; however, it ended in the most catastrophic conditions imaginable.<sup>15</sup> No thief would stop stealing before the store was totally empty. The German mark, exactly like a patient consumed by a cancer, experienced escalation of the cancer in the late stage of its life, and succumbed instantly to the cancer ravage.<sup>16</sup> Established in 1871 as a goldmark issued by Reichsbank and redeemable in gold, the German mark was detached from gold in August 1914, and died in November 1923. A new currency, called the Rentenmark, replaced the defunct mark. A new bank, the Deutschen Rentenbank, a state-owned monetary authority, founded by a regulation of October 15, 1923, issued the Rentenmark. The Rentenmark was nominally pegged to gold, but not redeemable in gold. The Rentenbank reserves consisted of mortgages against leading industrial properties; the German public accepted these reserves as being sound. This meant that the monetary crisis caused by the public's lack of confidence in the currency of the Reichsbank waned and the hyperinflation ceased.

The Weimer Republic hyperinflation occurred in the wake of defeat in war, loss of territory, heavy war reparations,<sup>17</sup> revolts, and renewed foreign invasion of the Ruhr region in 1923. Not all these conditions could be a justification for inflation; government corruption explains hyperinflation.<sup>18</sup> The German hyperinflation showed how disastrous and politicized a central bank could become, and how corrupt and anarchic a government could be. The social injustice and economic chaos it inflicted were most painful and disheartening. Creditors were entirely ruined; debtors and speculators inherited an amazing amount of free wealth. Most appalling, German leaders, including the president of the Reichsbank, attributed inflation to war reparations and the ensuing depreciation of the mark; they were self-congratulatory that 133 printing shops and 30 paper mills were working around the clock to accommodate the currency needs of the German economy. They rejected the causation from money to prices and adhered to the causation of prices leading money.

In 1914, the German government renounced taxation for war financing and resorted to borrowing.<sup>19</sup> It decided, through money



printing, to completely wipe out its mark-denominated debt, asserting clearly that any government can wipe out its own currency denominated debt through money printing. The German government used money printing as a taxation device to wipe out all its war debt by annihilating real money. Taxation financed 15 percent of total expenditures during 1914–1918 and about 1 percent during 1922–1923; the rest was financing through money printing. Political forces as well as powerful industrial and speculative forces were staunch supporters of hyperinflation.

In August 1923, Professor Karl Helfferich (1872–1924) proposed a plan to issue a new currency (Roggenmark) backed by mortgage bonds indexed to market prices (in paper marks) of rye grain to replace the mark. His plan was rejected because of the greatly fluctuating price of rye in paper marks. The agriculture minister Hans Luther proposed a different plan that substituted gold for rye and a new currency, the Rentenmark, backed by bonds indexed to market prices (in paper marks) of gold. The gold bonds were defined at the rate of 2790 gold marks per kilogram of gold, which was the same definition as the prewar gold marks. The Rentenmarks were not redeemable in gold, but were only indexed to the gold bonds. This Rentenmark plan was adopted in monetary reform decrees on October 13–15, 1923, that set up a new bank, the Rentenbank controlled by Hans Luther who had become the new finance minister. On November 13, Hjalmar Schacht, the managing director of the Darmstadt & National Bank, was appointed Commissioner for National Currency. On November 15, printing of the devalued mark ceased. On November 16, the very first Rentenmarks, linked to gold at the prewar parity, began to emerge. On November 20, the devalued mark was pegged to the Rentenmark at a trillion to one. On the same day, Rudolf Havenstein died, all of a sudden, from a heart attack, and Hjalmar Schacht, who would become Reichsbank president in December, took action, and stabilized the Rentenmark against the US dollar.

The hyperinflation was over, and Germany was back on a gold standard system. The Rentenbank held no gold bullion. Instead, the bank held mostly debt, in the form of mortgages on property and bonds on German industry. The Rentenmark was not redeemable in gold. The main aspect of the Rentenmark was that its value remained equivalent to a “gold mark.” This was accomplished by reducing its issuance if there was any threat of its market value falling below that parity. The mechanism was a simple adjustment of supply.

The new Rentenbank refused credit to the government and to speculators who were not able to borrow Rentenmarks. Discounting of commercial trade bills was allowed and the amount of Rentenmarks expanded, but the issue was strictly controlled to conform to current commercial and government transactions. Farmers accepted the Rentenmark in trade for their crops, and the food crisis was resolved. A new Reichsmark replaced the Rentenmark a year later, at 1:1, putting Germany's return to a gold standard on a more long-term basis. The money reform showed that it took almost nothing to adopt a gold standard system. The Rentenbank held little if any gold. The Rentenmark was not convertible into gold. No preparation was necessary. No staff was necessary. No time was necessary. The only thing that was necessary was a clear policy, namely, to maintain the value of the Rentenmark equivalent to a prewar gold mark, and a clear means to accomplish this policy, by restricting the supply of Rentenmarks to maintain its value. Germany was not the only country to suffer from hyperinflation after World War I. Austria returned to gold in 1923, Poland in 1924, and Hungary in 1925. These historical facts fly against those who claim that a gold standard system is "impossible." No country could be in a worse position than Germany was on November 15, 1923. If gold standard was restored then at prewar parity, it could be reintroduced at any time.

John Maynard Keynes, as early as 1919, recognized the threat inflation posed to modern capitalist societies: "Lenin is said to have declared that the best way to destroy the capitalist system was to debauch the currency... [he] was certainly right. There is no subtler, no surer means of overturning the existing basis of society than to debauch the currency. The process engages all the hidden forces of economic law on the side of destruction, and does it in a manner which not one man in a million is able to diagnose." Hans Luther did not exaggerate when he wrote, "The effective starving of the towns and the impossibility of continuing economic activities on the basis of the paper mark was so obvious in the days preceding November 16th that a dissolution of the social order must have been expected almost from hour to hour." Since the end of World War I, unemployment had remained fairly low—given that the Weimar government had kept the economy going by vigorous deficit spending and money printing. At the end of 1919, the unemployment rate stood at 2.9 percent, in 1920 at 4.1 percent, 1921 at 1.6 percent, and 1922 at 2.8 percent. With the dying of the paper mark, the unemployment rate reached 19.1 percent on October, 23.4 percent in November, and 28.2 percent

in December. Hyperinflation had impoverished the great majority of the German population, especially the middle class. Inflation caused a “forced savings” in favor not only of the state but also, in the case of a highly developed capital market and banking system economy, in favor of borrowers and speculators. In violation of Say’s law of markets, commodities are not traded for commodities. The recipients of new money, in form of paper money or unbacked credit, acquire real commodities without injecting any new commodities in the economy. Holders of money, creditors, workers, pensioners are forced to save but with their saving transferred to the profiteers of inflation. This saving is consumed and/or invested by the beneficiaries.

There was a severe dearth of working capital, in form of subsistence fund, and a consequent great decline in labor efficiency.<sup>20</sup> Part of this was the result of malnutrition brought about by high food prices. Bresciani-Turroni noted: “In the acutest phase of the inflation Germany offered the grotesque, and at the same time tragic, spectacle of a people which, rather than produce food, clothes, shoes, and milk for its own babies, was exhausting its energies in the manufacture of machines or the building of factories.”<sup>21</sup> There was a great increase in unproductive work. As a result of changing prices and increased speculation, the number of intermediaries increased continually. Speculation expanded pathologically. When prices were increasing a hundredfold, a thousandfold, a millionfold, far more people had to be employed to make calculations. With prices racing ahead, the will to work declined. The production of coal in the Ruhr, which in 1913 had been 928 kilograms per miner, had decreased in 1922 to 585 kilograms.

Hyperinflation reduced efficiency by driving people away from monetary transactions toward barter. In a normal economy, using money in exchange is highly efficient. During hyperinflation, people prefer to be paid in commodities in order to avoid the inflation tax. If they are paid in money, they spend that money as quickly as possible. In Germany, workers were paid twice a day, and would shop at mid-day to avoid further depreciation of their earnings. Hyperinflation was a wasteful game of “hot potato” in which people used up valuable resources trying to avoid holding on to paper money. Inefficient and unproductive firms were no longer eliminated. In 1913 there had been, on an average, 815 bankruptcies a month. They had decreased to 13 in August 1923, to 9 in September, to 15 in October, and to 8 in November. The accelerating depreciation of the paper mark kept wiping out everybody’s real debt. The continuous and violent oscillations

in the value of money made it all but impossible for manufacturers and merchants to know what their prices and costs of production would be even a few days ahead. Production became a gamble. Instead of concentrating on improving their product or holding down costs, businessmen speculated in goods and the dollar.

The price structure became too distorted, resulting in capital consumption. Interest rates were, in real terms, largely negative. Real wages were lagging. Surreal profits were generated from inflation and speculation. For instance, export industries were stimulated by highly depreciated exchange rates. Imports were too expensive. Often companies were distributing dividends that did not correspond to real profits and represented a consumption of capital for the companies. In net, Germany was exporting at real prices that were below the real cost. Often, export companies kept their sales proceeds abroad to hedge against inflation causing a flight of real capital. Speculators earned amazing profits that corresponded to no real value added. These profits were instantly invested in real assets or placed abroad. All speculation activities were financed through borrowing only. In its early stage, inflation created false prosperity.

The monetary stabilization necessarily entailed liquidation. There was a real stabilization crisis, but it showed itself in a different way. With inflation, labor was drawn into luxury lines—furs, perfumes, jewelry, expensive hotels, luxury homes—and many essentials were comparatively neglected. In Germany, labor went particularly into fixed capital, into the erection of new plant, and into the overexpansion of industries making “instrumental” goods. And then, suddenly, as one industrialist bluntly put it, many of these factories were found to be “nothing but rubbish.” In many cases, it was soon found to be a mistake even to keep them closed down in the hope of reopening later. The mere cost of maintenance was excessive. It was cheaper to demolish them.

In 1923, the government was financing virtually all of its expenditures by note issue (Sargent 1982). Monetary reform stopped government borrowing from the central bank. The management of the Rentenbank strictly limited government borrowing to within the amount decreed. The government moved to balance the budget by taking a series of deliberate, permanent actions to raise taxes and eliminate expenditures. By the personnel decree of October 27, 1923, the number of government employees was cut by 25 percent; all temporary employees were to be discharged; all above the age of 65 years were to be retired. An additional 10 percent of the civil servants were

to be discharged by January 1924. The railways, overstaffed as a result of post-war demobilization, discharged 120,000 men during 1923 and 60,000 more during 1924. The postal administration reduced its staff by 65,000 men; the Reichsbank itself which had increased the number of its employees from 13,316 at the close of 1922 to 22,909 at the close of 1923, began the discharge of its superfluous force in December, as soon as the effects of stabilization became manifest. Substantially aiding the fiscal situation, Germany also obtained relief from her reparative obligations. Reparative payments were temporarily suspended and the Dawes plan assigned Germany a much more manageable schedule of payments.

Briefly, when inflation ended, the distortions and illusions to which it had given rise also came to an end. Parts of the economy had been overdeveloped at the expense of the rest. Inflation had lowered real wages significantly. In the first months of 1924, a big increase took place in the average incomes of individual workers as well as in employment. The index of real incomes rose from 68.1 in January 1924 to 124 in June 1928. This led to a great increase in the demand for consumption goods, and to a corresponding fall in the production of capital goods. There had been an overproduction of coal, iron, and steel. Unemployment increased in these industries. There was apparently a great shortage of working capital, as explicated by the interest rates. In April and May of 1924, the rate for monthly loans rose in Berlin to a level equivalent to 72 per cent a year. At the same time loans in foreign currencies were only 16 per cent. In October 1924, rates for loans in marks had fallen to 13 per cent; loans in foreign currencies were down to 7.2 per cent. The stabilization of the German mark was accompanied by increases in output and employment. Experience of the stabilization showed how much politicians had erred in 1919 and the following years in believing that the incessant printing of notes would help the rapid reconstruction of German business. The liquidation crisis was not, as has been erroneously supposed, a purging of the economic organism. On the contrary, when the currency had been stabilized, economic reconstruction had still to be accomplished, and, owing to the acute scarcity of working capital, it had to be accomplished in conditions vastly less favorable than those prevailing in any of the previous years.

The essential measures that ended hyperinflation in Germany were the creation of an independent central bank that was legally committed to refusing the government's demand for additional

credit and a simultaneous drastic fiscal reform. These measures had the effect of binding the government to renounce deficit monetization (Sargent 1982). Once it became widely understood that the government would not rely on the central bank for its financing, rapid inflation ended. The German experience showed that inflation was largely a monetary phenomenon emanating from excessive note issuance. The accommodative policy of the Reichsbank was reversed; it was replaced by strict quantity limitation. Most interesting, gold standard was not a technical problem. It was implemented by decree, despite the hallucinating money inflation that existed in Germany of 1923.

## The US Federal Reserve and the New Normal of Zero Interest Rates

Since 2008 and in the aftermath of the financial crisis, the Fed dramatically increased its credit to the economy (Figure 3.1), from \$0.7 trillion to about \$4.3 trillion. Most of the expansion was a monetization of the fiscal deficits as well as purchase of toxic assets. The amount of money created during 2008–2014 represented six times the credit it created during 1914–2008. Despite this injection of money to restart the economy, the economic response has been quite muted, with slow recovery from 2008 to 2014 and stubbornly high unemployment. Total domestic credit rose from 287 percent of the GDP in 2000 to 377 percent of the GDP in 2013. Yet the stock market staged

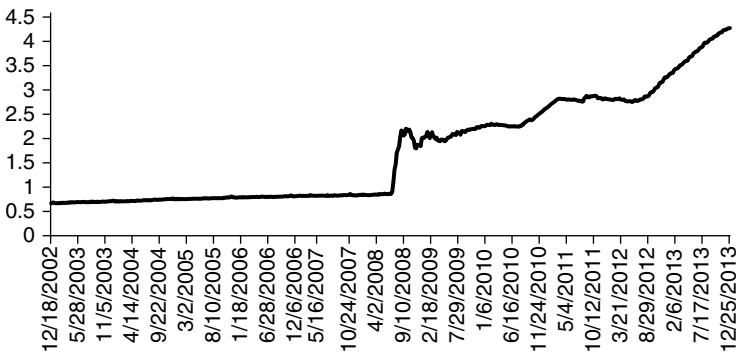


Figure 3.1 Fed Credit, 2002–2014, in US\$ trillion

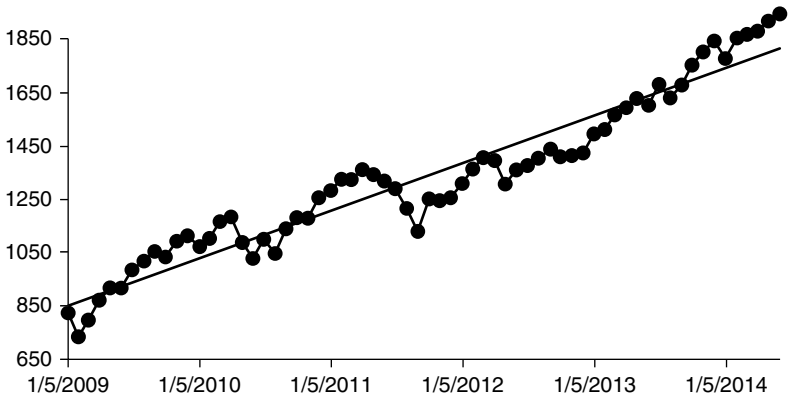


Figure 3.2 Monthly S&P 500 index 2009–2014

a dramatic recovery in what will be remembered as a great bull market (Figure 3.2).

Stock prices surged in a context of mass-unemployment and weak growth. The trend displayed in Figure 3.2 would be very unlikely except in a low interest rate environment. The fueling of stock prices represents a significant redistribution of wealth in favor of the rich. With zero-interest rates, speculation becomes rife and real investment is discouraged. Could the Fed set interest rates at zero under gold money? Richard Nixon gave the answer in 1971 and the United Kingdom did so in 1931. No. In 2014, in Ghana, the central bank rate is 16 percent, in India, 8 percent, in Brazil, 7.5 percent. Why is the Fed's rate at almost zero? Ghana cannot use its money outside its territory and therefore can plunder no country; the United States can print as much money as it wishes to and import as much real capital as to keep interest rates at zero without rapidly increasing prices.

## What Is Money?

The classics studied the nature of money. For them, money does for the economy what blood does for a human body. Money is a medium of exchange, store of value, a standard of measure of value, and a standard of deferred payments. For them, only gold and silver served all these functions and were fit to be money.

In his treatise *De Moneta*, the fourteenth-century author Nicholas Oresme adhered to the Aristotelian view that a coin is a definite weight

of precious metal, the quantity and fineness of which is guaranteed by the stamp of the authority issuing it. The currency does not belong to the issuing authority, but to the public, which uses it for the purpose of exchange of goods. The prince has, therefore, no right to vary the standard or the weight or (if two metals are, as usually, employed) the bimetallic ratio; though the last may be done if the relative value of the metals is materially altered by a new source of supply. In early sixteenth century, the astronomer Nicolaus Copernicus addressed to the king of Poland his treatise, *Monete Cudende Ratio*, which opens with this broad declaration: “Numberless as are the evils by which kingdoms, principalities and republics are wont to decline, these four are, in my judgment, most baleful: civil strife, pestilence, sterility of the soil, and corruption of the coin. The first three are so manifest that no one can fail to apprehend them; but the fourth, which concerns money, is considered by few, and those the most reflective, since it is not by a blow, but little by little and through a secret approach, that it destroys the state.”

The US Constitution categorically defined currency as metallic coins and strictly forbidden paper currency as the money of the United States. It stated: “Article I, section 8, clause 2: The Congress shall have power...to borrow money on the credit of the United States... [clause 5:] to coin money, regulate the value thereof, and of foreign coin, and fix the standards of weights and measures... [and clause 6:] to provide for the punishment of counterfeiting the securities and current coin of the United States...” Further, Article I, section 10, clause 1 stated: “No state shall...coin money; emit bills of credit; [or] make anything but gold and silver coin a tender in payment of debts.”

US Senator Daniel Webster (1782–1852) wrote: “If we understand, by currency, the legal money of the country, and that which constitutes a lawful tender for debts, and is the statute measure of value, then undoubtedly, nothing is included but gold and silver. Most unquestionably, *there is no legal tender, and there can be no legal tender in this country under the authority of this government or any other, but gold and silver*, either the coinage of our mints or foreign coins at rates regulated by Congress. *This is a constitutional principle, perfectly plain and of the very highest importance.* The states are expressly prohibited from making anything but gold and silver a tender in payment of debts, and although no such expressed prohibition is applied to Congress, yet as Congress has no power granted to it in this respect but to coin money and to regulate the value of foreign



coins, *it clearly has no power to substitute paper or anything else for coin* as a tender in payment of debts in a discharge of contracts . . . The legal tender, therefore, the constitutional standard of value, is established and cannot be overthrown. *To overthrow it would shake the whole system.*” In respect to paper currency, Daniel Webster noted that “we have suffered more from this cause than from every cause or calamity. It has killed more men, pervaded and corrupted the choicest interests of our country more, and done more injustice than even arms and artifices of our enemy.”

Bastiat (1877) criticized the theory that advocated that money printing would increase wealth and provide powerful stimulus to trade: “More purchases! And what should we buy? Doubtless, useful articles—things likely to procure for us substantial gratification—such as food, clothing, houses, books, and pictures. You should begin, then, by proving that all these things create themselves; you must suppose the Mint melting ingots of gold that have fallen from the moon; or that the printing presses be put in action at the Treasury Department; for you cannot reasonably think that if the quantity of corn, cloth, ships, hats, and shoes remains the same, the share of each of us can be greater because we each go to market with a greater amount of real or fictitious money . . . You have the proof of this in what passes for gold, silver, and copper. Why does the same exchange require more copper than silver, more silver than gold? Is it not because these metals are distributed in the world in different proportions? What reason have you to suppose that if gold were suddenly to become as abundant as silver, it would not require as much of one as of the other to buy a house? I agree with you that the discovery is tempting. It would immediately banish from the world not only plunder, in its diverse and deplorable forms, but even labor itself, except in the National Printing Bureau. But we have yet to learn how greenbacks are to purchase houses that no one would have built; corn that no one would have raised; textiles that no one would have taken the trouble to weave. And here there are two observations to be made. First: It is a very unimportant circumstance whether there be much or little money in the world. If there is much, much is required; if there is little, little is wanted, for each transaction: that is all. The second observation is this: Because it is seen that money always reappears in every exchange, it has come to be regarded as the sign and the measure of the things exchanged.”

Bastiat required the inflationists to prove that commodities multiply as fast as printing money for inflationism to be credible. Otherwise,

multiplying dollars would lead to inflated prices as well as to a redistribution of wealth. Bastiat deplored the redistributive injustice of paper money inflation. It steals wealth from losers and showers it for free on the gainers. He wrote, "I must inform you that this depreciation, which, with paper, might go on till it came to nothing, is effected by continually making dupes; and of these, poor people, simple persons, workmen and countrymen are the chief. Sharp men, brokers, and men of business, will not suffer by it; for it is their trade to watch the fluctuations of prices, to observe the cause, and even to speculate upon it. But little tradesmen, countrymen, and workmen will bear the whole weight of it." In the same vein, Maurice Allais wrote: "In essence, the present creation of money, out of nothing, by the banking system is, I do not hesitate to say it in order to make people clearly realize what is at stake here, similar to the creation of money by counterfeiters, so rightly condemned by law. In concrete terms, it leads to the same results. Charles Holt Carroll (1850s) held similar views and severely condemned the redistributive of fictive money and credit; he noted that of all the contrivances for cheating mankind, none has been more effectual than that which deludes them with paper money. This is the most effectual of inventions to fertilize the rich man's field with the sweat of the poor man's brow."

"Real money," said Edmund Burke, "can hardly ever multiply too much in any country, because it will always, as it increases, be a certain sign of the increase of trade, of which it is the measure, and, consequently, of the soundness and vigor of the whole body. But this paper money may and does increase without any increase of trade, nay often, when trade greatly declines, for it is not the measure of the trade of the nation, but of the necessity of its government, and it is absurd and must be ruinous, that the same course which naturally exhausts the wealth of a nation, should likewise be the only productive cause of money." A. L. Perry (1873), in his *Elements of Political Economy*, stated: "There has never been a government yet, of the many which have issued irredeemable paper, which had the wisdom and firmness to resist for any great length of time the strong temptation to over issues. When once the press is set at work, it must work on with livelier speed; because just in the ratio of the depreciation is the greater amount required."

Lord Liverpool (1805) was a sharp opponent of paper currency, which he considered to have been carried to so great an extent that it had become highly inconvenient to the king's subjects, and may prove in its consequences, if no remedy is applied, dangerous to the

credit of the kingdom. The smaller notes of the Bank of England, and those issued by country bankers, had supplanted gold coins, usurped their functions, and driven a great part of them out of circulation. Lord Liverpool noted, "It is true that there have been a few memorable instances, I believe three, in which, under the authority of Government, paper currency has been issued to an extravagant extent, in a neighboring country. The first was while France was governed by a Regency, in the beginning of the last century; the two others are of a later date: and each of these experiments has proved, in its results, dishonorable to the government, and disastrous to the people. During the emission of this paper currency, the coins of that country were in a very great degree driven out of circulation; but they re-appeared in considerable quantities, as soon as this paper currency was discredited and annihilated. It ought always to be kept in remembrance that this paper currency was issued to so great an excess, either by corporate bodies, under the authority and protection of government, or directly by the government itself, and not on the sole credit and responsibility of unauthorized individuals."

Lord Liverpool observed that this new sort of fictitious capital, introduced within the kingdom, had contributed more than any other circumstance to what he called overtrading; that is, rash and inconsiderate speculations, and what is almost a necessary consequence, unworthy artifices to support the credit of adventurers already ruined, as well as other evils, which tend to corrupt the morals of the trading part of the community, and to shake the credit on which, not only paper currency but the internal commerce of the kingdom, is founded. He was convinced of the principle that no system of coinage can be adopted with the prospect of permanent advantage, until some regulations have been made for remedying the evils resulting from the state of paper currency. He was certain that in a kingdom like Great Britain, the most commercial, and to an extent, the richest perhaps that ever existed in the world, every branch of circulating medium, of whatever it may consist, should be founded on solid, wise, and honest principles; and coins in particular, which are the only true measure of property and instrument of commerce, and by which every other circulating medium must be regulated, should be made and kept as perfect as the nature of the subject will admit. Lord Liverpool observed that paper currency emitted by different banks in different parts of Great Britain introduced confusion in the same way as today's paper currencies emitted by different countries. Namely, papers emitted in

one district, are generally not recognized in other districts, leading to difficulties for trade and travel.

Jean-Baptist Say (1803) maintained that money was gold and silver. He established the law of markets, according to which markets clear with no excess supply or demand. His theory is that commodities are offered against commodities and money is only a medium of exchange. A deficiency in demand is not attributed to lack of money, but to a lack of commodities to be exchanged against offered commodities. If a trader wants to offer wheat against clothing, and if there is no clothing to offer, then there is unsold wheat and this kind of deficiency cannot be fixed by creating money. Say ruled out the existence of generalized overproduction; however, he admitted the existence of temporary overproduction in some lines of industry, due to a faster expansion of some industries in relation to others. This means that there are not enough commodities to offer for the purchase of the commodities of the expanding industry; relative price has to adjust and factors of production have to be reallocation toward deficient commodities.

Modern writers who assert that money is gold and silver include Mises (1953), Murray Rothbard (1994), and Rist (1938). Mises and Rothbard were supportive of 100% reserve banking and investment banking. Among the politicians who support gold money, we can cite Jacques Rueff (1964) and Congressman Ron Paul (2009). Many gold proponents advocate the restoration of gold money.

## Conclusions

Based on well-documented episodes of hyperinflation, this chapter has shown that there are dangers associated with paper money, namely the temptation to print and more of it, and the fallacy that more paper money in circulation leads to faster economic growth. Excessive liquidity invariably leads to inflation and decline follows inflation. Printing money does not print real capital. A dollar or a euro note is not a commodity. Printing dollars does not print crude oil, wheat, etc.; money only circulates commodities and is a purchasing power commodities.

Leading scholars brand gold as barbaric and a fetter, and consider money as an unrestrained policy tool. Certainly, economies have been liberated from the fetters of gold; they fell into other fetters in the form of severe rigidities of labor and product markets, hyperinflation,

difficulty with sound economic calculations, destruction of capital, and oversized financial sectors.

There is a huge gap between a number of classics that maintained that money was gold and silver, and modern economic thinkers. Under a gold standard, the United States, Japan, and the Eurozone would never be able to set interest rate at zero and print unlimited money. There is a sharp contrast between the gold system as it prevailed before 1914—where gold was the common currency for most of the partner countries—and present day paper currencies and floating exchange rates. Those that support a currency anchor, such as the gold standard, contend that world economic growth and exchange rate stability can be achieved only under a gold standard system such that existed in the pre-1914 era. To our mind, the demise of the gold standard, and for that matter of any currency system with an anchor, has invariably been caused by excessive expansion of money in the form of paper currency and credit expansion through the fractional reserve banking system.

## Origins of Gold as Money

Gold and silver have been used as money throughout history. Each civilization had to organize its monetary system, the foundation of its internal and external trade as well as the safety of its wealth. Monetary organization was similar across nations: it consisted of adopting a monetary law defining the unit of account, the standard of value, and types of coins in terms of weights and shapes to be allowed to circulate. The law organized the mints—administration, offices, and machinery—to issue the coins. Mints were to issue coins in compliance with laws for metal content, weight, size, and emblem. The mints issued coins for bullion brought to them without any limitation. Their role was a pure conversion of metal into coins without any influence on the quantity of money in circulation. The quantity of metal to be coined was purely decided by people who owned bullion and needed to change it into coins. Coins were standardized and stamped so they became instantly identifiable and circulated with perfect confidence in trade.

This chapter covers:

- The concepts of coin, money of account, and unit of value
- The properties of gold as money
- Monetary functions of gold—medium of exchange, standard of value, standard of deferred payments
- Coinage and definition of free-coinage
- Decimal system (limited tender): silver, copper, bronze, nickel
- The US Coinage Act of 1792
- Gresham's law: worn coins versus full-weight coins; gold versus silver; paper versus gold
- The supply of money gold: mining, foreign payment, and conversion from nonmoney gold
- Progressive development of the methods of exchange

Gold and silver were natural commodities and became money from a natural market process. The producer of gold was as any other producer; he brought gold to the market in the same manner as a car manufacturer brings cars to the market. The laws of value control both gold and cars. In contrast, the issuer of paper money brings nothing to the market; he exchanges his bits of paper against cars, food, houses, etc. His bits of paper obey no laws of value and no natural control process. The market chose gold and silver as money essentially because of their scarcity. To qualify for money, a commodity has necessarily to duplicate the barter process where a trader ceded his own product because he wanted a valuable product needed for his survival. The scarcity of gold and silver was never an impediment to trade. Instead, it enabled trade to flourish among nations over the centuries, simply because trade was an exchange of commodities against commodities, and it was the volume of commodities that determined trade, and never the volume of gold or silver.

## Coin, Money of Account, and Unit of Value

In the practical working of a currency system, there are three separate elements, namely the actual coins employed, the numbers by which they are expressed, and the relation of those numbers to the assumed unit of value. These three concepts, although related to each other, need not be identical. The unit of value, or standard of weight of the selected metal, is not necessarily made into a coin. It may be a quantity too great or too small for coinage. All that is required is that the current coins shall be multiples or sub-multiples of the unit, or easily expressible in terms of the unit. It is not even necessary that the number of coins or number of units of value need have any connection to the numbers used to express the value. The money of account, as it is called, may differ from both the current money and the standard money. This is well illustrated in the Anglo-Saxon system of currency. The unit of value was the Saxon pound of standard silver, which was far too large to be coined. The only coins issued in any considerable quantity by the Anglo-Saxon kings were silver pennies and half-pennies; yet the usual money of account was the shilling fixed at twelve pence. Though the shilling has survived, other Anglo-Saxon monies of accounts such as the macus, the mark, and the ora have been forgotten.

The monetary units of accounts of the United Kingdom were the pound (*L* or *£*), the shilling (*s*) and the penny (*d*). The symbol *L* (often written as *£*) came from the Latin word *libra* (pound weight), the

symbol *d* came from the Latin word denarius (a roman coin) and the shilling was an ancient English value. The penny has been the basic unit of currency since about AD 775. The pound is equal to twenty shillings; a shilling is equal to twelve pence (or four crowns). The basic breakdown was:

$$1 \text{ pound} = 20 \text{ shillings} = 240 \text{ pence}$$

A penny weights 24 grains and a pound weights 5,760 grains. A sum of three pounds, seventeen shillings, 10 pence, and a half penny is written as £3 17s 10 1/2d. The monetary units of account of France were similar to those of the United Kingdom based on the “livre” and its subdivisions. The livre was changed into franc after the French Revolution. In the United Kingdom, during most of the nineteenth century the three concepts happened to coincide. The gold sovereign was at once the principal coin, the unit of value, and the money of account in all large transactions. In France, during the nineteenth century, the money of account and the unit of value was the franc in standard gold; but as the franc weighted 0.3226 gram, or about five grains, it was coined only in five, ten, and twenty-franc gold coins with subsidiary silver coins.

## Properties of Gold as Money

Commodities such as air may be vital for life, but given their abundance and zero cost of production, they are not marketable. Value derives from cost of production such as labor, raw materials, and machinery as well as utility and desire of the consumers. Gold and silver, as commodities, have intrinsic values that derive from their scarcity and high cost of production as well as their usefulness as metals in industrial and ornamental applications. Exchange involves a trade of one value commodity gold for another value commodity wheat. The producer of gold has incurred a cost, including labor, raw materials, and machinery cost for producing gold. He will not exchange his product for valueless things. The producer of gold needs wheat for his food and stands ready to concede some of his gold for wheat. Gold is exchanged for wheat. A ratio of exchange arises in the transaction, defined as the number of wheat units for one unit of gold.

Gold and silver were found, among all commodities, to best serve as money in almost every community throughout the ages. Gold and silver were not perfect monies; however, they were the best monies known to



humankind. Every form of money that was tried in many countries at different periods of time was abandoned in favor of gold and silver. For instance, paper money was tried in many countries, and then was abandoned in favor of gold and silver. Production of goods and services cannot advance without a market, and a market cannot function without money. Trade among individuals or nations involves exchange of commodities. For instance, Burundi sells coffee to Germany; the latter sells generators and cars to Burundi. The balance of trade has to be settled using an intrinsically valuable form of money.

Gold and silver, discovered as media of exchange, solved most complex problems of a barter system by reducing information and transaction costs; eliminating the problem of double coincidence; and overcoming the problem of divisibility. Barter was a costly process and made transaction and information costs prohibitive. Assume a farmer who offers eggs for shoes. However, the shoemaker does not want eggs; he wants to offer his shoes for dental care. Assume the dentist does not want shoes; he wants an X-ray machine. Here we have a problem of double coincidence. Another difficulty, called the divisibility problem, arose in a barter economy. Assume a tailor has a coat for sale; he needs one loaf of bread from the baker. The baker badly needs the coat for cold weather; he stands ready to offer 500 loaves of bread. Obviously, the trade cannot take place between the tailor and the baker because of a divisibility issue. A barter economy is primitive. The transaction cost was prohibitive; the information and search costs were excessive. There were to be no specializations and divisions of labor in a true barter system. It was an economy of primitive hunters who lived in quasi-autarchy, feeding on berries, dressing in animal hides, and walking barefoot. There was little saving, capital formation, and growth. A barter economy reemerged only due to the catastrophic collapse of paper money, as happened with German hyperinflation during 1919–1923.

Aristotle elaborated on the theory of money; he held gold and silver in high esteem and considered them as the pillars of a civilization that promoted a monetary system within a nation and across nations. He determined that these two metals had natural properties that made them the best forms of money. As a common measure of everything, money in the form of gold or silver, made things commensurable and made it possible to equalize them. He stated that it was in the form of money, a substance that had a value, that individuals had devised a unit that supplied a measure on the basis of which just exchange could take place. Aristotle thus maintained that everything could be expressed in the universal equivalent of money. He explained

that money was introduced to satisfy the requirement that all items exchanged must be comparable in some way. Within such a framework, Aristotle defined the characteristics of a good form of money as follows:

- It must be durable. Money must stand the test of time. It must not fade, corrode, or change through time.
- It must be portable. Money holds a high amount of “worth” relative to its weight and size.
- It must be divisible and malleable. Money should be relatively easy to separate and recombine without affecting its fundamental characteristics. An extension of this idea is that the item should be fungible.
- It must have intrinsic value and be scarce. This value of money should be independent of any other object and be contained within the money itself.

In addition to the above characteristics, Menger (1892) emphasized salability. He described the transition from a barter-based to money-based economy, where commodities were classified according to their salability. The most liquid and sellable commodity was chosen to be a currency and a medium of exchange. Gold and silver turned out to be most liquid commodities among all value commodities. Each trader sold his commodity against gold with a certainty that his gold would be exchanged indiscriminately against any commodity.

Gold and silver are scarce metals. Very few countries produce these metals. Scarcity of gold and silver is a basic property that lends to make them suitable as money. Gold and silver cannot be produced in millions of metric tons, as can wood, stones, gravel, and coal. If men wanted an inflationary commodity, they would never have chosen gold or silver. Because of the stability of their stocks, gold and silver provided a stable measure of value. An inflationary commodity cannot serve as a measure of value as much as a shrinking rod cannot be used to measure length or distance. With gold or silver, prices were stable and did not change violently.

Durability is an essential property of a currency. Without this characteristic there can be no exchange, saving, and capital formation. Durability means that money remains a store of value until it is used again in trade. A commodity, used as medium of exchange, has to be durable and capable of storing value. In fact, a medium of exchange has to store value. There is always a time period of varying length between transactions. A worker saves part of his income with a view to buying a house in the future. Gold and silver are durable, unalterable, and have a stable and predictable value. They can be stored even

in the ground and cannot be altered. In fact, quantities of gold were found in ships that sunk deep in the sea decades or even centuries before; the gold thus found had practically no erosion. Refined metals, such as gold, silver, copper, or nickel, have historically taken center stage as money because they are extremely durable materials.

Divisibility of money is an important property of money and made possible coinage of money in different shapes, weights, and fineness. Divisibility is one reason why metals, such as gold, silver, copper, and nickel, have been widely used as money throughout history. As pure elements, each can be divided into small units. The seller of a horse may use his gold coins for all small transactions. In a barter economy, this is not possible; the horse owner cannot trade his horse for a loaf of bread. Gold and silver bullion can be divided into coins and then can be reassembled again without losing any value. A kilogram of gold or silver has exactly the same value as a collection of 100 coins of gold or silver each of 10 grams of weight. Diamonds are far more valuable than gold or silver. However, diamonds do not possess the divisibility of gold and silver, and they are of different qualities. Platinum also is more valuable than gold and silver; however, it is not as malleable as gold and silver.

Liquidity and salability are important qualities of money. The latter has to be a most liquid commodity, meaning that every trader will accept it in trade, voluntarily and not because they are legally obligated to do so. Menger (1892) maintained that the most saleable commodity was the one that earned universal acceptance as money. Hence, gold was a valuable commodity, exactly like any other valuable and traded commodity. It became money for being the most saleable commodity among all nations. Portability is another important and required quality of money. Money has to be portable at low cost. Carrying around a satchel of metal coins was never much of a burden. However, these metals were largely replaced by paper currencies in the twentieth century, because paper was lighter and easier to carry. In fact, a \$100 bill is just as easy to carry as a \$1 bill. This notion has been taken a step farther with paper checks used to access checking account balances. A check for \$1 million is just as easy to transport as a check for \$1. Gold and silver cannot be counterfeited. Gold and silver bullion are assayed and certified by specialized agencies and banks and cannot be counterfeited. Similarly, gold and silver coins were milled and stamped and could not be counterfeited. Paper can easily be counterfeited on a large scale.

Gold satisfies all the properties of money. It is durable, portable, and easily divisible into bars and coins that share uniform properties.

It is easily recognizable through visual, tactile, chemical, and other means. Gold's value and purchasing power are stable over time, as its supply grows slowly and it cannot be created ad infinitum, as paper or digital currency can be. Because of these properties, gold has always been considered an ideal store of value and thus, and ideal medium of exchange, and central banks have always sought to hold it because it is the ultimate monetary backstop. When society and the monetary system break down, even if nothing else is accepted as a medium of exchange, gold still will be.

### **Monetary Functions of Gold—Medium of Exchange, Standard of Value, Standard of Deferred Payments**

Hence gold and silver possess the main properties of a money that are: (1) Value in exchange, intrinsic value; (2) Stability of value; (3) Homogeneity of material; (4) Durability; (5) Divisibility without diminution of value; (6) Large value in small compass; and (7) Adaptability to coinage.

Gold and silver fulfilled five essential functions of money as they are recognized today:

- A medium of exchange
- A common denominator
- A standard of value
- A store of value
- A standard of deferred payments

Gold money performs the function of a medium of exchange in trade and forms the payments system of a country and with other countries. Some writers prefer not calling gold a medium of exchange, but simply a traded commodity.<sup>1</sup> The seller of wheat exchanged wheat against gold. A country exports gold, as a commodity, and imports cars. In such a country, David Ricardo (1810) considered that gold was the cheapest commodity to export. If the country had a cheaper commodity, it would have exported that instead of gold. Reciprocally, if gold is expensive, a country will export commodities and import gold.

Gold money fulfilled the function of a common denominator among commodities. Commodities are compared against each other through gold. For instance, commodity A is worth 4 grams of gold; commodity B is worth 8 grams of gold; hence one unit of B is worth two units of A. Gold provided the standard unit of value.

It is essential to clearly define what we mean by a standard unit of value. This must consist of a fixed quantity of some concrete substance defined by reference to the units of weights. The expression standard unit of value will indeed be misunderstood as implying the existence of something of fixed value. Value merely expresses the essentially variable ratio in which two commodities exchange, so that there is no reason to suppose that any substance does retain the same value. A standard of value means that some uniform unchangeable substance is chosen in terms of which all ratios of exchange may be expressed and calculated. The price of every commodity is expressed in relation to the standard of value. For instance, a coat is worth so many gold units; a house is worth so many gold units. More precisely, all prices of commodities and assets are denominated in units of gold.

Lord Liverpool (1805) defined money in terms of two properties: a standard of value and an equivalent in exchange meaning that it is as valuable in exchange as the commodity for which it is exchanged. For instance, the buyer of computer finds the computer as worthy as an ounce of gold he possesses. Lord Liverpool defined these two properties of money as follows: “The Money or Coin of a country is the standard measure, by which the value of all things, bought and not always so sold, is regulated and ascertained;—and it is itself, at the same time, the value, or equivalent, for which goods are exchanged, and in which contracts are generally made payable.” Money, as a measure, differs from all others; and to the combination of the two qualities before defined, which constitute the essence of money, the principal difficulties, that attend it, in speculation and practice, both as a measure and an equivalent, are to be ascribed. These two qualities can never be brought perfectly to unite and agree; for if money were a measure alone, and made like all other measures of a material of little or no value, it would not answer the purpose of an equivalent. And if it is made, in order to answer the purpose of an equivalent, of a material of value, subject to frequent variations, according to the price at which such material sells at the market, it fails on that account in the quality of a standard or measure, and will not continue to be perfectly uniform and at all times the same. The absolute weight of the unit of money is not important, provided it can be exactly defined and permanently adhered to. Therefore, it is really a matter of indifference whether we regard the troy pound of standard gold, or the ounce, or the fixed number of grams in the British sovereign as a standard. The only requisite is that every contract expressed

in money shall enable us to ascertain exactly how much standard gold is due from one person to another.

Gold performs the function of a store of value. This means that savings can be held temporarily, in the form of gold, without a loss in value through natural causes such as corrosion or depreciation in relation to other commodities. This function of gold in storing value has been illustrated in many verses in *Qur'an*. Gold serves as a standard of deferred payment. Many payments are deferred and take place at a future time. For instance, a bond or an Islamic bond, sukuk, is redeemed in five years from the date of its issuance; commodities are delivered now with payments in three months. These payments are to be made in gold to protect their value at the payments date. Other commodities have been used as a standard of deferred payment, such as corn during the eighteenth century in England. For instance, rent for premises was paid in part with corn, in order to protect the value of the rent against money debasement.<sup>2</sup>

## Coinage and Definition of Free Coinage

Coins and coinage constituted the basic foundation of gold and silver money. Without coins freely in circulation, there can be no genuine gold and silver money. The monetary laws of any country in the early centuries, until the demise of the gold standard in 1914, organized gold and silver coinage and circulation. These laws were constitutional laws in the United States. In other countries, they were common laws. The coinage acts organized the mint, defined the coin, and certified its authenticity through stamping. Although private mints existed in the past, in most countries the mints belonged to the state and were regulated by an appointed authority. Gold and silver were used as bullion and bars in large transactions and across countries for international settlements. However, for domestic circulation and to meet all payments needs especially for small transaction and to reduce the transaction cost, gold and silver had to be coined, standardized, and made instantly cognizable. The earliest known coins were changing hands in the sixth century BC in Anatolia, in the kingdom of Lydia. Around 550 BC, King Croesus minted metal coins, made from electrum, a natural alloy of gold and silver found in the River Pactolus that flowed past Sardis, Lydia's capital. This was 98 percent gold. A punch and anvil die was used to stamp the coins with what is assumed to be the Lydian emblem of a lion, or a lion's paws, cutting the metal to reveal its consistency. The art of coinage and shapes of coins have evolved over time. The technology of minting has

evolved over time with constant improvements that reduced abrasion, clipping, and counterfeiting. Coins used to be hammered; however, the technology evolved and coins were milled.<sup>3</sup>

Coinage laws contained regulations regarding the definitions of coins, their respective weights and fineness, the stamping of coins, their names, their denominations in unit of accounts, and the cost of coinage. Some coinage laws explicitly defined the ratio between gold and silver in circulation. More precisely, they define how much an ounce of pure gold is worth in ounces of pure silver.<sup>4</sup> However, this is not a necessity. Some countries allowed the ratio gold/silver to be market-determined. For instance, up to 1957, Saudi Arabia had gold and silver circulating on the basis of their metal content. The gold coins were the British sovereigns and the silver coins were the Saudi Riyals (Young 1953).

Open mints or free coinage meant that any person was able to bring gold in bullion and have it coined exactly according to the standards of coinage at the mints. The client chose the type and number of coins against which bullion was to be minted. Closed mints meant that individuals had no longer the right to bring metal to the mints and have it coined. The state could still continue to coin any metal it wished. The standards of the various mints varied from one country to another, just as other standards of measurement varied also. The British system differed from the US mint system and the system of France differed from both. A basic principle in coinage was the weight units and fineness. These vary from one country to another. A basic unit of weight common to all coinage systems for both gold and silver was the grain. One grain is equal to 0.06479 gram and a gram is 15.432 grains. One penny weight (*dwt*) is equal to 1.55517384 grams=24 grains. A troy ounce of gold contains 480 grains. The conversion of bullion into coins involves a cost in labor, machinery, and alloys. Mints might charge a fee called *brassage*, which covered the cost of conversion. Still, in some countries, the state might levy a tax called *seigniorage*. However, in the United Kingdom and the United States, coinage of both metals was completely free of any charge. English Coinage and coins model inspired the mint of many countries. The English sovereign was the principal legal tender and the standard of value. It weighted 123.27447 grains (7.98805 grams) of English standard gold, composed of eleven parts of fine gold and one part of alloy, chiefly copper. The sovereign ought therefore, in theory, to contain 113.00160 grains or 7.32238 grams of pure gold. From the weight of the sovereign, we deduce the mint price of gold. For if we divide the number of grains in the sovereign (i.e., 123.27447) into the number of grains in the troy ounce (i.e., 480), we ascertain exactly

how many sovereigns and portions of a sovereign the mint ought to return for each ounce delivered. This we find to be 3.89375, which is equivalent to £3 17s. 10 ½ d. It comes to exactly the same to say in terms of the old mint indentures that twenty pounds weight troy of gold are to be coined into 934 sovereigns and a half-sovereign.

The supply of English gold coin was very simple. It was the theory of English monetary law that every individual was entitled to take gold to the mint and have it coined gratuitously, with all the expenses being borne by public revenues. It was intended that the coin shall be rendered identical in value with an equal quantity of gold bullion, and shall be reconvertible into ingots without loss. Though the theory was simple and sound in some respects, it was not practiced. Instead of sending gold directly to the mint, the owner sold it to the Bank of England and received only £3 17s. 9d. per ounce instead of the full mint price of £3 17s. 10 ½ d. The difference of 1 1/2d accounted for the convenience afforded for having instantaneously coins instead of waiting up to three weeks to have coins. Though every person had the right, under the Coinage Act, of taking gold to the mint and having it coined free of charge, no one ever did use the privilege, except the Bank of England.

The mints in the United Kingdom or any other country were institutions independent from the banking sector. Mints continued to operate at all times, even when the Bank of England suspended gold payments during 1797–1821. Traders had their gold frozen at the Bank of England; however, they continued to bring bullion to the mints and obtain gold coins for their trade. Moreover, the mints had no monetary policy committee such as the Federal Open Market Committee, which would dictate how much gold coins to issue according to unemployment or inflation. The mints were simply conversion shops.

The coinage law of a country would determine the exchange rate of its gold money in relation to the gold money of other countries. The US Gold Standard Act, 1900, defined one dollar to be equal to the value of 23.22 grains of pure gold (1 troy ounce = 480 grains of gold). The Coinage Act of 1816 at 113 grains of pure gold fixed the gold content of pound sterling. Thus the par exchange rate between the dollar and the pound was  $\text{£} = 113/23.22 = \$4.866$ . The cost of shipping gold from London to New York was \$0.026 per pound. Therefore, the exchange rate was allowed to fluctuate within the limits of  $\$4.866 \pm 0.026$ . Thus:

\$4.892 = gold import point for UK

\$4.840 = gold export point for UK



If the spot price of pound fell below the gold export point, it is cheaper for Britons to convert pound into gold, export gold, convert gold into dollars and make dollar payments.

## Decimal System (Limited Tender): Silver, Copper, Bronze, Nickel

Nations have found it convenient to coin several different metals into money: gold for larger-payments, silver for purchases of moderate value, and copper, or some other coarse metal, for those of still smaller consideration. They have always, however, considered one of these metals as more peculiarly the measure of value than any of the other two; and this preference seems generally to have been given to the metal that they happened first to make use of as the instrument of commerce. Having once begun to use it as their standard, which they must have done when they had no other forms of money, they have generally continued to do so, even when the necessity was not the same.

The coinage system has standard and token money. We distinguish between coins according to those for standard money and token money. A standard coin is one of which the value in exchange depends solely upon the value of the material contained in it. The stamp serves as a mere indication and guarantee of the quantity of fine metal. We may treat such coins as bullion and melt them up or export them to countries where they are not legally current; yet the value of the metal being independent of the legislation will be recognized everywhere. Token coins, on the other hand, are defined in value by the fact that they can, by force of law, be exchanged in a certain fixed ratio for standard coins. The metal contained in a token coin has a certain value; but it may be less than the legal value in almost any degree.

## The US Coinage Act of 1792

Article 1, Section 8 of the Constitution enumerates the powers of the government. It reads, in part: The Congress shall have Power:

- To borrow Money on the credit of the United States.
- To coin Money, regulate the Value thereof, and of foreign Coin, and fix the Standard of Weights and Measures.
- To provide for the Punishment of counterfeiting the Securities and current Coin of the United States.

Faithful to the US Constitution, the Coinage Act, or the Mint Act, passed by the United States Congress on April 2, 1792, established the United States Mint and regulated the coinage of the United States. This act established the silver dollar as the unit of money in the United States, declared it to be lawful tender, and created a decimal system for US currency. The Act authorized the production of the following coins:

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Eagle	\$10	247 $\frac{4}{8}$ grain (16.0 g) pure or 270 grain (17.5 g) standard gold
Half Eagle	\$5	123 $\frac{6}{8}$ grain (8.02 g) pure or 135 grain (8.75 g) standard gold
Quarter Eagle	\$2.50	61 $\frac{7}{8}$ grain (4.01 g) pure or 67 $\frac{4}{8}$ grain (4.37 g) standard gold
Dollar or Unit	\$1	371 $\frac{4}{16}$ grain (24.1 g) pure or 416 grain (27.0 g) standard silver
Half Dollar	\$0.50	185 $\frac{10}{16}$ grain (12.0 g) pure or 208 grain (13.5 g) standard silver
Quarter Dollar	\$0.25	92 $\frac{13}{16}$ grain (6.01 g) pure or 104 grains (6.74 g) standard silver
Disme	\$0.10	37 $\frac{2}{16}$ grain (2.41 g) pure or 41 $\frac{3}{5}$ grain (2.70 g) standard silver
Half Disme	\$0.05	18 $\frac{9}{16}$ grain (1.20 g) pure or 20 $\frac{4}{5}$ grain (1.35 g) standard silver
Cent	\$0.01	11 penny weights (17.1 g) of copper
Half Cent	\$0.005	5 $\frac{1}{2}$ penny weights (8.55 g) of copper

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This Coinage Act became the framework that organized the monetary system in the United States and enabled the economy to grow with secure money that protected the property rights of all citizens. The role of the government was not to determine the quantity of

money in circulation; such quantity was decided purely by the market; its role was to mint any quantity of gold and silver bullion brought by individuals and to certify the conformity of coins with coinage act provisions. The simplicity of this money system saved the country from a large bureaucracy.

## Gresham's Law

The public generally did not discriminate between coins provided there is an apparent similarity; however, a small class of moneychangers, bullion dealers, bankers, or goldsmiths made it their business to be acquainted with differences in coins and knew how to derive a profit from them. This class of arbitrageurs corresponds to today's (2014) speculators in currency markets. These were the people who frequently un-coin money, either by melting it or exporting it to other countries where it was melted as they knew that they could gain by removing the newer heavy coins issued by the mint and converting them into gold bullion. There arose the practice of picking and culling, that is, garbling the coinage, devoting the new coins to the melting pot, and passing the old worn coins into circulation again on every suitable opportunity. From these considerations, we readily learn the truth and importance of a general principle concerning circulation, called Gresham's Law, named after Sir Thomas Gresham (1519–1579), who clearly perceived this truth in a letter addressed to Queen Elizabeth in 1558. This law, briefly stated, holds that while the bad money may expel the good money, that good money cannot drive out bad money.

From Gresham's Law, we may infer the necessity of two precautions in the regulation of currency. First, the standard coins, as issued from the mint, should be as closely as possible of the standard weight, otherwise the difference would result in a profit for the bullion-broker and exporter. Second, adequate measures must be taken for withdrawing from circulation all coins that are worn below the least legal weight, otherwise they will continue to circulate as token coins. Gresham's remarks concerning the inability of good money to drive out bad money only referred to money of one kind of metal, but the same principle applies to the relations of all money in the same realm of circulation. Gold compared with silver, or silver with copper, or paper compared with gold, are subject to the same law that the relatively cheaper medium of exchange will be retained in circulation and the relatively dearer will disappear.

## The Supply of Money Gold: Mining, Foreign Payment, and Conversion from Nonmoney Gold

During the practice of the gold standard, most countries did not produce gold or silver. They acquired gold and silver through their international trade with producers and nonproducers of gold. Many classics addressed the distribution of gold among countries. David Ricardo (1810) stated: Gold and silver having been chosen for the general medium of circulation, they are, by the competition of commerce, distributed in such proportions amongst the different countries of the world, as to accommodate themselves to the natural traffic which would take place if no such metals existed, and the trade between countries were purely a trade of barter.

David Hume elaborated the mechanism of gold movement among countries as the price-specie flow mechanism. A country where the demand for money was high; price of commodities declined; exports of commodities were stimulated and imports of gold were contributing to satisfy the demand for money. In contrast, when the demand for money fell, the demand for commodities rose; commodity prices rose; exports of gold ensued; imports of commodities resulted to satisfy demand for investment and consumption of commodities. Ricardo argued that gold was the cheapest commodity in the economy and was therefore exported to settle the imports of commodities. Producers of gold, that is, miners, never kept gold in their stores any more than the producers of wheat kept their grain in the silos. Gold was sold on the free market to be used as money and nonmoney commodities. Its price as a commodity fluctuated in relation to other commodities.

Under the gold standard, a country's money supply was linked to gold. International balance of payments differences were settled in gold. Countries with a balance of payments surplus would receive gold inflows, while countries in deficit would experience an outflow of gold. In theory, international settlement in gold meant that the international monetary system based on the gold standard was self-correcting. Namely, a country running a balance of payment deficits would experience an outflow of gold, a reduction in money supply, a decline in the domestic price level, a rise in competitiveness and, therefore, a correction in the balance of payments deficit. The reverse would be true for countries with a balance of payments surplus. This was the so-called price-specie flow mechanism set out by eighteenth-century philosopher and economist David Hume (1752). Its smooth functioning depended on flexible wages and prices.

The gold coin might differ in value depending on the value of its gold content if the government had the power to increase or diminish the quantity of coined sovereigns at their own discretion. It was therefore made incumbent on the mint to convert into coins all the gold bullion that was brought to it for coinage. The quantity of coins in circulation must, therefore, depend entirely on the demand for them, and not on the action of the Government. If more coins are needed, gold is brought to the mint and turned into coins. If fewer coins are needed, existing coins are melted down and exported or otherwise used. The value of the coin must therefore be that of the gold bullion used in making it, with nothing added but the value of the Government certificate of its weight and purity. It was this self-acting character of the mint that was the great safeguard of the coinage; namely, the mint turns client's bullion into coins and cause no distortion in the price of coin. If it were in the power of the mint to refuse to coin, they would be able to restrict the coinage, and thus to add to its exchangeable value. If they were able to alter the quantity and purity of the metal contained in the sovereign, they would be able to depreciate its value, as has been done often in former times. In either case, they would be able to derange markets and alter existing contracts, which are made in terms of the sovereign or pound sterling. The self-acting character of the mint operations reduces the function of the State in issuing money to that of a verifier in weights and measures.

## Progressive Development of the Methods of Exchange

Metallic money had wide circulation within and across countries. However, with modern banking and trade techniques, new devices were developed to minimize the circulation of gold and silver. These techniques did not devalue the metal of its status as standard of measure and as money of unlimited tender with which all obligations and net payments had to be paid. For instance, the balance of the clearinghouse had to be settled in gold. Most known techniques can be stated follows:

- Replacement of standard money by representative paper money
- The intervention of book credit
- The check and clearing system
- Bills of exchange and promissory notes
- Credit card
- Use of foreign bills of exchange
- International clearing system

These methods were sufficient to carry out most of the trade in commercial nations efficiently without displacing the gold money, which remained the pillar of the monetary system. In the United Kingdom, gold and silver coins accounted for about 2.5 percent of the domestic transactions in the 1890s, and the balance was through the banking system and business trade bills and promissory notes.

## Conclusions

The chapter covered the operational organization of the gold standard within a country. The most important characteristic was the market's role in the regulation of the gold in circulation. The state had no role in influencing the quantity of money in circulation; its role was only to organize the mints and certify the conformity of coins with the coinage laws. The mints were open for all individuals who brought gold and silver for coinage. The laws of value determined the quantity of money gold. Gold producers acted as any producer would and kept producing gold as long as their mining remained profitable. The demand for gold stemmed from the needs of trade. Redundant gold left the country or was turned into jewelry, and deficit gold had to be imported and converted from jewelry. The gold system was efficient, a bureaucracy was not needed to manage it as is the case with the paper money, and there was no interference with the functioning of free markets. The scarcity of gold was not an impediment to trade.

## The Gold Standard

In each gold standard country, gold was the standard of value; gold coin was the money with unlimited legal tender. Exchange rates were fixed by the ratios of gold content in respective gold coins. Banks, brokers, and bullion dealers settled transactions within and across countries with negligible movements of gold.

Many fallacies arose concerning the gold money. These fallacies were confused by the apparent cheapness of paper substitutes and called for displacing gold by paper or making paper a representative of gold. Besides fallacies, gold money suffered the assault of inflationism. Gold was a commodity and could not be issued out of thin air, in contrast to paper money, which could be issued in a limitless manner out of thin air. Governments needed paper to finance wars and bureaucracies. Gold was dealt a fatal blow and replaced by paper money. In this chapter, we cover:

- Definition of the gold standard
- Institutions—goldsmiths, banks, Treasury, emit paper currency and banknotes convertible into gold at par
- Examples of gold standard regimes—US dollar, British sterling, each money defined in weight of gold
- Instruments of payments that economize on gold: bank notes, bills of exchange promissory notes, the banking system, clearing houses.
- Theories on economizing on gold
- Major controversies surrounding gold
- No monetary policy in the gold standard

## Definition of the Gold Standard

The gold standard was the commodity money system that existed in most countries from prehistorical times until it was abolished by Western governments in 1914. A gold standard country used gold as a standard measure of value and money for settlements domestic and international trade. The gold standard evolved through the centuries. Before the advent of paper money, gold circulated in the form of coins and bullion. With the advent of the banking system, banknotes, and government issued currency, gold was replaced by notes, which were, in theory, redeemable at par, that is, at a fixed rate. No paper currency circulated across borders. A trade imbalance between two trading countries was settled with gold. If country A's coin was worth 5 grams of pure gold and country B's coin was worth 2 grams of pure gold, the exchange rate was  $5/2=2.5$ . No country was able to destabilize another country through inflationary policies. If a country expanded its paper and credit, it lost its gold.

## Institutions—Goldsmiths, Banks, Treasury, Emitted Paper Currency, and Banknotes Convertible into Gold at Par

Depository houses and banking institutions characterized most civilizations and contributed to the development of trade, sea navigation, and emergence of trading centers in many empires. Merchants and industrialists in every city needed a financial system for safeguarding money and circulating capital. The concept of a depository institution was fully developed in the *Qur'an* as well as the *Sunnah* of the Prophet (PUH). A deposit with a depository institution is called *Amena* in the *Qur'an*. The depository institution should not lend or use the *Amena*. The Prophet (PUH) was himself a custodian of gold and silver belonging to the merchants of Mecca. It was incumbent upon the depository house to remit the gold or silver deposited upon request. The practice of goldsmiths was highly developed in Europe and it became integrated into the banking system, with most of the banks fulfilling the role of both depository and credit institutions. Goldsmith houses breached their deposit contracts and loaned their deposits to make profits from interest bearing loans.

The banking and credit system was part of trade and industry in most civilizations. However, it was credit based on interest. Banking



experienced rapid development with the development of industry and trade in Europe and expansion of trade with the Orient. Banks received gold deposits and issued banknotes against these deposits.<sup>1</sup> However, banks also created deposits through their discounts and loans, and were operating on a fractional reserve basis, meaning that their gold reserves covered a small percentage of their liabilities. This system led to frequent panic, suspension of gold payments, and frequent bankruptcies. The Bank of England suspended its notes' redemption during 1797–1821. Treasuries could receive gold in deposits and emit convertible paper, called treasury notes, against it. This was the case of the United States in late nineteenth century. The government treasury may also issue non-backed paper, as in the case of the US greenbacks during 1862–1879, with the promise to convert them into gold. This was called a forced loan. Nonetheless, all greenbacks became convertible at par in 1879.

### **Examples of Gold Standard Regimes—US Dollar, British Sovereign, Each Currency Was Defined in Weight of Gold**

Practically all countries were on a gold or silver standard until 1914. In countries where gold was the standard of payments, silver was a commodity like any other commodity. In contrast, where silver was the standard of payments, gold was a commodity like any other commodity. In countries where mints were open to both metals, only one metal was chosen by the market to be the standard, which according to Gresham's Law was the overvalued metal.

In the United States, the Coinage Law of 1792 allowed for the free coinage of both silver and gold. The money of accounts was the dollar, with its decimal subdivisions. In the 1900, the Gold Standard Act defined by statute that the standard of the US monetary system was to be the gold dollar, stating: "Be it enacted . . . That the dollar consisting of twenty-five and eight-tenths grains of gold nine-tenths fine, . . . shall be the standard unit of value, and all forms of money issued or coined by the United States shall be maintained at a parity of value with this standard, and it shall be the duty of the Secretary of the Treasury to maintain such parity."

The British system was much older than the US system. The gold coin was the guinea. The first guinea was produced on February 6, 1663, and was made legal currency by a Proclamation of March 27,

1663. One troy pound of  $11/12$  finest gold would make  $44\frac{1}{2}$  guineas, each weighing 129.4 grains. An act of 1817 replaced the guinea and its gold fractions by a new sovereign (and a half sovereign) representing 20 shillings to the sovereign and containing 123.27 grains of standard gold ( $11/12$  fine), that is, 113.00 grains of fine gold. The United Kingdom became on a full-gold standard in 1816 by demonetizing silver and making it a subsidiary coin. This legislation was based on the long history of the British monetary system and the impossibility of a double standard for gold and silver. To gain efficiency and prevent alternating standards, Britain decided to make gold a full-fledged standard. The sovereigns were the coins that were minted. The guinea minting was discontinued.

## Instruments of Payments That Economize on Gold: Bank Notes, Bills of Exchange, Promissory Notes, the Banking System, and Clearing Houses

There was perfect freedom of coinage, ownership, and circulation of gold and silver in every country before 1914. However, with the fast development of banking, the issuance of bank notes, development of credit, bills of exchange, promissory notes, and clearing in the United Kingdom and many other advanced countries, the circulation of gold declined by the end of the eighteenth century, as reported by Thornton (1802) and other scholars. By the end of the nineteenth century, the circulation of gold represented less than 2 percent of the total payments in many countries. The development of payment techniques and the gradual retreat of coins inspired Ricardo to formulate his *Proposals for an Economical and Secure Currency* (1816), according to which gold should be replaced by banknotes and conversion of gold by the Bank of England should be limited to 20 ounces of gold and above. This was the early proposal of a gold exchange standard.

The bills of exchange played an important role in domestic and international payments. A bill of exchange was a debt document arising in trade transactions. The drawer of the bill (creditor) sold the merchandise to the drawee (debtor); the bill of exchange had a maturity date and might be accepted by a third party such as a bank that guaranteed its payments, and was used to international transactions.

Bills of exchange were developed to avoid unnecessary transport of gold across borders. In each country, there was a foreign exchange market where financial intermediaries such as banks, discount houses,

and brokerage firms settled cross-border payments without the movement of gold. For instance, assume US importers imported merchandise worth 100 ounces of gold of a specified standard from England, US exporters exported merchandise worth 100 ounces of gold of the same standard to France, and UK importers imported merchandise from France worth 100 ounces of gold of the same standard; trade is settled without any gold moving in any direction. Exchange bills for an amount of 100 gold of the same standard are used to settle the cross-payments. These bills save on the cost of international transactions. In this example, they eliminate three trips for the gold: from the United States to the United Kingdom, from the United Kingdom to France, and from France to the United States.

In each country's foreign exchange market, competition between buyers (i.e., importers) and sellers (i.e., exporters) of bills of exchange determine the market price of the foreign exchange, which, like the market price of commodities, depends on supply and demand. If bills of exchange were scarce, their price was high. If they were plenty, their price was low. There was, however, one peculiarity of a bill of exchange, which was not common to commodities. If it could not be sold at a price that suited its owner, he had it in his power to avoid a sale at great loss by importing his funds in coin. This placed a limit on the fluctuations in the rate of exchange, which could not fall and remain below par, or rise and remain above par, by an amount equivalent to the expense of transporting the precious metals from the debtor country to the creditor country. For, if a merchant owed a debt abroad, and could not procure a bill of exchange at a margin above par equal to the freight, insurance, commission, and brokerage, he unquestionably transmitted coin as being the most economical mode of making a remittance.

Clearinghouses representing bank members were developed in stock exchanges with the purpose of simplifying payments procedures. Consider a bank member of the clearinghouse. It had checks drawn on it in favor of other banks; it had checks deposited in it to be paid by other banks. The member bank cleared all the checks with the clearinghouse only. Its account was credited for a positive net balance and debited for a negative net balance, precluding frequent gold shipments.

## Theories for Economizing on Gold

John Law (1705) was a strong advocate of paper money. He called for substituting paper for metallic currency and freeing the economy

from the metallic constraint. His plan was to operate through the banking system, establish a landed bank, and emit paper based on the value of land. By doing so, he would solve the scarcity of money, divert resources from gold and silver mining to productive uses, and enable the economy to invest and grow faster. His system ended in a total chaos and bankruptcy in 1720.

Adam Smith (1776) advocated the same views as John Law, favoring substitution of costless paper to costly gold. Basically, Adam Smith's money theory formulated three principles: (i) bank deposits and banknotes are equal to gold and silver; (ii) banknotes cannot be issued in excess, and therefore not inflationary; (iii) and divert resources labor and capital resources from gold and silver production and to productive uses. In the words of Adam Smith the first principle stated: "A paper money, consisting in bank notes issued by people of undoubted credit, payable on demand, without any condition, and, in fact, always readily paid as soon as presented, is, in every respect equal in value to gold and silver money, since gold and silver money can at any time be had for it."

The second principle, the reflux principle, stated: "The whole paper money of every kind which can *easily* circulate in any country never can exceed the value of the gold and silver, of which it supplies the place, or which (the commerce being supposed the same) would circulate there if there was no paper money. Should the circulating paper at any time exceed that sum, as the excess could neither be sent abroad nor be employed in the circulation of the country, it must immediately return upon the banks to be exchanged for gold and silver."

The third principle stated: "The gold and silver money which circulates in any country may very properly be compared to a highway, which, while it circulates and carries to market all the grass and corn of the country, produces itself not a single pile of either. The judicious operations of banking, by providing... a sort of wagon-way through the air, enable the country to convert, as it were, a great part of its highways into good pastures and cornfields, and thereby to increase considerably the annual produce of its land and labor."

The principle of obsolescence of gold and silver was reiterated in the *Wealth of Nations*: "The domestic business of every country, it has been shown in the second book of this Inquiry, may, at least in peaceable times, be transacted by means of a paper currency, with nearly the same degree of convenience as by gold and silver money. It is convenience for the Americans, who could always employ with profit in the improvement of their lands a greater stock than they can easily

get, to save as much as possible the expense of so costly an instrument of commerce as gold and silver, and rather to employ that part of their surplus produce which would be necessary for purchasing those metals, in purchasing the instruments of trade, the materials of clothing, several parts of household furniture, and the iron-work necessary for building and extending their settlements and plantations; in purchasing, not dead stock, but active and productive stock.”

Considering that he wrote 50 years after Law’s system collapsed, it is strange that Adam Smith did not acknowledge that his money principles were in contradiction with Law’s banking experience. The suspension of paper convertibility by the Bank of England during 1797–1821 was also a contradiction to his principles. Adam Smith is known to be an advocate of free markets; yet, his views regarding money were in contradiction to his “invisible hand” and laissez-faire philosophy.

Adam Smith wrote in eighteenth-century Britain where virtually all his predecessors had denounced the new institution of fractional-reserve banking as inflationary and illegitimate. His friend David Hume (1752) had called for the radical repudiation of this institution on behalf of 100% specie-reserve banking. Other important writers had taken the same position, including Jacob Vanderlint in his *Money Answers All Things* (1734), and Joseph Harris (1702–1764), master of the Royal Mint, in his *An Essay Upon Money and Coins* (1757–1758). Harris had stated that banks were “convenient” so long as they “issued no bills without an equivalent in real treasure” but that their increases of credit beyond that limit are inflationary, and will eventually endanger the banks’ own credit.

If Smith had continued in his predecessors’ footsteps, his commanding authority and prestige might have been able to bring about a fundamental reform of the fractional-reserve banking system. Nevertheless, Smith, in his need to meld all monetary theory into a long-run labor cost of production approach, abandoned the quantity theory and the specie-flow-price mechanism in his discussion of paper money. No longer holding such credit to be inflationary, Smith went on to herald one of the major defenses of paper money, still held to this day: that gold and silver are mere “dead stock,” accomplishing nothing. The banks, by substituting their paper notes for specie, enable the country to convert a great deal of this dead stock into active and productive stock for industrial use and jewelry.

However, Adam Smith failed to mention that the stock of gold and silver also performed the function of being a money commodity, among

other functions, providing insurance against paper money inflation to every member of society, irrespective of whether such inflation were launched by the government or banks. The stock of gold, in short, performs a store of value service, which Smith overlooked. Smith's critique of specie as dead stock also stems from his belief that money is not a commodity serving as a medium of exchange, but a claim, a sign, a "voucher" to purchase. The French economist Charles Rist, critical of the dead stock approach and its influence on later generations, wrote, "This idea was seized upon with extraordinary alacrity and found high favor . . . It dominated the thought of English writers in the nineteenth century. The belief that the use of metallic money is a retrograde and costly system, to be discouraged by all possible means, is firmly fixed in British thought on currency and banking. The use of the check and the bank note was for a long time regarded only from this point of view. These two instruments were considered merely as means of economizing money; the idea was taken as the guide to the country's currency policy, and the most disastrous conclusions were drawn from it" (Rist 1938).

Charles Holt Carroll (1850s, 1965), a strong advocate of gold and 100 percent metallic reserve banking, severely criticized Adam Smith's debt money. He contended: "Smith was the first to discover and announce the truth that the currency cannot be permanently increased by the operations of banking; but he did not discover the more important truth, that the temporary increase is a loss of capital to the community which permits it. On the contrary, he supposed the paper substitute to be a gain, by saving the use and cost of gold and silver in the currency. There was never a greater mistake in any science, and never one so fatal to the stability of property and the well being of society. It is simply an exchange of solid capital for nothing, or for a piece of paper worth nothing—the worth being only in the property appropriated to its payment—because there cannot be two values in the same item of capital; one in the commodity, and another in the obligation to deliver it; one in money, and another in the promise to pay it. The paper promise, being merely a memorandum of an unfulfilled contract, and not the thing promised, must be an addition to the currency when issued, and therefore a false measure, unless the money promised is reserved against it, when it is a certificate of deposit, useful and desirable for any sum that would be inconveniently handled in gold or silver" (Carroll 1850s).

Carroll found the principle of reflux (banknote cannot exceed the metal it crowded out) to be delusive and wrong in its practical

application to daily business, although true as to the ultimate result. It was surprising that Smith should have made it, when he had the example of John Law's banking in France to refer to, before he wrote his *Wealth of Nations*. It was a thorough refutation of Smith's theory that Law issued bank notes, almost without limit, for nearly four years before the reflux of notes put the bank to any serious inconvenience. They were convertible all this time, of course, and specie, in dead loss, was running out of the country in payment for imported goods, at the fictitious prices created by the fictitious currency, moderately for a time, as its value gradually declined, but violently at last, with the accelerated loss of value, until the bank broke.

The truth was Law's bank notes did circulate *easily* and eagerly, greatly in excess of the gold and silver that they had replaced. The rise of prices they occasioned threw all France, excepting the Chancellor D'Auguesseau and the refractory Parliament, into an ecstasy of delight. A Plutus (i.e., God of Wealth) had come among them, and enraptured the nation with his skill in creating debt, and converting it into money. From May 1716, to the beginning of the year 1720, a span of four years, prices rose fourfold. The distinction between price and value being unknown, this rise in prices was supposed to be an increase of value and of wealth. The bank notes commanded gold on presentation at the bank. Were they not as good as gold? Who doubted it? Few suspected that this rise of prices was merely a depreciation of the value of money, and that the currency of the kingdom had fallen in value the exact equivalent of the rise of prices; but such was the fact; the livre had lost so much of its purchasing power, and other nations were taking the gold and silver of France for nothing. Precisely as many livres as were added to the currency in paper they were also added to prices, over and above their true money value; and neighboring nations poured their commodities into the kingdom, to be exchanged for the precious metals upon these terms, profitable to themselves, but ruinous for France.

Carroll refuted Adam Smith's statement that paper money, consisting of bank notes, was in every respect equal in value to gold and silver money. This principle implied that a banker does the same thing in effect for commerce and the general welfare, by writing a promise for a given amount of gold that he does not possess, as the miner who produces capital by raising the same amount of gold by hard labor from the bowels of the earth. Carroll thought: "No greater folly than this ever claimed the sanction of science in any department of human inquiry; but it is the principle of banking in which

bankers are engaged, and the essence of the paper money system. It is a quicksand, which the banks make for their own and all other business to stand upon. A deposit of dollars may have the sanction of the British school of political economy, and pass for good banking and good sense; because the doctrine of that school is commonly accepted that the medium of exchange is the only essential function of money. While that doctrine prevails, political economy, in my opinion, will not amount to a row of pins” (Carroll 1850s).

Carroll considered that money was a simple commodity governed by the same law of value and exchange as all other commodities and all other capital. For him, the so-called deposit involved the entire principle of the currency system of Europe and America. It was invented by the Bank of England, in 1694, or rather by the Scotchman, William Patterson, who invented that bank; and two other Scotchmen, John Law, the projector of the Mississippi scheme, and Adam Smith, have been chiefly instrumental in propagating the fallacy that this “deposit,” with nothing to it or behind it, is an economy of the precious metals. It amounts precisely to this and nothing more, that two men exchange promises, one being a banker, promising to pay on demand, which promises are to be offset in the end by a re-exchange of one against the other; meanwhile, the banker’s promise is to be called “money,” and regarded as equal in value to gold. For Carroll, money in trade is a commodity, a thing that is bought and sold; out of trade, it is simply wealth. It is the creature of commerce, not of government. It existed before government. When history began, it was gold and silver bullion circulating by the common unit of weight. Its essential function in commerce is that of capital as the common equivalent of value in exchange; and the prime element of an equivalent is always cost of production, its other elements being supply and demand. Instead of being a mere medium of exchange, it is the most conspicuous object of exchange in commerce, since, as the universal equivalent, it buys and pays for everything offered for sale, and is wanted, always and everywhere the world over.

David Ricardo was a founder of the gold-exchange standard. He was a free trade proponent who admonished the Corn Laws. He adhered to J. B. Say’s philosophy that the interference of government was justifiable only in two cases: first, to prevent a fraud, and second, to certify a fact such as licensing a medical doctor or a drug. He was a strong supporter of the gold standard and rejected Sir James Steuart’s idea of money without metallic standard. Ricardo maintained that there was no test by which the uniformity in the value of a currency



without a metallic standard can be ascertained. Such currency would be subjected to the greatest variations; the only use of a standard is to regulate the quantity of currency, and by the quantity the value of the currency—and that without a standard the currency would be exposed to all the fluctuations to which the ignorance or the interests of the issuers might subject it. When a standard is used, money is subject to such a variation in value only as the standard itself is subject to; but against such variation, there is no possible remedy. Gold and silver were subject to greater variations than desirable for a standard; however, they were best among any other possible standards.

In his book, *Proposals for an Economical and Secure Currency*, the standard of value was gold and silver. These two metals were indisputably chosen by humankind to be standard of value because of their stability and other desirable properties.<sup>2</sup> Ricardo's money system consisted of gold coins and convertible paper; however, paper, in form of banknotes was emitted by Bank of England as well as country banks through many channels that included advances and discounts of trade bills as well as loans to the government. Banknotes, therefore, did not constitute a one-to-one mapping of gold as postulated by the Currency principle. Ricardo made a distinction between price and value. The price of a commodity is its exchangeable value in money only. The value of a commodity is estimated by the quantity of other things generally for which it will exchange. Because gold is the standard of value, Ricardo maintained that a banknote issuer should be guided only by the price of gold bullion in terms of paper notes, that is, pounds/ounce, or £3 17s 10½ d. Other commodities, such as wheat, coal, clothing, tea, coffee, and hats are not standard of value, and therefore, a paper money issuer should not be guided by their prices.

Contrary to Adam Smith, Ricardo did not call for a displacement of gold by paper money; he wanted to use paper money as a supplement that regulates the value of the standard.<sup>3</sup> Taking advantage of the costless paper, he proposed a regulated paper currency, known as the gold-exchange standard whereby gold and paper circulated together at a fixed parity, which was the mint price of the gold bullion. According to Ricardo, the demand for gold coins may increase significantly due to increased economic growth (opulence), war financing, and exports of gold. In these conditions, the price of bullion falls below the mint price.<sup>4</sup> This is equivalent to a general deflation, where the prices of commodities, expressed in pounds, fall. Debtors will be hurt. Ricardo proposed that banknotes be issued until the price of bullion is equal

to the mint price. In the opposite, when the price of bullion rises above the mint price, there is a general inflation. Banknotes at the Bank of England as well as country notes should be reduced until the mint price of bullion is reestablished.<sup>5</sup> A well-regulated paper currency is helpful in support of commerce. To secure the public against any other variations in the value of the currency than those to which the standard itself is subject, and, at the same time, to carry on the circulation with a medium the least expensive, is to attain the most perfect state to which a currency can be brought.

Ricardo's proposals required the Bank of England to deliver bullion of gold or silver at the mint standard and price, in exchange for their notes instead of the delivery of guineas, by which means paper would never fall below the value of the bullion without being followed by a reduction of its quantity. To prevent the rise of paper above the value of bullion, the bank should be also obliged to give their paper in exchange for standard gold at the price of 3*l.* 17*s.* per ounce. The quantity of gold demanded from the bank, in exchange for paper at the Mint price of 3*l.* 17*s.* 10½*d.* or the quantity to be sold to the bank at 3*l.* 17*s.* should never be less than twenty ounces. The mint was to continue open to the public for the coinage of money. There would be total freedom to export or import every description of bullion. Small payments would be provided in the cheap medium, paper, instead of the valuable medium, gold, thereby enabling the country to derive all the profit, which may be obtained by the productive employment of a capital. The savings, which would take place from not submitting the guineas to the loss of weight from the friction, which they must undergo in their repeated journeys, as well as of the expenses of conveyance, would be significant.

Ricardo was not attempting to stabilize the internal price level or sterilizing the outflow of gold for foreign settlement. He was interested in the stability of the exchange rates within the gold points and in the free price-specie mechanism of David Hume. *He was addressing the scarcity or abundance of banknotes in relation to gold.* If gold becomes relative scarce due to higher demand, then it should be supplemented with paper without violating convertibility until the mint price is reestablished. If paper becomes depreciated, it should be retired until mint price is established. These adjustments can take place in addition to the price-specie flow mechanism. Ricardo money system has two prices, the mint price of bullion and the exchange rate. The outflow of gold forces an appreciation of gold in relation to commodities. When paper emission is not strictly related to gold at

100 percent, it is important that gold and paper maintain the same price, which is the mint price. This will prevent speculation on either gold or paper.

## Major Controversies Surrounding Gold

The battle between gold proponents and opponents originated from the debasement of coins. Gold is a market commodity that obeys the laws of values. The gold producer was forcibly exchanging a commodity against another commodity. The issuers of paper, whoever they might be, obtained commodities against nothing, a pure form of taxation. This was the essence of the battle. Governments often initiated wars and needed financing. Therefore, they resorted to issuing paper money as the easy way to finance them. Banks issued credit far above the metal reserves, and therefore had no gold to redeem their liabilities. Banks defaulted, as effectively did the Bank of England in 1931 and the United States in 1971. Many banks that fell in the nineteenth century were found to have not a single coin against their liabilities. The opponents of gold condemned gold as a fetter and barbaric, because they were not able to issue as much paper as they wished to acquire painless financing of their expenditures. Governments, financial groups, and debtors all had an interest in abolishing gold and emitting inconvertible paper. Gold detractors accused gold as deflationary, could not expand at the same rate as trade, and costly to maintain. In fact, banks have issued huge fictitious credit, by multiplying credit that no commodity in the economy, be it gold, tomatoes, or peanuts could support. It can be redeemed only by default or through inflated paper in form of rediscounts.

John Law was considered the father of paper money and inflationism; he was endeavoring to convince a dull world that poverty could be abolished by paper money. He wanted to free the economy from the metallic constraint by substituting paper money to costly gold and silver. The thrust of his doctrine was that costless paper money would create wealth; more specifically, every bit of paper printed would magically create corresponding quantities of corn, fruits, houses, and even inflating the size of the earth, making Scotland as wide as Law might have wished. Attackers of gold had absolute freedom to inflate paper money observing no limit, not even the sky,<sup>6</sup> as illustrated by Law's system and the German hyperinflation. Yet, all these episodes ended into disasters and general bankruptcies.

Today as well as in the past, opponents of gold and silver did not face up to a simple fact. The gold standard (or any system with a fixed rate to any asset or commodity) requires discipline in the issuance of paper money and money creation through the fractional reserve banking system. Excessive paper money and demand deposit creation would be problematic. This was not the fault of gold, or whatever asset was backing the currency, but excessive money creation. Money was invented as a mean of exchange and not a mean of taxation and confiscation of property. Paper money is not the same as real capital.

A major criticism leveled against gold standard is that money gold does not keep pace with real economic growth in an expanding economy and is therefore deflationary; as real GDP rises, the general price level has to decline because gold supply grows at a slower pace. There is no property of money that stipulates that gold should increase with potatoes, corn, or population. This view ignores the fact that money is only a medium of exchange; it is not a factor of production, such as capital or labor, which constrains production. The scarcity of gold was the property that made it money. Under the gold standard, there may be overexpansion of credit by the fractional reserve banking system and consequently high price inflation (Holden 1907). When the credit boom reaches either bank insolvency or debtors' default, then there is a financial crisis; the result is the same whether under a gold standard or fiat money. Debtors default; banks are bankrupted; and prices collapse. The difference between gold and paper money is that under gold, banks cannot be rescued and depositors lose their capital to debtors. Under the paper money, applying Bagehot's (1873) last resort theory, the central bank prints as much money as required to save banks. The loss is transferred, via inflation, to workers, pensioners, and creditors.

Under gold money, the economy developed structural flexibility for prices and wages. Under paper money, the economy has developed structural rigidities for prices and wages. The optimum money supply in a growing economy has been extensively discussed with no consensus. Milton Friedman (1969) suggested that money supply has to increase in line with real GDP growth. Likewise, Gustav Cassel (1921) maintained that gold output ought to increase at 3 percent per year to allow adequate supply of money. Bastiat (2011) noted: "It is a very unimportant circumstance whether there be much or little money in the world. If there is much, much is required; if there is little, little is wanted, for each transaction: that is all." Mises (1953) and Rothbard (1994) maintained that once a commodity has been

established as money and considered to be in sufficient supply, there is no social benefit from increasing its quantity. Hence, there is a benefit to increase the supply of wheat, oil, fruits, etc., since every addition of these goods enhances consumers' living standard; an increase in money has no benefit since no consumer consumes money; it only dilutes the purchasing power of money. Hume (1752) dismissed the issue of the optimal quantity of money because an economy adjusts to any nominal quantity of money. Hume claimed that if the United Kingdom's money were destroyed overnight by 4/5, the economy would simply adjust to a new money supply equal to 1/5 of the initial stock.<sup>7</sup> Moreover, under high inflation or hyperinflation, the economy adjusts to an ever-rising money supply and develops deep-rooted inflationary expectations. The real quantity of money is an endogenous variable. If prices adjust freely, they instantly clear the markets for labor and goods. However, if the central bank wants to obstruct market mechanism and inflate prices, it has available traditional channels that are larger fiscal deficits or higher credits.

In the context of Islamic finance, the most important factor for money instability, viz. interest-based credit, does not exist.<sup>8</sup> The money supply tends to be stable, implying the stability of the price level.<sup>9</sup> Asset prices are not exposed to speculation and high volatility as in conventional finance.<sup>10</sup> There are no loans for leveraging large positions in securities or in futures markets. It should be stressed that deflation under gold standard was never a harmful or disruptive deflation as those witnessed following a debt deflation and a collapse of the credit pyramid (Fisher 1933). Lord Farrer (1898) showed that deflation was generated by productivity gains and technical progress and was a channel for transmitting economic growth to consumers.<sup>11</sup>

## Conclusions

In this chapter, we have defined and elaborated on the gold standard, the banking institutions in which it operated, the advancement in payments techniques which saved on the use of gold within and across borders, the theories that were proposed either to displace gold by paper or to represent gold by paper, the major controversies around gold, and the incompatibility of monetary policy with gold. Gold insulated each economy from external shocks. Each economy that expanded its domestic credit lost its gold and had to retract to maintain fixed exchange rates.

Gold standard was elastic to the needs of the real economy but required discipline in the issuance of paper money and credit expansion. However, the temptation to print more and more un-backed paper money is invariably too great. Governments invariably fight wars and need to finance them and all their other expenditures. They found the easy way out and their excessive money creation was blamed on gold.

## Gold and the International Payments System

Under the gold standard, gold was the single world “money.” Exchange rates between national coins were fixed. Trade was the exchange of commodities for commodities, and gold intervened only occasionally. No country could settle trade with its paper money. The settlement of international transactions was through the foreign exchange markets and saved considerably on the use of the specie. The distribution of specie among nations was determined by the international trade; no nation would have more or less gold than determined by trade. The mechanisms of adjustment were described by authors who carefully observed the operations of the gold standard. These mechanisms were called the price-specie flow and the monetary nature of the balance of payments. Either mechanism can work only in an economy with the perfect flexibility of prices and wages, as existed during the eighteenth century. If government wages or private sector wages are fixed and prices are inflexible, then the mechanism of adjustment becomes problematic and leads to alternative nonmarket mechanisms such as the gold exchange standard, devaluation, and foreign exchange controls. In this chapter, we cover:

- The performance of gold as international money
- Payment instruments that economize on gold: bills of exchange, equity shares, loans, and bonds
- The foreign exchange market and gold
- The exchange rate and the gold export and import points
- International distribution of gold reserves
- The necessity of the price-specie adjustment mechanism
- The monetary approach to the balance of payments

## The Performance of Gold as International Money

Under the gold standard, practically, gold was the money used for payments settlement in international trade. Countries paid their commodity imports with their commodity exports along the principle set by the Ricardian theory of comparative advantage. If England produced wheat and clothing; then it would trade with Portugal only if Portugal had gold and gold was not redundant in England. The autarky model was totally inefficient for both countries. England and Portugal were far better by trading. England exported clothing to Portugal and imported wheat. The balance of trade was settled with one country sending the cheapest (relatively) commodity it had which happened to be the dearest in the partner country. Assume England had a deficit with Portugal, it would send steam engines and the balance was closed. It seems fairly clear that the trade deficit could be settled with gold only if gold became completely redundant in England.

Assume the world is formed of  $n$  countries and that the trade balance for each country is zero. Obviously, no gold is used in the international trade since all  $n$  countries will gather in a clearinghouse and settle balances against each other. Gold was a traded commodity; it would appear in the balance of a country only if it became redundant in the country and there was no cheaper commodity than gold.

In a globalized economy with free trade, the volume of trade increased considerably as commodities had to trade against commodities. Under the gold standard, economic growth was high in most of countries. Countries settled remaining balances with debt or equity ownership; very rarely were trade balances settled with gold. There was no paper money that circulated across countries; each country's banknotes were current only within the country's borders. Hence, the United Kingdom was never able to settle its trade balance with any country by sending Bank of England notes. It had to settle with gold when no other traded commodity was available. Similarly, France was not able to settle its trade balance by sending the banknotes of the Banque de France. The United States did not have a central bank, which issued banknotes, as did the United Kingdom, France, or Germany. It had, therefore, to send gold for balance of payments settlements.

The trade model after the dismantlement of gold was inefficient; each country built trade walls or barriers to trade. Under the prevailing system, countries with reserve currency face no constraints on their imports. For instance, the United States has been running



large external deficits with no interruption for many decades. They are all paid for with printed dollars. The quantity of dollars circulating outside the United States is very large. It is called Eurodollars. China, for instance, a major exporter that wants to import raw materials, food, energy products, has no choice except to use printed dollars. Academics and media blame high oil prices and raw materials prices on China's demand. If the United States had commodities for exports, and not paper money, there would be no inflation of commodity prices. If the dollar-based system is replaced by the pre-1914 gold system, then commodity price inflation will disappear. Currency speculation and hedging would diminish in importance.

### **Payment Instruments That Economize on Gold: Bills of Exchange, Equity Shares, Loans, and Bonds**

Gold was a standard of value among trading countries for many centuries. All prices were expressed in gold. Even though countries had different units of accounts such as the dollar, pound, franc, florin, etc. the exchange rates were established between the various trading countries, through fixed rates of their currencies to gold, according to weight and fineness of their respective currencies. All values were converted into bullion. There were specialized institutions in each trading center such as commercial banks, brokers, discount and merchant houses, etc., that settled trade with very limited movement of gold. The most convenient instrument for trade settlement was the exchange bill. Loans were also arranged through banks; similarly, equity and direct investment were taking place among the trading countries. In each foreign exchange market, such as the London foreign exchange market, bills of exchange drawn on London bankers on behalf of British importers were traded against bills of exchange drawn on Paris by British exporters to France. If the demand for foreign exchange bills by British importers from France exceeded the supply of bills of British exporters, the price of exchange bills was driven upward. Because there were more pounds offered against the supply of francs, the price of the francs in pounds would be driven up. However, this price could not exceed the export point of gold, as it would be cheaper to buy gold from the specialized trade houses and ship it to France in payment of their foreign exchange bills. Now assume that the United Kingdom has a positive balance with the United States and France has a negative balance with the United

States. The excess dollar bills in London are endorsed to French commercial houses, which they use to settle their balance with the United States.

## The Foreign Exchange Market

A bill of exchange is an order to pay money addressed by the drawer to the drawee, or the person on whom it is drawn, specifying the amount to be paid, the date of payment, and the person to whom it is to be paid. Whenever a bill is drawn, it is to be presumed that a debt is due from the drawee to the drawer. When presented to the drawee and accepted by him, this acceptance is an acknowledgement of the existence of the debt. The bill, although drawn in favor of a particular person, is transferable by endorsement, and thus represents a negotiable claim to receive money at a future date in a distant country. Hence, it is capable of being transmitted in discharge of another debt of an equal amount.

If England buys cotton from America and America buys linen from England, it would be absurd that a double current of specie should be passing across the Atlantic Ocean in payment for these goods when the intervention of a few paper acknowledgments of debt will enable the goods passing in one direction to pay for those going in the opposite direction. The American merchant who had shipped cotton to England can draw a bill upon the consignee to an amount not exceeding the value of cotton, selling the bill in New York to a party who had imported linen from England to an equivalent amount. The bill would be transmitted by post to the English creditor, presented for acceptance to the English debtor and one payment in cash on maturity would close the circle of transactions. Money intervenes twice, once the bill is sold in New York, and once it is finally cancelled in England; but it is evident that the payment between two parties in one city is substituted for payment across the Atlantic. Moreover, the payments may be implemented by checks or the bills (when due) may be presented through the clearinghouse and balanced off against other bills and checks. The use of metallic money may seem to be rendered almost superfluous.

It is an unnatural supposition that every importer of goods would meet an exporter of goods to the same amount, so that transactions would exactly balance. However, there would be many merchants in England indebted to American merchants, and many American merchants indebted to others in England. Hence, there would be a

continual supply of bills of various amounts, and a continual demand. It becomes profitable for certain houses or banks to deal in bills, purchasing bills from those who can draw and selling to those who wish to remit. Large merchant firms would often have houses both in America and in England, or a firm in one country has agents or correspondents in the other with whom it keeps a running account. The general principle is that bills of exchange drawn on any particular place constitute a new kind of article, subject to the laws of supply and demand. Any circumstance diminishing the supply, or increasing the demand, raises the price of such bills, and vice versa. The price being raised, there is additional profit in any transaction that allows a new supply of bills to be drawn. The export of any kind of good in greater quantities tends to restore the balance; but, if required, coin or bullion can be sent toward some cost and bills drawn against it. Thus, the cost of transmitting specie is the limit to the premium on bills. Between each trading country, there are export and import points for gold. The exchange rate normally cannot appreciate below the import of gold point and cannot depreciate above the exports of gold point. The export and import points in the New York foreign exchange market were not the same for Britain, India, or China. The cost of shipping gold between New York and London would be cheaper than shipping gold between New York and Bombay (i.e., Mumbai) or New York and Shanghai or Hong Kong.

### International Distribution of Gold Reserves

The United Kingdom, the model of the gold standard, never produced a gram of gold. It had no gold mining; yet it acquired gold through its trade. David Hume, Adam Smith, and David Ricardo best treated the theory of the distribution of gold among nations, producers, or nonproducers. Gold and silver having been chosen for the general medium of circulation, they were, by the competition of commerce, distributed in such proportions amongst the different countries of the world as to accommodate themselves to the natural traffic that would take place if no such metals existed and the trade between countries were purely a trade of barter.

The precious metals employed for circulating commodities around the world were assumed to have been divided among nations according to the state of their commerce and wealth, and therefore according to the number and frequency of the payments which they had to perform. While so divided, they preserved the same value everywhere,

and as each country had an equal necessity for the quantity actually in use, there could be no temptation offered to either for their importation or exportation. Gold and silver, like other commodities, have an intrinsic value, which is not arbitrary, but is dependent on their scarcity, the quantity of labor bestowed in procuring them, and the value of the capital employed in the mines which produce them. If the quantity of gold and silver in the world employed as money were exceedingly small, or abundantly great, it would not in the least affect the proportions in which they would be divided among the different nations—the variation in their quantity would have produced no other effect than to make the commodities for which they were exchanged comparatively dear or cheap. The smaller quantity of money would perform the functions of a circulating medium, as well as the larger. Ten million would be as effectual for that purpose as one hundred million. Adam Smith observed “that the most abundant mines of the precious metals would add little to the wealth of the world. A produce of which the value is principally derived from its scarcity is necessarily degraded by its abundance.” If in the progress toward wealth, one nation advanced more rapidly than the others did, that nation would require and obtain a greater proportion of the money of the world. Its commerce, its commodities, and its payments, would increase, and the general currency of the world would be divided according to the new proportions. All countries would therefore contribute their share to this effectual demand. In the same manner, if any nation wasted part of its wealth, or lost part of its trade, it could not retain the same quantity of circulating medium that it possessed prior to such loss. A part would be exported and divided among the other nations until the usual proportions were reestablished.

While the relative situation of countries continued unaltered, they might have abundant commerce with each other, but their exports and imports would on the whole be equal. England might possibly import more goods from—than she would export to—France, but she would in consequence export more to some other country, and France would import more from that country; essentially, the exports and imports of all countries would balance each other; bills of exchange would make the necessary payments, but no money would pass because it would have the same value in all countries.

If a gold mine were discovered in either of these countries, the currency of that country would be lowered in value in consequence of the increased quantity of the precious metals brought into circulation, and would therefore no longer be of the same value as that of other

countries. Gold and silver, whether in coin or in bullion, obeying the law which regulates all other commodities, would immediately become articles of export; they would leave the country where they were cheap for those countries where they were dear, and would continue to do so as long as the mine should prove productive and until the proportion existing between capital and money in each country before the discovery of the mine were again established, and gold and silver restored everywhere to one value. In return for the gold exported, commodities would be imported; and though what is usually termed the balance of trade would be against the country exporting money or bullion, it would be evident that it was carrying on a most advantageous trade, exporting that which was no way useful to her, for commodities which might be employed in the extension of her manufactures, and the increase of her wealth. If instead of a mine being discovered in any country, a bank were established, such as the Bank of England, with the power of issuing its notes for a circulating medium, then after a large amount had been issued either by way of loans to merchants, or by advances to the government, thereby adding considerably to the sum of the currency, the same result as in the case of the mine would follow. The circulating medium would be lowered in value, and goods would experience a proportionate rise. The equilibrium between that and other nations would only be restored by the exportation of part of the coin.

The export of the specie may at all times be safely left to the discretion of individuals; it will not be exported more than any other commodity, unless its export should be advantageous to the country. If it were advantageous to export it, no laws can effectually prevent its export. Happily, in this case, as well as in most others in commerce where there is free competition, the interests of the individual and that of the community are rarely at variance.

Thus then it appears that the currency of one country can never for any length of time be much more valuable, as far as equal quantities of the precious metals are concerned, than that of another; that excess of currency is but a relative term; that if the circulation of England were ten million, that of France five million, that of Holland four million, etc. etc. whilst they kept their proportions, though the currency of each country were doubled or trebled, neither country would be conscious of an excess of currency. The prices of commodities would rise everywhere on account of the increase of currency, but there would be no export of money. But if these proportions were destroyed by England alone doubling its currency, while that

of France, Holland, and other countries. continued as before, there should then be an excess of currency in England, and for the same reason, the other countries would feel a deficiency in theirs, and part of the excess would be exported till the proportions of ten, five, four, etc. were again established.

If in France an ounce of gold were more valuable than in England, and would therefore purchase more of any commodity common to both countries, gold would immediately quit England for such purpose, and England should send gold in preference to anything else, because it would be the cheapest exchangeable commodity in the English market; for if gold were dearer in France than in England, goods must be cheaper; England should not therefore send them from the dear to the cheap market, but, on the contrary, they would come from the cheap to the dear market, and would be exchanged for England's gold.

The Bank of England might continue to issue notes and the specie continue to be exported with advantage to the country, while its notes were payable in specie on demand, because it could never issue more notes than the value of coin which would have circulated had there been no bank. If the Bank attempted to exceed this amount, the excess would be immediately returned to the Bank for specie; British currency, being thereby diminished in value, could be advantageously exported and could not be retained in our circulation. These are the means by which the British currency endeavors to equalize itself with the currencies of other countries. As soon as this equality were attained, all advantage arising from exportation would cease. In this manner, if the Bank of England persisted in returning its notes into circulation, every guinea might be drawn out of their coffers. In this view of the subject, then, it appears that the temptation to export money in exchange for goods, or what is termed an unfavorable balance of trade, never arises except from a redundant currency.

## The Necessity of the Price-Specie-Flow Adjustment Mechanism

An important contribution of Hume was his elucidation of monetary theory; in particular, his clear exposition of the price-specie-flow mechanism that equilibrates national balances of payments and international price levels. Hume analyzed the effects of international transactions in a gold standard, a system in which gold is the official means of international payments and each nation's currency is in the

form of gold itself, or of paper currency fully convertible into gold. Hence, there were no exchange rates between inconvertible monies as in today's economies. Countries could be assumed to have a single currency, which was gold. There were no central banks that sterilized gold flows. The price-specie-flow mechanism is the quantity theory extrapolated into the case of many countries. The rise in the supply of money in country A will cause its prices to rise; but then the goods of country A are no longer as competitive compared to other countries. Exports will therefore decline, and imports from other countries with cheaper goods will rise.

The balance of trade in country A will therefore become unfavorable, and specie will flow out of A in order to pay for the deficit. However, this outflow of specie will eventually cause a sharp contraction of the supply of money in country A, a proportional fall in prices, and an end to, indeed a reversal of, the unfavorable trade balance. As prices in A fall back to previous levels, specie will flow back in until the trade is in balance, and until the price-levels in terms of specie are equal in each country. Thus, on the free market, there is a self-correcting force at work that equilibrates balances of payments and price levels and prevents inflation from going very far in any given country.

Hume's price-specie-flow mechanism was lucid. For this mechanism to function, prices and wages had to be perfectly flexible. Any rigidity of wages and prices in any sector of the economy will cause slow adjustment. For instance, fixity of wages in the public sector or minimum wage laws would impair Hume's mechanism. Richard Cantillon (1730)<sup>1</sup> studied the income effect of changes in money supply on trade balance. More specifically, if the money supply in country A increases, it will equilibrate not only by prices rising in A, but also by the fact that monetary assets and incomes are higher in A, and therefore, more money will be spent on imports. This income, or more precisely, the cash balance effect, will generally work faster than the price effect.

## The Monetary Approach to the Balance of Payments

The monetary approach to the balance of payments is an extension of Hume's trade balance to include capital flows. It concentrates on the equilibrium of the money market. We have:

$$\text{Gold (G) + Credit (C) = Money supply (M)}$$

In terms of changes, we have:

$$\Delta G + \Delta C = \Delta M$$

Equilibrium in the money market requires money supply to be equal to money demand; or equivalently:

$$\Delta G + \Delta C = 0$$

The central theorem is that an expansion of credit will push money supply above money demand; consequently, gold will leak to foreign destination in form of imports or equity investment.

The fundamental insight of the monetary approach is that the balance of payments is essentially a monetary phenomenon. The very concept of a balance of payments implies the existence of money. Indeed, it would be impossible to have a balance-of-payments surplus or deficit in a barter economy. This being the case, any endeavor to explain balance-of-payments phenomena must naturally focus on the supply of and demand for the money commodity. The monetary approach consists in the rigorous delineation of the implications of this simple yet powerful insight for the analysis of balance-of-payments disequilibrium, adjustment, and policy. If no other relations than those of barter exist between the inhabitants of two areas, then balances in favor of one party or the other cannot arise. Money is the active element in the balance of payments; it is not as a residual item that passively adjusts to the real flows of goods and capital. The international movements of money are not consequences of the state of trade; they constitute not the effect, but the cause, of a favorable or unfavorable trade balance. The precious metals are distributed among individuals and hence among nations according to the extent and intensity of their demand for money. The balance-of-payments disequilibrium is an integral phase in the process by which individual and hence national money holdings are adjusted to desired levels. Thus, for example, the development of the excessive demand for money in a nation will result in a balance-of-payments surplus as market participants seek to augment their money balances by increasing their sales of goods and securities on the world market. The surplus and the corresponding inflow of the money commodity would automatically terminate when domestic money balances have reached desired levels and the excess demand has been satisfied. Conversely, a balance-of-payments deficit is part of the mechanism by which an excess supply of money is adjusted. Hence, as the US expands its money, the excess translates into imports.



In a society in which commodity transactions are monetary transactions, every individual enterprise must always take care to have on hand a certain quantity of money. It must not permit its cash holding to fall below the definite sum considered necessary for carrying out its transactions. On the other hand, an enterprise will not permit its cash holding to exceed the necessary amount, for allowing that quantity of money to be idle will lead to loss of interest. If it has too little money, it must reduce purchases or sell some goods. If it has too much money, then it must buy goods. An unemployed laborer whose money holding becomes low will reduce his wage to generate income.<sup>2</sup> In this way, every individual sees to it that he is not without money. Because everyone pursues his own interest in doing this, it is impossible for the free play of market forces to cause a drain of all money out of the city, a province, or an entire country.

In a pure gold standard, the balance of payments is self-correcting. The market maintains a sufficient quantity of gold within the country. Under the forces of free trade, gold would leave the country only if a surplus of cash balances were on hand. Conversely, it would always flow into the country if cash balances were insufficient. Thus, the monetary-adjustment process ensures that gold money, like all other commodities, is imported when in short supply and exported when in surplus.

An implication of this view of the balance of payments as a phase in the monetary adjustment process is that international movements of money that do not reflect changes in the underlying monetary data can only be temporary phenomena. International movements of money, as far as they are not of a transient nature and consequently, soon rendered ineffective by movements in the contrary direction, are always called forth by variations in demand for money. If the state of the balance of payments is such that movements of money would have to occur from one country to the other, due to real disturbances and independently of any change in demand for money on the part of their respective inhabitants, then operations are induced which reestablish equilibrium. A real disturbance in form of a shift in relative demands from domestic to foreign products would create a temporary deficit in the balance of payments in the absence of the development of an excess supply of domestic money and a corresponding outflow of money from the nation as domestic consumers shift their expenditures from domestic products to foreign imports.

This flow of money disrupts the prevailing equilibrium in the inter-individual distribution of money balances and is, therefore, ultimately

self-reversing. Thus, the domestic producers of those goods for which demand has declined experience a shrinkage of their incomes, which threatens to leave them with insufficient money balances. On the other hand, the foreign producers, the demand for whose products have increased, experience an augmentation of their incomes and a consequent buildup of excess money balances. Both groups readjust their money balances to desired levels; they initiate a balance-of-payments adjustment process that will reestablish the original, equilibrium distribution of money holdings among individuals, and hence among nations.

Those persons who receive more money than they need hasten to spend the surplus again as soon as possible, whether they buy investment goods or consumption goods. On the other hand, those persons whose stock of money falls below the amount they will need will be obliged to increase their stock of money, either by restricting their purchases or by disposing of commodities in their possession. The price variations, in the markets of the countries in question, that occur for these reasons give rise to transactions that must always reestablish the equilibrium of the balance of payments. A debit or credit balance of payments that is not dependent upon an alteration in the conditions of demand for money can only be transient.

According to the monetary approach, a chronic balance-of-payments deficit can only result from an inflationary monetary policy that continuously introduces excess money balances into the domestic economy via bank-credit creation. The deficit and the corresponding outflow of gold reflects the repeated attempts of domestic money holders to rid themselves of these excess balances, which are being recreated over and over again by the inflationary intervention of the monetary authority. The deficits will only be terminated when the inflationary monetary policy is brought to a halt or the stock of gold reserves is exhausted. Tariffs and other protectionist measures will fail to rectify the situation, since they do not address the fundamental cause of monetary disequilibrium.

If the government introduces quantities of inconvertible banknotes or government notes into the trading markets, then this must lead to a monetary depreciation. The value of the monetary unit declines. However, this depreciation in value can only affect the inconvertible notes. Gold money retains all, or almost all, of its value internationally. However, since the state—with its power to use the force of the law—declares the lower-valued monetary notes equal in purchasing power to the higher-valued gold money and forbids the gold money from being traded at a higher value than the paper notes, the gold

coins must vanish from the market. They may disappear abroad. They may be melted down for use in domestic industry; or they may be hoarded. No special government intervention is needed to retain the precious metals in circulation within a country. It is enough for the state to renounce all attempts to relieve financial distress by resorting to the printing press. To uphold the currency, it needs to do no more than that. All orders and prohibitions, all measures to limit foreign exchange transactions, etc., would be useless.

Historically, the fractional banking system has contributed to inflate prices within an economy beyond what circulating gold would allow. The outflow of gold would cause a balance of payments deficit. This has led to tariffs, control of foreign exchange, and even dismantlement of the gold system. The proposal of 100% reserve banking has been advanced by many authors in the past in order to maintain a one-to-one mapping between real economy and financial flows.

The implication of the monetary approach is that the nation will never alter the level of its stock of money unless it is dissatisfied with it, that is, unless there is an excess supply of or demand for domestic money. A further implication is that all international movements of money will be equilibrating, the result of deliberate steps undertaken by nations to adjust their actual money balances to desired levels. National payments, surpluses and deficits, then, are logically always associated with the adjustment of monetary disequilibrium. A shift in relative demands from domestic to foreign products would create a temporary deficit in the balance of payments in the absence of the development of an excess supply of domestic money. There would indeed emerge an initial balance-of-payments deficit and corresponding outflow of gold from the nation as domestic consumers shift their expenditures from domestic products to foreign imports. Now, from the point of view of these individual domestic consumers, this outflow of gold is equilibrating, because it demonstrably facilitates their attainment of a more preferred position. Nevertheless, from the point of view of the economic system as a whole, far from serving to adjust a preexisting monetary disequilibrium, this flow of money disrupts the prevailing equilibrium in the inter-individual distribution of money balances and is therefore ultimately self-reversing.

## Conclusions

The chapter covered the international gold standard. Gold was the single world currency, which facilitated trade. The international payments system was highly advanced with foreign exchange markets

operating in each country. The distribution of gold among nations was determined by the market in such a way no country had an excess or a deficit of gold. Each country had a perfectly flexible wage and price structure; adjustment to gold inflows and outflows were quick as the economy was used to adapt rapidly to the gold scarcity or plenty, as noted by David Hume. This flexible mechanism was named the Hume price-specie-flow mechanism. The mechanism was generalized to the monetary approach of the balance of payments. Accordingly, monetary and real disturbances resulted in a balance of payments imbalance, which was corrected simply by changes in the demand for gold. The international gold standard was equitable, no country was able to inflate and use its own paper to secure perpetual trade deficit. Inevitably, it lost gold and had to adjust through the price-specie-flow mechanism.

With the advent of fractional banking, the appearance of power groups, and the immense extension of the role of government in the economy, the market adjustment process was totally impaired, particularly in the United Kingdom and the United States. The wage-price rigidity became impaired. These countries resorted to antimarket techniques and to coercion. The most important anti-market devices were the gold exchange standard and the currency depreciation. These practices enable these and other industrial countries to dismantle the gold standard and secure trade benefits through antimarket techniques. In the gold exchange standard, the United Kingdom and the United States each forced other countries to use the sterling and the dollar as reserve currencies. Hence, these governments can inflate ad lib without facing any gold constraint.

## Bimetallism and the Gold-Exchange Standard

Bimetallism was a metallic system where gold and silver were declared by the government to be standards of value, and unlimited legal tender monies at a fixed ratio. The purpose of bimetallism was to allow both metals to circulate at par and prevent fluctuations in the ratio of gold and silver, which could derange trade. However, fixing any price by the government amounts to fixing the height of the tide. Arbitrage, known as the Gresham's law, played and made the market choose only one standard, either gold or silver. Bimetallism could not, in practice, be maintained. Eventually, countries had to choose one metal as a standard, the one selected by its domestic market. Many countries demonetized silver in the nineteenth century, which led to exorbitant fall in silver with relation to gold and a detrimental silver depreciation for silver countries. These countries found it necessary to stabilize their currencies vis-à-vis gold; consequently, they had to close the mints for silver, establish a gold fund, and strictly link silver currency to the gold fund movement at a fixed gold-silver rate.

Besides its massive destruction of capital and especially of young, productive lives, the 1914 war dismantled the gold standard in all warring nations, inflated paper money in these nations, and caused unusual fiscal deficits. The Genoa Conference in 1922, on the heel of the Brussels Conference in 1920, sought to reconcile warring nations and address the sequels of the war. Its monetary proposal was the gold-exchange standard, a proposal designed to downplaying the role of gold and limiting its demand. It called for the creation of central banks in countries that did not have one, and established reserve currencies as a foreign exchange in lieu of gold. The Genoa system failed badly in 1931, with the author of the system, the United Kingdom, exiting the system.

Following the 1939–1945 war, the commercial nations wanted to reform the international payments system exactly along the principles of the Genoa Conference, namely, obstructing the role of gold and preventing its deflationary mechanism, which would be impossible in the context of the new wage and price rigidities and large public sectors characterizing the industrial nations. The only distinct feature was the creation of a new institution called the International Monetary Fund (IMF), which would act as a lender of last resort and prevent deflationary adjustments. The whole international payments system was to be pyramided on the US dollar, and the United States to pyramid on gold. The system collapsed in 1971 as the US cut the link between the dollar and gold. This chapter covers:

- Definition of bimetallism
- Examples of bimetallism
- Gresham’s Law and shortcomings of bimetallism
- Demonetization of silver and the silver agitation—inflationism
- Opposite views of mono-metallists and bimetallists
- Introduction of the Gold-Exchange Standard during the nineteenth century and early twentieth century
- The Gold Exchange Proposals of the 1922 Genoa Conference
- The Failure of the Genoa Gold Exchange Standard
- Bretton Woods system of fixed exchange rates and its demise

## Definition of Bimetallism

Gold and silver have regularly circulated together both as coins and bullion. Depending on the wealth of a nation and the extent of its domestic trade, a country was on a gold standard or a silver standard. In a gold standard, the gold coin was in circulation as a medium of exchange and constituted also the standard unit of value and the measure of property. The mint indenture defined the weight and fineness of the gold coin. The silver coin circulated as a token money and was subservient to gold. It was a legal standard for small denominations. A silver standard meant the silver coin circulated as a principal medium of exchange; it was the standard unit of value and the measure of property. The mint indenture defined the weight and fineness of the silver coin. Silver was legal tender for any amount. Gold coins circulated as a commodity at variable market rates in relation to silver.

Bimetallism was a monetary standard in which the standard of value (i.e., monetary unit) was defined as equivalent both to a certain

quantity of gold and to a certain quantity of silver; such a system established a fixed rate of exchange between the two metals. The three defining characteristics of bimetallism were:

- The state declared a fixed ratio between gold and silver, such as 15 ½ ounces of silver to one ounce of gold.
- The government's Mint converted both gold and silver into legal tender coins for individuals in unlimited quantities according to their weight and fineness specifications. This was called free coinage because the mints were open to both gold and silver. People could bring gold bullion to the Mint and get gold coins in exchange; or silver bars and get silver coins; but they could not convert silver bars to gold coins or gold bars to silver coins.
- Both gold and silver money were legal tender in unlimited amounts.

In a bimetallic system, the official ratios of gold and silver were established by law. It defined how many ounces of silver were equivalent to one ounce of gold. In parallel, there was a market ratio between gold and silver. As gold and silver had other uses beside money (jewelry, false teeth, etc.), there was also an active market for both metals, called the bullion market where their price changed daily, as the force of supply and demand moved it back and forth. Often, the market and mint ratios differed and were rarely the same. A coin was undervalued when its official price was less than the real value that the coin possessed when melted down and sold as bullion. Conversely, a coin was overvalued when it would be worth less as a metal than as a coin.

Silver was said to be underpriced at the Mint. Silver holders would sell silver on the bullion market, buy gold bars, and have gold made into coins. Therefore, nobody would buy a commodity or pay a debt with a coin whose metal content was worth more than its legal-tender value, and those undervalued coins were either melted or hoarded. Conversely, overvalued coins whose value as a legal tender was greater than the market value of their metal bullion were the only ones to circulate. Bad money drives out good money, as Gresham's Law states.

## Examples of Bimetallism

During the period 1663–1798, England had a bimetallic regime that fulfilled the three basic precepts of bimetallism, namely, (i) fixed mint ratio between gold and silver coins, (ii) free coinage of both metals, and (iii) unlimited legal tender for both metals. The gold coin was

called the guinea and the silver coin was called the shilling. In the English Mint, a pound weight of standard silver bullion was coined into 62 shillings, containing, in the same manner, a pound weight of standard silver. The guinea was a coin that was minted between 1663 and 1816. It was the first English machine-struck gold coin, originally worth one pound sterling, equal to 20 shillings. Guineas were later coined as 20 shillings pieces, and declared by the mint indenture to be current as such. Nevertheless, rises in the price of gold relative to silver caused the value of the guinea to increase, at times to as high as 30 shillings of silver. In the mints of several foreign countries, the value of gold compared with that of silver was rated higher than in England. These metals varied occasionally in their value, even at the same time, in different countries; and exchange brokers, and many bankers, were induced, on this account, to carry on trafficking in these metals, and in the coins made of them, to their own profit, and to the loss of others.

In 1789, the US Constitution established gold and silver as the legal tender of the United States at a floating exchange rate. Then in 1792, Secretary of the Treasury Alexander Hamilton proposed fixing the silver to gold exchange rate at 15:1, as well as establishing the mint for the public services of free coinage and currency regulation in order not to abridge the quantity of circulating medium. The Coinage Act of 1792 established that “the proportional value of gold to silver in all coins which shall by law be current as money within the United States, shall be as fifteen to one, according to quantity in weight, of pure gold or pure silver.”

## Gresham’s Law and the Shortcoming of Bimetallism

In a bimetallic system, the law fixed a ratio between gold and silver weights, or equivalently, declared a fixed exchange rate between the two coins at which transactions and payments were undertaken. Theoretically, this was equivalent to fixing, for instance, the price of one kilogram of wheat as equal to two kilograms of barley. However, market forces originating in the cost of production, demand, climate, may make the ratio between wheat and barley diverge from the official ratio.

Lord Liverpool (1805) in his celebrated letter to the King on the Coin of the Realm showed meticulously that silver and gold could not both be standard measures of value at the same time. He stated, “I



have observed that gold and silver in reference to each other are estimated at your Majesty's Mint at a different value or price than these metals are generally sold for at the market. As long as this difference subsists, both these metals will not be brought in a sufficient quantity to the Mint to be coined: that metal only will be brought, which is estimated at the lowest value with reference to the other; and coins of both metals cannot be sent into circulation at the same time, without exposing the public to a traffic of one sort of coin against the other; by which the traders in money would make a considerable profit. To prevent this evil, it is necessary to determine whether there must not be a standard, or superior coin, made of one metal only; and whether the coins made of other metals must not be made, and take their value, with reference to this standard coin, and become subservient to it, and, in such case, of what metal this standard coin, to which the preeminence and preference are to be given, should be made. When coins are made of different metals are equally legal tender, there will of course be two measures of property, differing occasionally from each other. Those who traffic in coins, by exchanging the coin that has the least intrinsic value for that which has the greatest, will make a profit. The debtor will find it his interest to make payments in the coin made of the metal, which is overvalued at the Mint; and such coins, as are made of the metal undervalued at the Mint, will always be melted down and exported" (Lord Liverpool 1805).

Lord Liverpool emphasized that the money or coin, which is to be the principal measure of property, ought to be made of one metal only. Such was the opinion of Sir William Petty (1623–1687), Mr. Locke (1632–1704), Mr. Harris (1757), and of all the eminent writers on coins. Sir William Petty said that one of the metals was the only fit matter for money. Mr. Locke called this sort of money the money of account or the measure of commerce or contracts; and he added that two metals such as gold and silver could not, both together, be the measure of commerce in any country. Mr. Harris, in his *Essay on Money and Coins*, delivered it as his opinion that only one metal can be the money, or standard measure of property and commerce in any country; and he called this sort of money the standard money. The coins, which were the principle measure of property, must of course be legal tender without limitation. Lord Liverpool insisted that Sir William Petty, Mr. Locke, and Mr. Harris, were decidedly of opinion that the coins, which were to be the principal measure of property, must be made of one metal only; and that their opinion on this point was too well founded to be shaken.

Sir William Petty observed that money was understood to be the uniform measure of the value of all commodities; and then added, that the proportion of value between pure gold and fine silver altered, as the earth and industry of men produced more of one than the other. That gold was worth but twelve times its own weight of silver, but it rose to 14, so there could be but one of the two metals of gold and silver to be a fit matter for money.

Mr. Locke observed, that two metals, as gold and silver, cannot be the measure of commerce both together in any country; because the measure of commerce must be perpetually the same, invariable, and keeping the same proportion of value in all its parts; but so only one metal does and can do to itself. An ounce of silver was always of equal value to an ounce of silver, and an ounce of gold to an ounce of gold; but gold and silver changed their value one to another; and one may as well make a measure, namely a yard, whose parts lengthen and shrink, as a measure of trade, of materials, that have not always a settled invariable value to one another. One metal therefore alone can be the money of account and contract, and the measure of commerce in any country.

Mr. Harris said that one only of these metals, that is, gold or silver, could be the money or standard measure of commerce in any country; for the standard measure must be invariable and keep the same proportion of value in all its parts. Such is silver with respect to silver, and gold-to-gold. However, silver and gold with respect to one another are like other commodities, variable in their values, according to the time, as possessing plenty of either might be increased or diminished in value subsequently; and an ounce of gold that is worth a given quantity of silver today, may be worth more or less silver later. It is therefore impossible, that both these metals can be a standard measure of the value of other things at the same time. The currency of the gold coin should be regulated by weight as well as by tale, and several pieces should not be legal tender, if they diminished, by wearing or otherwise, below a certain weight. The practice of all governments in every age has coincided with the opinion of Mr. Harris; and experience has evinced the necessity of fixing, by public authority, the rate, or value of coins of every denomination, permitted to be current as lawful money, or legal tender. The coins of every kingdom or state are the measure of property and commerce within every such kingdom or state, according to the nominal value declared and authorized by the government, so far as they are made legal tender.

Lord Liverpool recognized the necessity of making coins that are the principal measure of property of one metal, and the propriety of making coins of different metals for the commerce of traffic. He stated: "Certain, however, as the principle is, that the money or coins of any country, which are to be the principal measure of property, can be made of one metal only; the convenience of traffic necessarily requires, that in rich and commercial countries, there should be coins made of several metals, adapted to the several sorts of purchases or exchanges, for which they are intended. Coins made of gold alone, or of silver alone, in such countries, will not answer all the purposes of traffic. Coins of gold are not well adapted for the retail trade, in which sort of traffic the greatest number of the subjects of every country are principally concerned; and coins of silver are too bulky for larger payments, and are, in that respect, inconvenient.—It is necessary therefore, that in commercial countries there should be coins made of different metals. And if the coins, which are the principal measure of property and instrument of commerce can only be made of one of these metals; the inferior coins, made of other metals, must be legal tender only in a limited degree, as the government shall direct; and so far only they are the measure of property: and if they are accepted in payment for a larger sum, with the consent of the receiver, (as may sometimes be the case), they may then be said to be the representatives of the coins which are the principal measure of property, and their value must be made to correspond with it, as accurately as the nature of the subject will admit" (Lord Liverpool 1805).

The coins of every kingdom or state are the measure of property and commerce, within every such kingdom or state, according to the nominal value declared, and authorized by the government, so far as they are made legal tender. In exchanges with foreign countries, and in payments made to them, the intrinsic value of the metal, of which the coin is made, is the only measure of property and commerce; because the authority of government cannot extend to regulate payments made in foreign countries, where they have no power or jurisdiction.

David Ricardo noted the instability of bimetallism: "Whilst each of the two metals was equally a legal tender for debts of any amount, we were subject to a constant change in the principal standard measure of value. It would sometimes be gold, sometimes silver, depending entirely on the variations in the relative value of the two metals; and, at such times, the metal which was not the standard would be

melted and withdrawn from circulation, as its value would be greater in bullion than in coin” (Ricardo 1810).

Upon the reformation of the silver coin in the reign of William III, the price of silver bullion still continued to be somewhat above the mint price. Mr. Locke imputed this high price to the permission of exporting silver bullion, and to the prohibition of exporting silver coin. This permission of exporting, he said, rendered the demand for silver bullion greater than the demand for silver coin. But the number of people who want silver coin for the common uses of buying and selling at home, is surely much greater than that of those who want silver bullion either for the use of exportation or for any other use.

Dana Horton (1877) noted: “We are speaking of nothing less than the unstable equilibrium of the metals, the variability of their relative value, the danger of local alternation from one to the other; in a word, that difficulty of maintaining a steady circulation of the two, or a fixed ratio between them, which is the staple source and aliment of the Battle of the Standards. So ancient withal is this difficulty, that, if I may venture to direct a ray of thought toward such remoteness, I suggest that its story is better known to the totality of men who have lived on the earth than that of Adam and Eve in Paradise; for the Silver Adam and the Gold Eve, each the source of the other’s woes, wherever known, appeared not merely as tradition, but withal as a fact of the day, appealing to present pecuniary interest. We have, in fact, to deal with a product of that alleged primal curse of duality with which fate has afflicted man, a natural result of that act of Creation or provision of Nature in making two precious metals, two metals, instead of only one, fit to be money, which in our day a school of economists have discovered to be a gross blunder on the part of its responsible author. This, then, is the difficulty for which Petty found the solution—in doing which he was but an *avant-courrier*, announcing for a remote future the coming of a great reform.”

## Demonetization of Silver and the Silver Agitation

Historical facts have clearly shown that gold and silver could not be standard in value at the same time in a given country. Arbitrage leads to the choice of the overvalued coin as a mean of payment and the melting of the undervalued coin and its exports as bullion. In 1816, England had to ratify its gold system during 1717–1816 into a law called the Coinage Act of 1816 whereby gold was made the standard of value and silver was made a subservient coin to gold. The mints

were closed to free coinage of silver. Only the government could bring silver bullion to the mints and turn it into token coins. The act of closing the mint to free coinage of silver was called the demonetization of silver. The demonetization of silver did not reduce demand for silver coins in England; it helped ameliorate the severe shortage of silver coins that prevailed during the period 1717–1816 and to insure that the required demand for silver could be satisfied.

Germany adopted the gold standard in 1871–1873 and closed free coinage of silver. Somehow, the move by Germany triggered a defensive reaction and caused the Latin Union as well as many other important countries to close their mints to free coinage of silver. Whether demonization of silver led to a reduced silver coin circulation in former silver standard countries was not clear. Gold coins could not be a substitute for silver coins, particularly for small payments in any metallic country. Nonetheless, the market price of silver relative to gold slumped considerably after 1871. This dramatic decline in silver price and depreciation of exchange rates triggered huge rage, known as the silver agitation, among interest groups whose business was hurt by the silver price decline and loss of foreign competitiveness. They were the silver miners, the debtors who could no longer discharge their debt in cheaper money, and producers who faced cheaper imports from silver standard countries. Silver agitators were called bimetalists in contrast to the proponents of gold standard called monometalists. They called for reopening of mints to free silver coinage and proclaim a common international fixed mint rate between gold and silver, to be decided in an international monetary conference and enacted in all countries. Although the silver agitators did not suggest a ratio, they implicitly wanted a return to the ratio that prevailed through many centuries, namely a ratio close to 1 to 15  $\frac{1}{2}$ .

In 1873, the US Congress demonetized silver, thus tying the nation's monetary system firmly to the gold standard. Mining interests and debtors called silver demonetization the crime of 1873. The silver agitators were able to impose the Bland-Allison Act to increase silver coinage; however, they fell short of reintroducing free silver coinage. The act stipulated that the US Treasury purchase between \$2 million to \$4 million silver each month from western mines to be minted into silver coins. Silver was reinstated as legal tender, a move anticipated to have an inflationary impact. The Bland-Allison Act went into effect in 1878 and was later replaced by the Sherman Silver Purchase Act of 1890. The latter act did not authorize the free and unlimited coinage of silver that the Free Silver supporters wanted; however, it increased the

amount of silver the government was required to purchase on a recurrent monthly basis to 4.5 million ounces. The Sherman Silver Purchase Act had been passed in response to the growing complaints regarding the interests of farmers and miners. Farmers had immense debts that could not be paid off due to deflation caused by overproduction, and they urged the government to pass the Sherman Silver Purchase Act in order to boost the economy and cause inflation, allowing them to pay their debts with cheaper dollars. Mining companies, meanwhile, had extracted vast quantities of silver from Western mines; and the resulting oversupply drove down its price, often to below the point at which silver could be profitably extracted.

In addition to the \$2 million to \$4 million that had been required by the Bland-Allison Act of 1878, the US government was required, under the Sherman Act, to purchase an additional 4.5 million ounces of silver bullion every month. The law required the Treasury to buy the silver with a special issue of Treasury coin notes that could be redeemed for either silver or gold. The plan backfired, as people (mostly investors) redeemed the new coin notes for gold dollars, thus depleting the government's gold reserves. In 1890, the price of silver dipped to \$1.16 per ounce. By the end of the year, it had fallen to \$0.69. By December 1894, the price had dropped to \$0.60. After the Panic of 1893 broke, the Sherman Act was repealed to prevent the depletion of the gold reserves.<sup>1</sup> On November 1, 1895, US mints halted production of silver coins, and the government closed the mint in New Orleans, Louisiana.

## Opposite Views of the Monometallists and Bimetallists

Bimetallists were essentially interest groups that surged to importance after 1871, when silver started to collapse in relation to gold. As with any interest group, they exerted pressure on the government to protect their interests and obviate the free market forces. Miners were hurt as their mining investment became less profitable; debtors could not have cheaper silver options for discharging their debt; and exchange rates between gold and silver depreciated too much and hurt producers in gold countries who had to compete with cheaper imports from silver countries. Bimetallists maintained that demonetization of silver created money shortage;<sup>2</sup> gold became the principal money in most advanced countries; there was high demand for gold as money in

the face of a small annual gold output; this had led to a sharp decline in commodity prices with a depressing effect on business and investment. Bimetallists wanted to restore free coinage of silver, a fixed ratio between gold and silver, unlimited legal tender for both metals, and re-inflate prices so debtors would not be penalized. Bimetallists arranged for many international monetary conferences in attempt to ratify their proposals; all conferences rebutted the bimetallist proposals. Particularly, the United Kingdom, which had a successful gold standard, had no reason in dismantling its sound monetary system in order to serve the interest of bimetallists.

The history of circulation established that the coins of both the precious metals could not equally be legal tender and standard money of any country to an unlimited extent. It had been the opinion of all the eminent men who had written upon the subject, that there should be but one standard measure of value. Sir William Petty, Locke, and Harris upon this point had all concurred. Locke said that money, as the measure of commerce, ought to be kept as steadily and invariably as may be; but this cannot be if money be made of two metals, whose proportion, and consequently whose price, constantly varies in respect to one another. The monometallists contended that though standard coins were both measures of value and media of exchange, it was very important to distinguish between the two functions. In any sound system of currency the metal coin, which is the measure of value must also be a medium of exchange: but there are many media of exchange besides the standard coin. Indeed, in the United Kingdom, and in much of the world, the standard coin played an insignificant part as a medium of exchange compared with other more convenient media such as subsidiary token coins, bank notes, bills of exchange, bankers' checks, and other forms of credit. It was from that neglect of this important distinction, and of the actual facts of common business, that many errors and much confusion arose. The word "money" was used—even by accurate writers like Lord Liverpool—as synonymous with standard coin; whereas, in the daily language of the market, "money" meant and included not only gold sovereigns, but silver, shillings, and pence, as well as all the various instruments of credit with which trade was conducted, and which were at least a hundred times as great at any given time as all the gold coins in the country.

Regarding the debt burden of debtors, monometallists distinguished two cases of a drop in commodity prices: (i) a case where gold money dropped and the output of goods remained unchanged; and (ii) a case where gold money was unchanged and the output of

goods increased. In the first case, debtors were hurt by deflation since they had to lose real wealth to procure gold and pay for debt. In the second case, there was an economic growth; debtors were losing no wealth; they were paying debt from additional commodities output and not by divesting wealth.

Monometallists discussed the various mischiefs attributed to fluctuations of exchange arising from the fall in silver, which may be enumerated as follows:

- The break of gauge between gold and silver countries, or, in other words, the interruption and inconvenience to trade between gold and silver countries caused by the fall in silver.
- The alleged premium or bounty said to be given to producers in silver-using countries by the fall in silver.
- The difficulty that silver-using countries find in paying their gold debts in consequence of the fall in silver.
- The impediments caused by the fall in silver to gold investments in silver-using countries.
- The means and opportunities afforded by the fluctuations in nominal exchange for speculation, and, in some cases, for jobbery and money changers, at the expense of real trade.
- The confusion of thought that arose from attributing to the nominal exchange, that is, to alterations in currencies, effects that were really due to the causes, which altered real exchange, that is, changes in the commercial relations of the two countries.

Monometallists rejected the theory that a country could grow and enhance its external competitiveness by depreciating exchange rates. This was a form of inflationism according to which real growth could be generated by money printing or the balance of payments could be re-equilibrated by currency depreciation. This principle dictates that, in essence, a nation may, by simply depreciating its currency, enable its producers to compete successfully with the producers of every country whose currency has not depreciated. It embraced the conclusion that silver, one of the most portable of commodities, could change its value to any extent in one country, without also changing its value in another. For it asserted that silver, which had lost more than half its purchasing power in London, still retained its old purchasing power in India! It involved the protectionist fallacy that a country could export without importing, and could by so doing become rich and prosperous at the expense of its neighbors; for it assumed that a depreciation of currency increased exports while it diminished imports, and that



this success of exports benefited the country where the depreciation took place, at the cost of its customers and competitors. Lastly, it embraced the conclusion that a real profit on production can be made by an alteration in nominal exchange, that is, by a change in the relative values of currencies, without loss to any one, except, in the long run, to the competing producer in foreign countries.

Monometallists argued that trade involved exports of commodities against imports of commodities; commodities paid for each other amounting essentially to a barter. Rarely were gold or silver used in the settlement. Changes in terms of trade may afford real gains to a country, but not changes in the exchange rates. Depreciation of the exchange rate cannot draw real gains from a partner country; it can only transfer real gains to a partner country; it only operates a redistribution within the depreciating country at the expense of workers, annuitants, and creditors, in favor of producers whose prices have been increased by the inflation of currency and consequent depreciation of the exchange rates. Monometallists carefully analyzed trade data for the United Kingdom and India to assess whether the claims of the bimetallicist were true. They found no evidence of changes in trade flows that might have been caused by the depreciation of silver.

### Introduction of the Gold-Exchange Standard during the Nineteenth Century and Early Twentieth Century

As more countries joined the gold standard group following silver demonetization in the United States, Germany, Latin Union, the exchange rate between gold and silver depreciated considerably causing serious disturbances to trade and capital flows between the gold and the silver groups; the latter included India, China, Mexico, Philippines, and Straits Settlements. Each group constituted a currency zone. While the exchange rates within each group were stable within the import-export point of the specie, the exchange rates between the two metal groups became too unstable and unpredictable. The value of silver in relation to gold depreciated considerably.<sup>3</sup> Many partner countries that were on a silver standard saw their currencies depreciate considerably, causing serious balance of payments difficulties. Silver standard countries had to acquire gold at higher prices to settle their balance of payments with gold standard countries. Moreover, foreign investment in silver countries such as India

and Mexico was discouraged as remittances of profits, amortization, and interest yielded smaller amount in gold standard currencies.

Small fluctuations in exchange rates between gold and silver were common and were not an issue among trading partners. However, wide fluctuations following the silver demonetization caused rage and became a political issue in gold countries. Contrary to the post-Bretton Woods floating exchange rates regime, violent exchange rate fluctuations drew strong reactions and had to be addressed through concerted arrangements between gold and silver countries. The bimetallic proposals for a dual standard were repeatedly rejected in successive monetary conferences. The views of the classics such as Petty, Locke, Liverpool, Harris, Adam Smith, and Ricardo prevailed; namely, only one metal can serve as a common denominator and a standard of measure of value; this metal had to be either gold or silver.

Stabilization of the gold-silver exchange rate required adopting a common standard, of either gold or silver. In view of the advanced economies and large financial sector of gold standard countries, it was easier to change the standard from silver to gold in silver-using countries. Many silver countries found it opportune to introduce currency reforms that consisted of moving from silver to a gold standard. These reforms were needed to allow stability of exchange rates and settle trade and capital operations with gold standard countries. Many countries introduced currency reforms fashioned after David Ricardo's recommendation formulated in his pamphlet *Proposals for an Economical and Secure Currency* published in 1816, which called for a monetary system under which precious-metal coins should be entirely eliminated from actual domestic circulation and replaced by banknotes. Conversion of banknotes should be for sums above 20 ounces and be made in bullion. This system became known as the gold-exchange standard.

The gold exchange system was different from the classical gold system. In the latter, gold coins circulated freely as a medium of exchange. The mints were open for gold. All money substitutes such as banknotes, credit, bills of exchange, checks, etc., were payable in gold coins. In a gold exchange country, the silver currency was a token currency pegged to gold currency of a gold country, such as token silver coins in the United Kingdom system during 1816–1914. The domestic currency was not convertible into gold, except in form of drafts for balance of payments settlements. The objective of the gold exchange standard was simply to establish a fixed parity with gold without actually allowing a circulation of gold. The system was

highly economical to the extent that it limited the holdings of gold stocks to a minimal level compatible with foreign exchange needs. In other words, gold constituted the country's foreign exchange reserves. The local currency automatically reflected gold movements. A classical gold system would be very expensive for a country that had not been on a gold standard since large quantity of gold would be required to have domestic gold coin circulation.

Establishing the gold exchange standard in a silver country required a closing of silver mints to the public. There was a need to restrict silver coins emission prior to establishing the system. Only the Treasury was allowed to issue silver coins. The exchange rate of silver had to reverse trend and appreciate toward a defined target. The foreign exchange of the country was converted into gold or was denominated in gold money, such as the dollar or the pound sterling, and held in form of a gold exchange fund. The fund was held either in London or in New York. This fund became operational once the silver coin was stabilized at the desired target. The importers paid for their imports with drafts drawn on the fund with silver coins surrendered to the Treasury. The law required that the Treasury withhold these coins from circulation and never deposited them at a bank; if deposited in a bank, they would reenter circulation and expand credit, which would destabilize the gold fund. Likewise, repatriation of exports proceeds were made in form of drafts remitted to the gold fund. Only the Treasury was allowed to reissue silver coins to the beneficiaries of drafts remitted to the gold fund. No sterilization of gold movements was allowed through the banking system.

Basically, the gold fund could be seen as the gold reserves of an ordinary bank in a gold standard country. These reserves were a small fraction of total deposits. The risk of massive withdrawals on the fund was minimal, since a stabilization period preceded the establishment of the fund. There were no redundant silver coins once the gold fund became operational. However, unusual circumstances, such as famine or war, requiring massive payments might occur. To meet these contingencies, the Treasury would either borrow from foreign financial markets or add a small charge on withdrawals, which was equivalent to a small devaluation of the exchange rate. While the risk of a run on the gold fund was minimal, the risk of unsound fiscal and money policies could be fatal, both to a classical gold system and to gold exchange system. More specifically, monetization of fiscal deficits would deplete the gold reserves and expose the silver coin to faster depreciation. Likewise, credit expansion would deplete the fund.

Kemmerer (1916) meticulously described the currency reforms of India (1892), the Straits Settlements (1903), and the Philippines Islands (1903). These countries had implemented a gold-exchange standard as recommended by David Ricardo (1816), that is, a currency mechanism or arrangement under which a silver circulation was maintained in the economy for actual use, with a provision for satisfactory conversion into the gold currency of some other nations. Thus, in the case of the Philippine Islands, the gold exchange standard rested in practice upon the use of silver or silver certificates by the population, with arrangements for converting these media of exchange into American money. The gold exchange standard, as thus conceived, presented itself as an intermediate condition between gold standard and bimetallism. It avoided the necessity of obtaining or supplying a quantity of gold for actual use, or even for the reserves of banks; it permitted the circulation of the less expensive silver, or the even cheaper paper; and it avoided the problems associated with changes in the price ratio of silver to gold by undertaking to maintain a constant and steady basis of convertibility at which silver shall be exchanged for gold or gold equivalents, or vice versa. To be able to maintain a stable ratio between gold and silver, India, the Straits Settlements, and the Philippines had to contract silver coining.

## The Gold Exchange Proposals of the Genoa Conference 1922

The Genoa Conference was held in Genoa, Italy, in 1922 from April 10 to May 19. Representatives of 34 countries gathered to discuss global economic problems following World War I, reconcile enemies, address debt problems, and the perilous sequels of the war, which claimed over 13 million young lives. Restoring the prewar framework of free trade and stable currencies was urged at the Conference. The participants noted the devastation of the 1914–1918 war, its human and economic toll, and the complexities of the relationships between warring nations as well as with Bolshevik Russia. They admitted that international trade had been disorganized and had to be restored in order for economic growth and prosperity to prevail. They recognized the medium of commerce, exchange based upon currency, had become almost worthless and unworkable; millions were jobless; vast areas, upon which Europe had depended for a large proportion of its food supplies and its raw material were completely destroyed for

commerce; nations, instead of co-operating to restore normal relations, were broken up by suspicions and created difficulties and new artificial restrictions; great armies were ready to march; and nations already overburdened with taxation were having to bear the additional taxation to maintain huge armies.

The removal of numerous obstacles to prosperity was the aim of the Genoa Conference. These obstacles were: (i) currency difficulties and the instability of the exchange rates; (ii) customs and trading restrictions; (iii) transport difficulties; and (iv) the threat of new hostilities. The participants considered that the resumption of international trade was essential. A united effort, which embraced the removal of all obstacles in the way of trade, the provision of substantial credits for the weaker countries, and the cooperation of all nations in the restoration of prosperity by the stronger powers, was necessary to remedy the paralysis of the European system.

The Financial Commission of the Conference was entrusted with designing reforms for reestablishing currencies and stable exchange rates. The resolution aimed at defining a currency code. The object of this code was to anchor paper currencies again, directly or indirectly, to gold and secure for each nation a credit policy in order to prevent fluctuations. With regard to exchange rates, the primary recommendation was that the artificial control of exchange operations should be removed in order that nothing should stand in the way of the recovery of exchange rate stability as currencies recovered and exports improved.

An essential requisite for the economic reconstruction of Europe was the achievement by each country of stability in the value of its currency. No country could gain control of its own currency so long as there was a deficit in the annual budget, which was met by the creation of paper money or bank credits. It was for every country to overcome such a deficit by its own independent efforts; only then would its way be open to currency reform. Measures of currency reform would be facilitated if the practice of continuous cooperation among central banks could be developed. A permanent association or entente for the cooperation of central banks, not necessarily confined to Europe, would provide opportunities of coordinating credit policy, without hampering the freedom of the several banks.

It was desirable that all European currencies should be based upon a common standard. Gold was the only common standard, which all European countries could agree to adopt. In a number of countries, it would not be possible for some years to restore

an effective gold standard; but it was in the general interest that European governments should declare that this was their ultimate object, and should agree on a program to achieve it. In each country, the first step toward reestablishing a gold standard would be the balancing of the annual expenditure of the state without the creation of fresh credit unrepresented by new assets. The next step was to determine and fix the gold value of the monetary unit. This step could only be taken in each country when the economic circumstances permitted, for the country had then to decide on the vital question of whether to adopt the old gold parity or a new parity approximating to the exchange value of the monetary unit at the time. The gold value so fixed must then be made effective in a free exchange market. The maintenance of the currency at its gold value must be assured by the provision of an adequate reserve of approved assets, not necessarily gold.

A participating country, in addition to any gold reserves held at home, could maintain reserves of approved assets in the form of bank balances, bills, short-term securities, or other suitable liquid resources in any other participating country. The ordinary practice of a participating country would be to buy and sell exchange on other participating countries within a prescribed fraction of parity, in exchange for its own currency on demand. Each country would be responsible for the necessary legislative—and other—measures required to maintain the international value of its currency at par, and would be left entirely free to devise and apply the means, whether through regulation of credit by central banks or otherwise. Credit would be regulated, not only with a view to maintaining the currencies at par with one another, but also with a view to preventing undue fluctuations in the purchasing power of gold.

These steps could by themselves suffice to establish a gold standard, but its successful maintenance would be materially promoted, not only by the proposed association or entente of central banks, but by an international convention to be adopted at a suitable time. The purpose of the convention would be to centralize and coordinate the demand for gold, and so to avoid wide fluctuations in the purchasing power of gold, which might otherwise result from the simultaneous and competitive efforts of a number of countries to secure metallic reserves. It was suggested that the convention should embody some means of economizing the use of gold by maintaining reserves in the form of foreign balances, such, for example, as the gold exchange standard, or an international clearing system.

## The Failure of the Genoa Gold Exchange Standard System

The Genoa gold exchange standard was not a pure market system and depended directly on the actions of reserve country governments and their central banks. Undoubtedly, the system failed in the midst of the Great Depression, with Great Britain, the initiator of the system exiting from the gold standard in 1931. In reaction, many countries exited the gold standard and currency instability returned. Basically, the gold exchange standard, like the gold standard, cannot operate in an inflationary context and inflexible prices and wages that characterized the inter-war period. The war debts and fiscal deficits were a stumbling block. Moreover, the gold exchange standard was inherently inflationary. The inflows of reserve currency in the non-reserve country led to money creation in the non-reserve countries as well as credit expansion in the reserve country.

The gold exchange standard made a false start, with the United Kingdom returning to prewar parity in 1925 at a \$4.86 while the market rate was as low as \$3.50. The sensible decision would have been to declare parity at the market rate. To succeed at this act of heroic folly, Britain would have had to deflate its money supply and its price levels severely, as at a \$4.86 to the pound ratio, British export prices were far too high to be competitive on world markets. However, deflation was politically out of the question, for the growth of trade unions, buttressed by a nationwide system of unemployment insurance had made wage rates rigid downward; in order to deflate, the British government would have had to reverse the growth of its welfare state. In fact, the British wished to continue to inflate money and prices. As a result of combining inflation with a return to an overvalued par, British exports were depressed during the 1920s and unemployment was severe at a time when most of the world was experiencing an economic boom.

The gold-exchange standard worked as follows: The United States remained on the classical gold standard, redeeming dollars in gold. Britain and the other countries of the West, however, returned to a pseudo-gold standard. The British pounds and other currencies were not payable in gold coins, but only in large-sized bars, suitable only for international transactions. This prevented the ordinary citizens of Britain and other European countries from using gold in their daily life, and thus permitted a wider degree of paper and bank inflation. Furthermore, Britain redeemed pounds not merely in gold, but also in dollars, while the other countries redeemed their currencies not in

gold, but in pounds. The gold-exchange standard resulted in a pyramiding of United States on gold, of British pounds on dollars, and of other European currencies on pounds—with the dollar and the pound as the two “key currencies.”

Now when Britain inflated, and experienced a deficit in its balance of payments, the gold standard mechanism did not work to quickly restrict British inflation. For, instead of other countries redeeming their pounds for gold, they kept the pounds and inflated on top of them. Hence Britain and Europe were permitted to inflate unchecked, and British deficits could pile up unrestrained by the market discipline of the gold standard. As for the United States, Britain was able to induce the United States to inflate dollars so as not to lose many dollar reserves or gold to the United States.

The United States decided to support Britain’s inflationary policy and follow the same policy through low interest rates and credit expansion, which led to speculation and the stock market crash. The US policy aimed at preventing a fall in the pound and stave off gold outflow from the United Kingdom. The brief history showed that the gold-exchange standard could not last. There was a boom followed by a disastrous depression. As sterling balances piled up in France, the United States and elsewhere, with the slightest loss of confidence in the increasingly shaky and jerrybuilt inflationary structure was bound to lead to general collapse. This was precisely what happened in 1931; the failure of inflated banks throughout Europe, and the attempt of France to cash in its sterling balances for gold, led Britain to go off the gold standard completely, followed by the other countries in Europe. The new international monetary order of Genoa Conference induced governments into inflating or into going back to gold at overvalued pars for their own currencies, thus crippling their own exports and subsidizing import. The collapse of the system in 1931 was following by large currency depreciations, including the dollar devaluation by 50 percent in 1934.

## **The Bretton Woods System of Fixed Exchange Rates and Its Demise (1944–1971)**

The metallic system worked smoothly over a number of centuries. The gold standard of pre-1914 exhibited very high economic growth in most countries with stable exchange rates and significant real wage gains. Gold standard countries constituted, in essence, one currency zone. However, industrial countries were reluctant to reestablish this



automatic money system and resorted to the gold-exchange standard. The 1944 gold-exchange system became known as the Bretton Woods system of fixed exchange rates. The objectives of the architects of the Bretton Woods systems were identical to those of Genoa Conference: promote exchange rates stability, remove exchange controls and barriers to trade and capital, and prevent beggar-thy-neighbor policies. The approach was the same: international cooperation. The Genoa Conference did not foresee the necessity of an international body for promoting exchange rates stability. In the Bretton Woods system, this task was entrusted to a new institution called the International Monetary Fund (IMF). Both the Genoa and the Bretton Woods systems failed for the same fundamental reasons: in contrast to the gold standard, under the gold exchange standard, reserve countries had no limit to money expansion; reserve and non-reserve currencies were pyramiding on top of each other, leading often to very high inflation and overvalued exchange rates. The inverted pyramid was so huge in relation to the gold reserves, forcing the gold countries into default and exit from the system. Each experience ended in the same chaos: exit of the gold currencies from the system, huge indebtedness of reserve countries, floating exchange rates, and competitive devaluations. The IMF had little influence on developments and largely became a lending institution to governments that had no access to private capital markets.

The chief objectives of the Bretton Woods system were to preclude beggar thy neighbor policies, control the flows of speculative financial capital, and prevent competitive devaluations of exchange rates. In a floating exchange rate regime, a country may let its exchange depreciate to any extent required to clear the foreign exchanges market; and it often prevented a revaluation in case of surplus. Under the Bretton Woods system, a country had to maintain a rate of exchange that was fixed with relation to the US dollar, and rely temporarily on borrowing from the IMF to make a transition to equilibrium. Temporary balance of payments support was intended to preclude the classical gold adjustment mechanism; the latter required a deflation of prices and incomes, reduction of imports, and increase of exports.

The Bretton Woods agreements postulated that each country define its currency in relation to the US dollar and pegs it at par with a spread of  $\pm 1$  percent reminiscent of the gold points of the classical gold system; each country was allowed to devalue up to 10 percent if necessitated by a fundamental disequilibrium.<sup>4</sup> However, adjustment beyond 10 percent had to be approved by the IMF. The United

States was to peg the dollar at \$35 per one ounce of gold and stood ready to convert official holdings of dollar into gold. The agreements established a pool of resources for lending purposes. Each member country had to contribute to this pool according to an assigned quota; the member's contribution had to be at least 25 percent in gold or in US dollars and the rest of the quota was in national currency. Each member country was allowed to purchase its own quota without the IMF approval and to repay it within 18 months.

The Bretton Woods system was shaped by the United States. It prevailed over a reform plan, called the international clearing union (ICU) along with a would-be reserve currency named the *bancor*, advanced by the United Kingdom and advocated by J. M. Keynes. In essence, the ICU was conceived along the principle of a clearinghouse for member banks, and clearing house certificates were issued by the clearinghouse as loans to temporarily insolvent banks. Banks could find it very expensive to settle on bilateral bases; they had to establish a clearinghouse whereby each bank settled directly with the clearinghouse. Keynes transplanted this clearing system to a clearing union among member countries. Every country would settle its payments with the ICU and not with partner countries in terms of a unit of account *bancor*.

Keynes proposed an international currency not redeemable in gold, not based on gold, nominally fixed in relation to gold, but not unalterably. He called it *bancor*. The international money was to be credit entries on the book of the ICU and overdrafts privileges with the ICU. The initial assets of the ICU were zero and so were its liabilities. However, as transactions multiplied and the ICU did business, its balance sheet would swell on both sides; its liabilities being deposits in *bancors* and its assets being overdrafts in *bancors* or a pool of national currencies such as dollars, pounds, francs, etc. Besides clearing, the ICU was to hold the different exchange rates together and to put the strength of the stronger exchanges behind the weak ones.

Keynes's plan eliminated any role for gold as well a reserve currency. No country would be a reserve currency country and enjoy a perpetual deficit. Likewise, no country could remain perpetually a surplus country. There should be adjustment that would be aided by overdrafts from the ICU without resorting to currency depreciation. However, beyond a certain limit, defined by the board of the ICU, a country would receive no additional credit and would have to adjust in a more rigorous way. In case of balance of payments imbalances, Keynes recommended that both debtors and creditors should change

their policies. As outlined by Keynes, countries with payment surpluses should increase their imports from the deficit countries, build factories in debtor nations, or donate to them—and thereby create a foreign trade equilibrium. Thus, Keynes was sensitive to the problem that placing too much of the burden on the deficit country would be deflationary.

Both the Bretton Woods and the ICU plans were conceived for a new environment where government became too big and too implicated in economic affairs, and where wages and prices became too rigid. The adjustment had to be through inflation and not through the gold standard deflation. This environment relied on exchange rates for external adjustment and inflation for internal adjustment. The deflationary process will be obviated through temporary loans that help the country to reduce internal and external balances. But as with the Genoa system, the Bretton Woods system failed because the US issued too many dollars that could not be redeemed with gold, countries did not coordinate their economic policies as required under a fixed exchange rate systems and speculators had a sure gain, in what essentially became a one-way bet against the dollar.

## Conclusions

Under bimetallism, it was stipulated that both metals were standard of value with unlimited legal tender at a fixed ratio. However, arbitrage laws gave only one metal a standard of value, and the other metal was simply a commodity such as cars, wheat, or computers. Hence, monometallism was an inherent feature in a free market. Moreover, merchants were not able to maintain their accounts in two standards at the same time. In Saudi Arabia, for instance, the two metals circulated together at market rates; however, the standard was the silver Saudi Riyal; all trade and accounting were denominated in this standard, including gold. Following the demonetization of silver in advanced commercial nations during the nineteenth century the silver agitation wanted, in vain, to establish an international bimetallic system, where every nation declared a common fixed ratio of gold to silver. A number of silver countries, such as India, Mexico, the Philippines, the Straits Settlements, decided to be on a gold-silver standard, with their silver currencies fixed to gold. They had to close their mints to silver, establish a gold fund, and stabilize their silver currency at a sustainable rate. Their currency was totally subjected

to the gold fund at 100% reserve, that is, the currency was perfectly controlled by the gold fund inflows and outflows.

The Genoa and Bretton Woods gold exchange standard systems were intended to reduce the role of gold by adding a reserve currency to a country's reserve assets. Moreover, under the Bretton Woods system, limited exchange rate adjustments were introduced to allow countries to follow somewhat independent policies. However, countries' policies diverged significantly, putting pressure on what were essentially fixed exchange rates, and the US issued too many dollars (relative to its gold holdings) to finance its budget deficits. The gold exchange system had to fail, as any bank that had overleveraged over a small reserve had also to fail.

The chapter established from a historical perspective that bimetallism could not operate in any economy because the relative market price of gold to silver fluctuated, and that the gold exchange standard was not a viable system for international payments unless countries followed similar monetary and fiscal policies and the country with the reserve currency maintained discipline.

## Recurrence of Financial Crises and Suspensions of Gold Payments

Financial crises were frequent under the gold standard and often led to the suspension of gold payments. They were an inherent feature of an interest-based and fractional reserve banking system. However, these crises were self-liquidating, brief, and limited in scope. While debt was hardly paid, fractional reserve banking leveraged on \$100 gold reserves a multiple, say \$1,000, in gold claims. Evidently, \$100 of gold could not pay \$1,000 of gold claims; these claims can be paid only by reissuing debt or resorting to default. At some point the credit pyramid, or the house of cards falls apart, and the financial crisis spreads. The fractional reserve banking system was denounced by David Hume, Thomas Jefferson, Andrew Jackson, Carroll, Rothbard, Irving Fisher, the Chicago Plan, and by numerous other economists and politicians. This chapter covers:

- Recurrence of financial crises under the gold standard
- The credit multiplier in conventional finance under the gold standard
- Causes of the suspensions of gold—the irreconcilable gold-fractional reserve banking dilemma
- Financing wars and fiscal deficits
- UK final exit from gold 1931, US final exit from gold 1971
- Proposals to prevent crises—currency principle (Peel’s Act, 1844), 100% reserve banking, equity banking

### Recurrence of Financial Crises under the Gold Standard

Financial crises have been an inherent feature of conventional fractional reserve banking; even under gold standard, banks were not

immune to panic and bank runs. Under the gold standard, banks received deposits in coins of gold or notes that were convertible in coin. They also issued banknotes and credit redeemable in gold, but banknotes that were larger than their gold holdings. As a result, and often, banks faced a run, and were compelled to suspend their gold payments; some banks were even liquidated. Changing from the gold standard to an inconvertible paper standard did not remedy the recurrence of financial crises, but made them worse as illustrated by the Great Depression and the 2007–2008 financial crisis.

By its nature, debt was rarely repaid and was more often destined to default. The only major difference was the bailout by the central bank of bankrupt banks and its purchase of toxic assets under the paper money system. In other words, the central bank socialized the losses and preserved the private gains. Such a bailout system, unjust as it is, did not exist under the gold standard, since the central bank did not stand ready to loose gold for worthless financial papers that were irrecoverable. Furthermore, under the paper system, the central bank has essentially prevented deflation of prices and liquidation of large banks by money printing. Some have argued that by forcefully inflating prices and firing up speculation, central banks have stalled real economic recovery.

J. Siegfried (1906), a French banker, provided a description of financial crises as he witnessed their occurrence in the industrial world. He maintained that a crisis was rarely local and spread to most advanced countries such as the United States, the United Kingdom, France, and Germany. Convincingly, Siegfried ruled out all real causes such as a bad crop or a war, arguing that these causes could not lead to a financial crisis, which originated in the banking system in the form of general debt defaults. Only an exaggerated credit expansion that fuelled speculation caused a financial crisis. He characterized the phases of the cycle as a period of prosperity, that is, an economic boom, followed by a crash, followed by a brief liquidation and high interest rates, and followed by recovery and a boom. The intensity of liquidation was proportional to the intensity of the boom. The life span of each cycle was about nine years.

During the boom, there was a great demand for investment, a large number of enterprises were created, large investment were undertaken in areas such as railroads, mining, public works, and industry; a large number of shares were issued and oversubscribed, on debt, at speculative prices. The demand for credit expanded; banks accommodated the demand for funds, often in the form of fictive credit without due

regard to their reserves; their credit became too high in relation to their metallic reserves. The prices of commodities flared up; the price of shares advanced faster than commodity prices, since speculation in shares was far less costly than speculation in commodities. The real floating capital was converted into fixed capital; the economy started to experience a shortage of real funds; often the metallic reserve had been used to pay for imports. At some point, the inverted credit pyramid contained a large component of fictive credit and became vulnerable to any small shock, such as rumors, default of some merchants, or some reputable bank, resulting in panic.

At the onset of the crisis, interest rates exploded, banks retracted rapidly and refused to extend credit; holders of shares and commodities conceded price cuts to acquire dear money; those who subscribed to buy shares faced capital recalls; they had no access to credit and defaulted on their payments, which further depressed share prices. Siegfried argued that liquidation eliminated unprofitable investment and redirected labor and capital to most profitable opportunities. He described the deflation that followed the liquidation phase; the price index fell from 100 (1881) to 81 (1886) then recovered to 86 (1890). The economy had to reduce consumption, reconstitute savings as well as the real floating capital for the recovery to start. Siegfried was not in favor of regulations. He noted that the Peel's Act did not prevent the 1847 crisis, which originated with speculation in railroads as well as overtrading in many lines of industries. Reputable banks and business needed cash in form of bank notes to meet their payments. Without the Bank of England rediscounting their papers, these institutions would have gone bankrupt and the crisis could have become more severe. This has led the UK government to suspend the act's restriction on banknotes in every crisis and allow the Bank of England to rediscount paper and issue banknotes, which remained convertible into gold. The high interest rate of the bank resolved the crisis and drew large flows of gold back into the reserves of the bank. Accordingly, he recommended the rate of discount as a tool for controlling credit. To reduce the intensity of crisis or prevent their occurrence, he recommended that central bank increase drastically its rate of discount at the first rise of its credit to gold ratio. If credit was not curtailed at the appropriate time, then action by the central bank would become too little and too late in relation to the scope and intensity of the crisis.

In a classic paper, Marcel Labordère (1908) presented a lucid analysis of real and apparent working capital and the genesis of financial crises. The economy may run into a crisis when the amount of real

capital is insufficient to finance investment projects, leading to the suspension or loss of the projects. Real capital consists of subsistence products such as food, clothing, medicine, and other necessities that maintain labor in the investment sector; real capital is to be transformed into fixed capital such as capital goods, tools, railways, ships, commercial and residential buildings, etc. Labordère stated that money capital might be multiplied by banks at the stroke of a pen in the form of bank credit with no direct link to real capital, resulting in price inflation and misallocation of resources. Labordère distinguished between three types of account: consumption, saving, and investment accounts. Consumption accounts record the consumption of consumer goods or subsistence goods; the saving accounts record the consumer goods that are not consumed and are to be transferred to the investment account; and the investment accounts record the output of capital goods. He defined overproduction as a disproportionate increase in raw materials and unfinished investment projects caused by under-production of real working capital. Simply stated, overproduction means the excess of investment over savings.<sup>1</sup> Labordère (1907) maintained that speculation intensifies during a credit boom, prices of commodities and assets rise rapidly, and optimism reaches a peak. Banks lend freely. Apparent capital (loans) multiplies in relation to real available capital (savings). The shortage of savings becomes severe, leading to the suspension of many long-term projects. There is also mal-investment in form of oversized projects and nonprofitable investment due to abundance and cheapness of loans. Expected cash flows and profits do not materialize. Bankers suffer losses on their loans and investment in equity shares.

Minsky (1986, 1992) considered financial instability to be endogenous in the conventional financial system. His core model is known as the Financial Instability Hypothesis (FIH), which simply declares stability is inherently unsustainable. A fundamental characteristic of a conventional financial system, according to Minsky, is that it swings between robustness and fragility and these swings are an integral part of the process that generates business cycles. Minsky looked at all participants in the economy—households, companies and financial institutions—in terms of their balance sheets and cash flows. Balance sheets are composed of assets and liabilities, while cash flows validate the liabilities. Minsky's economy comprises what he calls a "web of interlocking commitments"—a vast and complex network of interconnected balance sheets and cash flows that is always changing and evolving. During periods of stability, people feel more confident.



According to Minsky, they respond by increasing their liabilities relative to income, and the “margin of safety” declines.

Minsky classified borrowers, according to their balance sheet and ability to make interest and principal payments, into three distinct categories, which are labeled as hedge, speculative, and Ponzi finance. Hedge financing units are those that can fulfill all of their contractual payment obligations by their cash flows. According to Minsky’s definition, the greater the weight of equity financing in the liability structure, the greater is the likelihood that the unit is a hedge-financing unit. Speculative finance units are units that can meet their commitments on interest payment, even as they cannot repay the principal out of income cash flows. Such units need to roll over their liabilities—issue new debt to meet commitments on maturing debt. For Ponzi units, the cash flows from operations are not sufficient to fill either the repayment of principal or the interest on outstanding debts. Such units can sell assets or borrow. Borrowing or selling assets to pay interest (and even dividends) on common stocks lowers the equity of a unit. The key feature of a Ponzi scheme is its need to attract ever-greater sums of money. To survive, Ponzi units must refinance, either by selling assets or by raising more debt. For this to happen, asset prices must continue to rise. Ponzi finance typically emerges during a speculative bubble, a time when the margin of safety has been undermined.

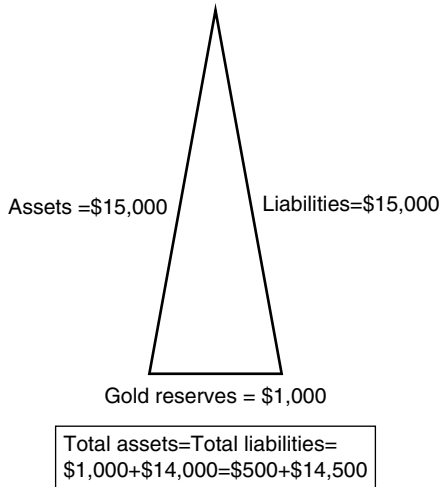
Minsky stated that if hedge financing dominates, then the economy could be in an equilibrium-seeking state. In contrast, the greater the weight of speculative and Ponzi finance, the greater is the likelihood that the economy is in a deviation-amplifying state. The first theorem of the financial instability hypothesis is that the economy has financing regimes under which it is stable and financing regimes in which it is unstable. The second theorem of the financial instability hypothesis is that over periods of prolonged prosperity, the economy transits from financial relations that make for a stable system to financial relations that make for an unstable system.

## The Credit Multiplier in Conventional Finance under the Gold Standard

The ability of banks to issue fictitious credit has long been recognized. Thornton (1802) showed that banks were able to issue fictitious credit simply by issuing loans that are not backed by deposits. Table 8.1 illustrates a typical balance sheet of conventional banking:

**Table 8.1** Balance sheet of conventional depository banking

<i>Assets</i>		<i>Liabilities</i>	
Gold reserves	\$1,000	Currency in circulation outside banks	\$500
Loans and securities	\$14,000	Deposits (inside money)	\$14,500
Total	\$15,000	Total	\$15,000



**Figure 8.1** Fractional banking: the credit triangle (units in ounces of gold)

We observe that, on the basis of reserves equal to \$1,000, the banking system is able to expand its money supply to \$15,000 through loans at the stroke of the pen. Holden (1907) maintained that credit is the source of deposits and not the opposite. He likened the credit multiplication to an isosceles triangle (Figure 8.1); the base of the triangle represents gold reserves; the two sides of the triangle are equal, with one side representing assets and the other side liabilities. Holden showed that banks could issue loans, payable in gold, in multiples of their gold reserves. Assume there is a demand for gold for \$2,000 to settle foreign payments; there would be insolvency of banks and bank runs. There will necessarily be a contraction of money to the true gold reserve base and price deflation will ensue since the price structure has been artificially inflationary. Conventional finance, based on interest and interest-based banking, and money creation through the credit

multiplier (fractional reserves), leads to unlimited money creation and inflates prices. The economy reaches a crisis point when credit is corrupted and the economy cannot produce enough real capital.

Conventional finance has proved dangerously unstable, marked by frequent financial and economic crises and general bankruptcies. Much of the economic growth achieved during a recovery phase of the cycle is wiped out by the downturn cycle. In 2014, a number of developed countries have real per capita incomes that are lower than levels achieved in 1989. Advanced countries have seen their economies collapsing into severe recessions and mass-unemployment, as happened during the Great Depression. Poor countries have failed to establish sustained growth or graduate from heavy dependence on foreign aid. Under conventional finance, the gold standard as well as the Bretton Woods system of fixed exchange rates collapsed and the banking system cannot survive without government bailouts.

### Causes of Gold Suspensions—the Irreconcilable Gold-Fractional Banking Dilemma

All that a bank needs to create money is to be chartered by the State. C. H. Carroll (1850s, 1965) stated that debt and gold were like fire and water. They cannot coexist; fractional banking and emission of fictive credit leads, through Grasham's law, to expelling gold and its replacement by debt and banknotes. The suspension of gold payment was a breach of a contract between the bank and the depositor. Banks make money through lending. They issue more liabilities against the reserves in gold. Often, the credit and the banknotes they issued caused a large demand for imports and large outflows of gold to pay for these imports. When the depositors ask for their gold, not only banks did not have enough of it, but it also happened that more often than not, most of the gold had left the country. When depositors show up all at once, the banks would simply close the doors and deny payments. Such suspension was often general; all banks at the same time suspend the payment in coins. Carroll was severely critical of fractional reserve banking. He asserted that the value of money was *regulated to disorder*, to the impairing of contracts, and to the confusion of all just ideas regarding the rights of property. Carroll was wary about the fictitious nature of bank credit as well as the credit multiplier. Assume a bank has a gold reserve of \$100; assume its issues up to \$1,000 in loans and banknotes, of which \$900 are unbacked by

gold. This debt inflates prices and fictive debt will expel gold out of the country. Risks of defaults arise on the side of the bank as well as its debtor. According to Carroll, the debt of people becomes \$1,000 when it was only \$100, or even nothing before. The bank attempts to collect \$1,000, \$900 of which they never loaned and never possessed. The people possess nothing for it but the debt of the banks, and the banks possess nothing for it but the debt of the people. It is a reciprocal demand for coin that is nowhere, or for an equivalent value that is nowhere—that never existed. Payment is impossible, and the \$900 of artificial currency thus created, inevitably creates in this transaction \$900 of bankruptcy.

Gold money is a value purchased with another value in goods, and comes in return for merchandise sold to gold miners; debt has no part in its creation. The debt currency is not a value; it is a fiction of money manufactured virtually out of nothing, and is, when created, like every other debt, in excess of all the money and property in the world. An illustration is helpful. Assume A, the clothier, has cloth for sale at \$500, assume B, the farmer, has wool for sale at \$500, either commodity thus amounts to \$500. Simple barter would complete the exchange in the most economical manner (Figure 8.2). However, often A and B do not know each other’s wants, and do not meet in the market; a merchant is therefore necessary to both. If the merchant has \$500 of money, as he would have under a money currency, to buy A’s cloth, which he sells against B’s wool, the exchange may be affected without debt or delay of settlement. It is triangular barter, with gold, a third commodity of value, being employed as a medium of exchange (Figure 8.3).

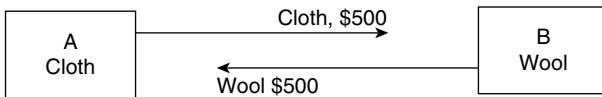


Figure 8.2 Simple barter

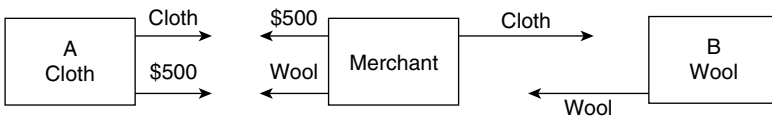


Figure 8.3 Simple middleman

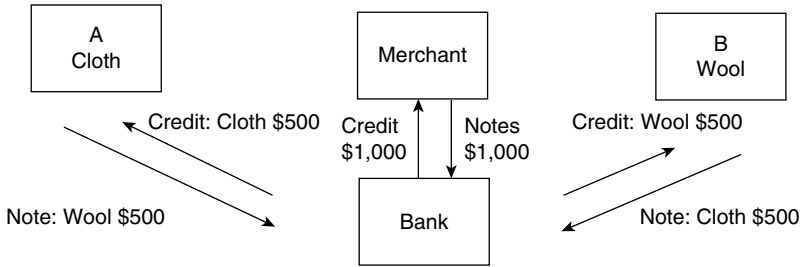


Figure 8.4 Banking debt as currency

The debt system expels the gold, and thence comes the necessity of debt to create the debt currency and maintain the banks (Figure 8.4). A merchant gives his note for A’s cloth, and the same or another gives his note for B’s wool. Making the utmost possible use of banking, A gives his note for wool, and B gives his note for cloth. The bank has discounted notes for \$2,000, which is the debt of A, B, and the merchant. It owes 2,000 to A, B, and the merchant. By reason of the absence of \$500 of money in gold, \$4,000 of debt is created, more useless and unnecessary than a fifth wheel to a coach; \$2,000 of it is *debt currency, that is, notes*, which infallibly drives from the country \$2,000 of gold, and compels the next traders to go through the same operation of running into debt in order to effectuate their exchanges.

Carroll maintained that the bank dollar employs no labor in its creation; writing a promise on a bit of paper makes it; it creates no value, and is no wealth. To whatever extent this system is in use in any country, the precious metals are expelled; to that extent they cannot remain, for money and debt are natural antagonists, like fire and water; one must extinguish or expel the other. Consequently, gold and silver flowed from the country where debt became currency. Creating debt and converting it into money increased prices. There was price without value. The additional money in form of debt will buy no more of anything than the smaller amount bought before. The really effective consequence was absolute mischief: gold was degraded with paper alloy; it was sold, in its standard purity, at the degraded value. This was the consequence of not knowing the difference between value and price; *value* being the power of property to exchange for other property, and *price* its power to exchange for money only. Instead of using gold as the common equivalent to buy and sell for cash, the economy was entangled in debt, which, being organized into currency by

discounting, occupied and obstructed the money channel, and drove the money out. This was called the "Credit System." It was a miserable fallacy according to Carroll. Money was the product of labor, never of credit. Credit borrowed capital legitimately, not by producing currency; when it produced currency, it produced false money.

A promise is a debt, it is nothing else; and the attempt to make debt serve the purpose of money has been a failure. Money and debt are as opposite in nature as fire and water; money extinguishes debt as water extinguishes fire. The buying of goods is one thing, the paying for them another. Credit may be a good medium of exchange, but never can be the object of exchange. The seller is not paid for his goods in a note or a check; the exchange is not completed until his capital is restored to him in gold or its commodity equivalent value. Hence the debts of the community, so far as they are contracted in price without value, that is, in price formed by credit in excess of the natural money value below which prices cannot permanently fall, must be kept in existence by continued renewal, and by maintaining in full activity of circulation the volume of currency in which they were contracted, or prices will fall, debts would then be discharged in bankruptcy, and banking comes to grief like other credit businesses.

Money is a simple commodity governed by the same law of value and exchange, as are all other commodities and all other capital. It is not merely a medium of exchange, but also an object of exchange, the product of labor and capital, from which it derives its attribute of value, and by reason of which it is the equivalent of other products of labor and capital. Without this equivalence, there is no money, and with it, a thing is not money unless it is acknowledged and accepted as such in absolute payment of intrinsic value by the commercial world. Money in trade is a commodity, a thing that is bought and sold; out of trade, it is simply wealth. It is the creature of commerce, not of government. It existed before government. When history began, it was gold and silver bullion circulating by the common unit of weight. Its essential function in commerce is that of capital as the common equivalent of value in exchange; and the prime element of an equivalent is always cost of production, its other elements being supply and demand. Instead of being a mere medium of exchange, it is the most conspicuous object of exchange in commerce, since, as the universal equivalent, it buys and pays for everything offered for sale, and is wanted, always and everywhere, as no other commodity can be, the wide world over. An exchange is as complete on the receipt of money as of any other commodity. The only power or use of credit is to borrow capital.

Adam Smith's view equates banknotes to gold: "A paper money, consisting in bank notes issued by people of undoubted credit, payable on demand, without any condition, and, in fact, always readily paid as soon as presented, is, in every respect equal in value to gold and silver money, since gold and silver money can at any time be had for it." That is to say, a banker does the same thing, in effect, for commerce and the general welfare, by writing a promise for a given amount of gold, which he does not possess as the miner does, who produces capital by raising the same amount of gold. Carroll criticized Smith's view: "I think no greater folly than this ever claimed the sanction of science in any department of human inquiry; but it is the principle of banking in which a banker is engaged, and the essence of the debt currency system. It is a quicksand which the banks make for their own and all other business to stand upon." Carroll maintained: "My ideal of the true system of finance is that everything unreal, factitious, and difficult of comprehension, in respect to it, should be discarded. I would, therefore, discard the unstable dollar to begin with, and adopt the troy ounce of gold as the unit of price and value; for the dollar is almost a myth, it means everything and nothing, in common apprehension, and is really a mysterious thing to some intelligent minds. It is silver, of various weights and various degrees of purity; it is of gold, or it is of paper, of it but an ounce of gold. It would put at rest the fallacy that government fixes the value of money by establishing the weight and purity of coin. Very few people comprehend that the act of the government in coining is simply an act of inspection, like determining the quality and weight of a barrel of flour, and that the value depends, not upon the stamp, but upon the supply and demand in the one case as in the other. More gold cheapens gold, as more flour cheapens flour, and it could scarce fail to be seen, if bankers put upon the markets promises to deliver ounces of gold when they have none to deliver, that the promises being accepted as gold must produce a factitious increase of currency and local depreciation of gold in the market, and infallibly a loss to the community, dealing in such promises, of their whole amount.

I therefore propose to the banks to abandon the theory that debt is money, which is false and pernicious—return to first principles, and change the system of banking from depending upon the mere expansion of debt—which must always go on increasing, by reason of the competition of the banks for dividends, expelling the coin from the country, until checked by the pressure for specie caused by the excess of the export over the receipts—to the normal and just principle of borrowing at a low rate of interest, and lending at a higher; dealing

plainly in real money capital, and not in the capital of debt, and charging a proper commission on accounts according to service rendered” (Carroll 1850s). Carroll views were endorsed by many writers who called for restoring the gold standard after the 1945 War, namely gold should be treated as a commodity like wheat, or crude oil, and should pass in any transaction in the same description as a commodity, that is, weight and fineness. For instance, one bushel of wheat of a specific quality is exchanged for a liter of cooking oil of a specific quality. Likewise, a house with given specifications is exchanged again a number of gold coins of a given weight and fineness.

## Financing Wars and Fiscal Deficits

The 1914 war dealt a fatal blow to the gold standard, a blow from which it could not recover. Instantly, with the outbreak of war, the warring nations suspended the gold standard as well as the free export of gold. Each warring government was able to print paper money without any restraint, resulting in fast price inflation. Historically, financing war has led either to a debasement of the coin or to suspension of the gold convertibility of the paper money that was in circulation. During the war, governments faced exceptionally high military expenditures, which could not be financed by taxation or loans. Governments resorted to paper emission and forced its circulation as unlimited legal tender and as money to finance expenditures. Instances of previous such suspensions were the suspensions by the Bank of England during 1797–1821 following the war with France and the United States during the Civil War. Thus, governments resorted to monetization of their deficits by borrowing directly from their central bank.<sup>2</sup> As the gold reserves of the central bank dwindled, gold convertibility was suspended.

## The UK Final Exit from Gold 1931, the US Final Exit from Gold 1971

The historical analysis of the gold standard established that two main factors undermined the gold standard; these were the power of the government as well as the banking sector to emit money with unlimited legal tender. The gold standard imposed a strict discipline and forced both the government and the banking sector to check their respective expansions, often through bankruptcy. The government had therefore to abolish what was called the gold fetter, allowing both government



financing and domestic credit to inflate without any limit. Governments resorted to monetary policy as a tool for depreciating the exchange rate in order to adjust the balance of payments without allowing the classical process of deflation to carry the required adjustment.

In 1931, the United Kingdom was not able to honor its foreign liabilities in gold. The United Kingdom classical money standard, which was the model system during the eighteenth and nineteenth centuries, collapsed irreparably in 1931 under unrestricted domestic credit, and very rigid wage and price structure. In 1971, the United States was unable to convert its foreign liabilities into gold and suspended conversion. The same factors that played in the United Kingdom to undermine the gold standard were also in full action in the United States. Government expenditures were rising at a fast rate to pay for vast military spending in Vietnam. Domestic banking credit was also expanding at a fast pace. Adjustment under gold mechanism would have required curtailing government waste as well as domestic credit. Politicians would never agree to this option and abolished the gold standard. Thereafter, inflation was running at a two-digit pace in the late 1970s. Unchecked monetary and credit expansion, under lax supervision and enforcement, led to the global financial crisis of 2007–2008. The new norm became unlimited money printing, excessive leveraging, zero interest rates, unchecked speculation, and unlimited credit regardless of creditworthiness.

### **Proposals to Prevent Crises—Currency Principle (Peel’s Act, 1844), 100% Reserve Banking, Equity Banking**

The Peel’s Act of 1844, also called the 1844 Bank of England Charter Act, was a hallmark regulation of paper money used under a gold standard. It represented the triumph of the Currency School, which wanted to tie paper currency in a rigid way at 100% reserve to gold, in opposition to the Banking School, which opposed any restriction on paper issuance except gold convertibility. The Banking School contended that paper currency couldn’t be emitted beyond the needs of the economy, since borrowers pay an interest rate on their loans and as soon as these loans are repaid, the banknotes are withdrawn from circulation. Peel’s Act remains relevant for today’s banking regulation and if there is a desire by Muslim countries to adopt gold standard. It is not for historical purpose that we consider it; it is mainly to shed light on the nature

of fractional banking and its irreconcilable co-existence with the gold standard. The suspension of the Act in 1847, 1857, 1866, etc. illustrated the position of Charles Holt Carroll that gold and debt currency are like water and fire, one has to extinguish the other, and only 100% reserve banking is compatible with gold standard. Basically, As Henry Thornton (1802) has plainly shown, banks create a fictitious capital; this fictitious capital, according to Carroll, can be paid only with more debt creation and not in real capital. The latter attempt leads to bankruptcy of the debtor. Mathematically, if banks emit \$1,000 claims against \$100 gold reserves, then these claims cannot be settled with gold upon demand. They can be settled only with debt and paper emission.

Peel’s Act regulated only the banknotes issuance by strictly tying it to the gold reserves of the Bank of England, and left credit unregulated. The act divided the Bank of England into two departments: the issue department and the banking department. The issue department issued currency as a counterpart to government securities and reserves in gold. The fiduciary note issue was limited to 14 million pounds sterling, and the supplementary note issue required a 100% marginal gold reserve. Notes were issued for gold at £3.17s 9d pound sterling per ounce of gold. The banking department was in charge of the banking operations of the Bank of England. Banking operations included deposit taking and granting of loans and discounting. A hypothetical balance sheet of a central bank before and after the splitting into two departments is depicted below:

Balance Sheet of a Central Bank: Before Splitting into Two Departments

<i>Assets</i>	<i>Liabilities</i>
Gold reserves	Notes (Currency in circulation)
Government securities	Private deposits
Credit	Government deposits
Total assets	Total liabilities

Balance Sheet of a Central Bank: After Splitting into Two Departments

<i>Balance sheet of the issue department</i>		<i>Balance sheet of the banking department</i>	
<i>Assets</i>	<i>Liabilities</i>	<i>Assets</i>	<i>Liabilities</i>
Gold reserves	Notes	Notes reserves	Private deposits
Government securities		Credit	Government deposits
Total assets	Total liabilities	Total assets	Total liabilities

The operations of the issue department were regulated by Peel's Act. The operations of the banking department were unregulated. Following the passage of Peel's Act, the Bank of England, although abiding by the new restrictions on note issue, began a large-scale expansion of its banking activities. This credit expansion fueled a speculative bubble in equities, and in combination with large grain imports due to crop failure, caused a drain on the specie reserves of the bank and resulted in severe panic in 1847. The currency notes of the banking department fell to critical level in relation to its deposits; consequently, the banking department had to curtail its discounting and lending operations and increase dramatically its interest rates. Many companies went bankrupt. Eventually, the 100% reserve provision of Peel's Act was suspended in 1847 so as to allow Bank of England to issue paper currency without the binding gold rule. Nonetheless, the high interest rates in Britain attracted large gold inflows. The external capital account of the balance of payments recorded a surplus that more than offset the external current account deficit. The gold reserves of the issue department rose to levels that had existed before the crisis and enabled an increase in money supply and a resolution of the financial panic. Peel's Act was suspended in 1857, 1867, and 1873 for the same reason that led to its suspension in 1847—namely, shortage of liquidity at the banking department. The act was repealed in 1914. However, the restriction of the act and the crisis of 1847 unraveled the disconnection between real economy and the expansion of bank credit. Bank credit expanded to accommodate speculation and an economic boom, and banks created fictitious credit to meet higher demand for credit and fuel higher prices. As Carroll established, fictive loans cannot be repaid except via more debt or bankruptcy. The United Kingdom faced the dilemma of either reinforcing the Peel's Act and let bankruptcy take place or allow debt to pay debt by suspending the Act and allowing the Bank of England to extend credit to banks. It opted for the latter option by suspending the Act and allowing the bank to discount bills. The suspension of the act on the many occasions stirred again the debate on money and banking among the prevailing and conflicting schools. The main positions can be formulated as follows:

- Should the act be upheld and let fictitious credit fail?
- Should the act be suspended and let the central bank accommodate fictive credit as proposed by Bagehot (1873)?

- Should the government prevent credit expansion by imposing 100% reserve banking as required by Hume (1752–1777), Carroll (1850s), A. Walker (1873), etc.?
- Should the government abolish central banking as called for by Thomas Jefferson and Andrew Jackson, restricting the government to minting metals only? Banks will have no rediscount facility and have to survive on their own.
- Should the government eliminate any restriction on banks and bail them out unconditionally through the central bank?

The conclusion from the history of the act was that debt and gold were like water and fire; one has to expel the other. Central banking as well as fractional banking led frequently to suspensions of gold payments and finally to the dismantlement of the gold standard. Murray Rothbard (1962) and Ludwig von Mises (1953) emphasized the incompatibility of fractional banking and gold and noted that credit had to submit to 100% reserve principle for the Act to operate without repetitive suspension. The Chicago Plan also proposed the 100% reserve banking in 1933 and it is at the foundation of Islamic banking. The thrust of 100% reserve banking was to prevent any creation and destruction of money by the banking sector. Money becomes outside money that cannot be influenced by banks. The banking sector will be formed of two segments: (i) one segment is a depository sector for domestic and international payments; (ii) another segment is an investment banking in form of equity banks, mutual funds, trust funds, and saving and loans association that receive long term funds for investment purposes.

## Conclusions

Financial crises were frequent under the gold standard and led to gold suspension and loss of gold for depositors. The cause of suspensions was overleverage by fractional reserve banking and or excessive fiscal deficits that had to be monetized. Debt, by its nature, was rarely paid and fell constantly in default, as illustrated by sovereign or private debt crises. Overleveraged debt pyramided on small gold reserves would be impossible to repay. This very basic truth was not understood in the Sir Robert Peel's Act of 1844, which restricted banknotes to 100% gold reserves and was not aware of Carroll's dictum that gold and debt were like water and fire. Peel's Act failed to recognize that bank credit was as much money as banknotes with unlimited legal tender.

Banks expanded credit in a multiple of gold reserves and were not able to meet gold payments causing general panic and a suspension of the Act's restriction on several occasions.

The lesson from financial crises was that gold standard was not compatible with fractional reserve banking, war financing, and government oversized spending. Besides the 100% currency principle, there was inevitably a reserve requirement of 100% gold. This principle has been enunciated by a large number of scholars as well as by the authors of the Chicago Plan as the only reform for eliminating financial crises. The restoration of a gold standard would not by itself eliminate financial crises but would force liquidation of crisis, remove costly bailouts, and zero-interest rates. To eliminate financial crises, the gold system has to be established in a model of 100% reserve banking, such as under the Chicago Plan or Islamic finance.

## Strategies for Reintroducing the Gold Standard

In the pre-1914 era, all countries were on metallic standards based on gold and silver. Suspension of cash payments happened domestically; but the metallic standard remained and international payments were made in gold or silver. However, with the advent of paper currency in the form of notes emitted by a central bank, government treasury, monetary institution, or private banks, domestic gold suspension happened often.<sup>1</sup> Under the gold standard, the issuers of fiat money issued paper money beyond their ability to redeem their banknotes in gold at par; consequently, in the face of panic or bank runs, they suspended payments in gold (Holden 1907).

The strategy for restoring gold in a modern economy that has been under a paper standard for decades does not require any deflation of the paper money. Restoring a gold standard following a suspension of gold convertibility is technically very simple; it is purely a political decision. It requires only an instantaneous and strict interdiction to issue any additional paper money until the national currency reaches a stable rate vis-à-vis gold at which point convertibility may be implemented on a permanent basis. Thereafter, the paper is issued only against gold. However, politically, restoring the gold standard in 2014 has become almost unimaginable, especially after decades of printing money at will under an inconvertible paper money system. Restoring a gold standard is exactly the same experience as restoring convertibility of a currency at par such as the Eurozone currencies became pegged to the euro in 1999. After World War II, many European currencies, such as the French Franc, were not convertible into foreign currencies at par as stipulated by the Bretton Woods system of fixed exchange rates. To reestablish convertibility, the concerned countries had to regain control of both money and fiscal policies and achieve

macroeconomic stability. As long as the fiscal deficit was out of control and was being constantly monetized, countries could not attain convertibility and foreign exchange was controlled by the State. After 1971, under floating exchange rates, many currencies became convertible into other currencies at variable exchange rates.

The chapter covers:

- Historical experiences with restoring the gold standard
- Proposals for reintroducing the gold standard: Ludwig von Mises, Murray Rothbard, Ron Paul, and Jacques Rueff

## Historical Experiences of Restoring the Gold Convertibility and Gold Standard

### *The Bullion Report 1810*

Following panic and a run on the Bank of England in 1797, the British (UK) Parliament issued a law, which suspended the convertibility of banknotes into gold. The main check on the expansion of credit and note issuance was removed. Consequently, there was a big increase in the market price of bullion in relation to the mint price and a considerable deterioration of the exchange rates in relation to the monies of main trading partners during the years from 1807 to 1809. The Parliament appointed a committee, called the Bullion Committee, composed of the finest monetary experts in the country to investigate the causes underlying the high price of bullion and the unfavorable exchange rates. The Bullion Committee held extensive interviews with leading bankers and merchants who had deep knowledge of money, trade, and foreign exchange markets. The Directors of the Bank of England contended that there was no excess issue of notes, since credit paid out an interest cost and merchants did not hold loans for longer than they really needed for their business. Some experts attributed the fall in the exchange rates to unfavorable balance of payments.

Irrespective of the conflicting views of the experts that were interviewed, the Bullion Committee statistically established that there had been an increase in notes in circulation arising from credit to the economy, with only a small increase in loans to the government, and that the balance of trade was in the favor of the United Kingdom. The Bullion Committee established that excess note emission was a main factor responsible for high price of bullion and falling exchange rates. The report called for resumption of note convertibility into gold at

pre-suspension rates following a reasonable transition period during which the Bank of England should progressively reduce its advances as well as note issuance until the market price declined to the mint price, at which time the bank should resume fully its cash payments. The Bank of England resumed cash payments in 1819 at par as prior to 1797, and the Suspension Law was repealed in 1821. The United Kingdom maintained convertibility without any suspension until the breakout of the world war in 1914. We note that the economic structure in 1821 was characterized by flexibility of wages and prices.

#### *Reestablishing the Gold Convertibility in the United States in 1879*

The United States had a metallic standard as elaborated in the US Constitution:

“Art. I. Section 8. The Congress shall have power: (i) to borrow money on the credit of the United States; (ii) to coin money, regulate the value thereof, and of foreign coin, and fix the standard of weights and measures; and (iii) to provide for the punishment of counterfeiting the securities and current coin of the United States. Art. I. Section 10. No state shall coin money; emit bills of credit; make anything but gold and silver coin a tender in payment of debts.”

Before the Civil War, the United States had a metallic standard where gold and silver circulated as monies at a fixed rate. However, with the outbreak of the Civil War, the United States issued in 1861, a nonconvertible currency called “greenbacks,” defined in relation to gold with a provision for convertibility when conditions of convertibility were achieved.<sup>2</sup> The “greenbacks” circulated, however, at large discount in relation to metallic coins during the war and shortly thereafter. The international payments were made in gold. However, after the end of the war, helped by the restoration of public finance equilibrium, the US Treasury restored in 1879 the unlimited convertibility of greenbacks into gold at the rate of \$20.25/ounce of gold until 1934, when gold was confiscated and banned from domestic circulation. The progress to convertibility in 1879 was a smooth process, with a portion of the issue of greenbacks withdrawn from the circulation in form the of budget surpluses.

#### *From Silver to Gold: Germany in 1871*

Many silver countries decided to adopt gold as standard of value. Germany adopted gold as the standard of value in 1871 and banned



free coinage of silver. Hence, Germany adopted the same gold standard as the United Kingdom and the United States. As soon as Germany was on the gold standard, France decided to end its bimetallism and close free coinage to silver. Countries in the Latin Union<sup>3</sup> followed France and adopted the gold standard.

### *From Silver to a Gold-Silver System*

As major industrial powers such as the United States, the United Kingdom, Germany, and France adopted gold standards during 1870–1914, the value of silver in relation to gold depreciated considerably.<sup>4</sup> Numerous partner countries that were on a silver standard saw their currencies depreciate significantly, causing serious balance of payment difficulties. Silver standard countries had to acquire gold to settle their balance of payments with gold standard countries.<sup>5</sup> Moreover, foreign investment in silver countries such as India and Mexico was discouraged as remittances of profits, amortization and interest yielded smaller amounts in gold standard currencies, and the market rate between gold and silver was constantly depreciating against silver. Many silver countries had to introduce currency reforms consisting of achieving a fixed exchange rate of their currencies in relation to gold. These reforms were needed to establish stability of exchange rates and settle trade and capital operations in gold with gold standard countries. Many countries introduced currency reforms fashioned after David Ricardo's recommendation formulated in his pamphlet *Proposals for an Economical and Secure Currency*, published in 1816, which called for a gold standard where convertibility by banks is restricted to bullion alone for a minimum of 20 ounces of gold and above. The purpose of Ricardo's reform was to profit from the convenience offered by paper while maintaining the soundness of the currency and its convertibility at par with gold. Hence, notes began to be increasingly used, replacing coins in the domestic circulation. This system became to be known as the gold-exchange standard.

Kemmerer (1916) meticulously described the currency reforms of India (1892), the Straits Settlements (1903), Porto Rico (1898), and the Philippines (1903). These countries implemented a gold-exchange standard as recommended by David Ricardo (1816), that is, a currency mechanism or arrangement in which silver circulation is maintained in the economy for actual use, with a provision for satisfactory conversion into the gold currency of some other nations. More specifically, these countries were not as advanced as the United Kingdom or the United States, and they were not sufficiently wealthy to acquire a large quantity of gold (capital in gold) for domestic circulation at the

expense of productive capital invested in the economy. Hence, they needed gold only for international payments and not for domestic circulation; the national currency is used for domestic payments while being convertible at a fixed exchange rate with gold.

India moved from silver to a gold-silver standard. A major decision was to restrict the quantity of silver rupees in circulation by closing the mints to silver coinage in 1893. India was able to firmly establish fixed parity of the rupee with gold and maintain it thereafter. It constituted a gold fund for settling foreign operations. In the case of the Philippines, the gold exchange standard rested in practice upon the use of silver or silver certificates, with arrangements for converting these media of exchange into American money. The gold exchange standard, as thus conceived, presented itself as an intermediate position between the gold standard and bimetallism. It avoided the necessity of obtaining or supplying a quantity of gold for actual use, or even for the reserves of banks; it permitted the circulation of the less expensive silver, or the still cheaper paper representative of silver; and it avoided the problems emanating from changes in the ratio of silver to gold by maintaining a constant and steady basis of convertibility of silver for gold or gold equivalents, or vice versa. Only a dependent country—one whose financial system is practically subordinate to or controlled by that of another nation—could adopt such a standard of value and exchange. To maintain a stable ratio between gold and silver, the Philippines contracted silver coining.

#### *Restoration of Gold Standard during the Interwar Period*

With the outbreak of war in 1914, many countries suspended the gold standard, meaning that their currencies were no longer defined in relation to gold; the currencies were floating in the exchange markets against each other. As soon as the war ended, countries were eager to restore the gold standard. However, the environment under which gold standard was to be restored was marked by deep scars of the war, high inflation and even hyperinflation in many countries, harsh reparation payments on defeated countries, highly expansionary monetary policies, deep-rooted price rigidities, and government intervention that reduced wage price flexibility (especially in the downward direction). Price and wage flexibility were essential for the smooth functioning of the specie mechanism and thus the adjustment in the balance of payments.

A discovery of the war was that international payments could be accomplished with paper currencies; hence, both gold and paper

currencies were used in international payments. This is the gold-exchange system. The Genoa Conference in 1922 wanted to preserve this feature of payments in order to economize on the use of gold. The conference proposed the adoption the gold exchange standard where countries hold reserve currencies such as the British pound as an equivalent to gold. The postwar financial setting was different from the prewar period, with the United States establishing the Federal Reserve Bank in 1913 that would become a hurdle against gold as predicted in mid-nineteenth century by C. H. Carroll.

An important feature of the return to a gold standard was the contrast between the British experience and the French experience. The British experience restored gold at prewar parity in 1925 in the context of very high inflation. This rate did not reflect the very high degree of inflation since 1914 and was totally unrealistic. It necessitated a grave deflation that severely impaired the economy as well as external competitiveness. Mass unemployment developed, as wages could not be reduced. However, France was not as fast as the United Kingdom in restoring gold; it stabilized its economy until it reached a stable market rate of its currency in relation to gold that reflected past inflation as well as trade equilibrium. France restored a stable gold standard in 1928 at a highly devalued market rate, about one-fifth of the prewar parity, which enhanced external competitiveness without any reduction in nominal wages and was maintained with no difficulty thereafter. As the British pound was considered to be equivalent to gold in the gold exchange standard, the Bank of England expanded its liabilities in relation to its gold reserves considerably. In view of worsening domestic conditions and default of the Bank of England on its foreign liabilities, the United Kingdom, the cornerstone of the gold standard, exited the system in 1931. In the footsteps of Britain, countries renounced gold one after another. By 1936, most countries were under a nonconvertible paper standard.

We conclude from the interwar experience that the gold standard is not compatible with the heightened instability that accompanies wars, unrestrained fiscal and monetary expansion, and government intervention that prevents flexibility of wages and prices. The opponents of the gold standard called it “gold shackles.”<sup>6</sup> Gold cannot be created at the same speed as paper money and cannot be used as a stealth tax. Opponents of gold opposed price adjustment and called for devaluation of the exchange rate as a mechanism of reestablishing balance of payments equilibrium. A gold standard could be an effective system in an environment that exhibits price and wage flexibility with

disciplined governments that do not resort to unrestrained money creation for spending waste and war financing.

## Proposals for Reintroducing the Gold Standard

*Ludwig von Mises, Murray Rothbard, Ron Paul, and Jacques Rueff*

Going from gold to paper money was easy and even irresistible. Going back from inconvertible paper money to gold has been extremely difficult, and was obstructed by insurmountable resistance from political, academic, and interest groups. Much of recent economic doctrines, such as Keynesian economics, were built on the assumption of fiat paper money and so the financialization of the economy. With gold, all the construct of fiscal and money policies, zero-interest, and liquidity trap would evaporate.

Many authors (including Mises 1953; Rist 1961; Rothbard 1962; Rueff 1964; Hazzlitt 1965; and Ron Paul 1985) strongly advocated the reinstating of the gold standard and predicted financial crises that would result in a system of inconvertible paper money. These authors argued that paper money would lose much of its purchasing power in relation to commodities, and that a country that adopts the gold standard has to acknowledge the extent of the devaluation of its inconvertible paper currency in relation to goods.

### *Mises's (1953) Proposals for Restoring the Gold Standard*

Mises contended that the destruction of the monetary order was the result of deliberate actions on the part of various governments. The government-controlled central banks were the instruments in this process. He contended that governments could not do without inflation, as they need it to finance their spending. He argued that governments cannot, and never will, accept a policy of sound money. They can abandon neither their policies of deficit spending nor the help their anticapitalist propaganda receives from the inevitable consequences of inflation. Mises emphasized that monetary reconstruction—including the abandonment of inflation and the return to sound money—is not merely a problem of financial technique that can be solved without change in the structure of general economic policies. There cannot be stable money within an environment dominated by ideologies that are hostile to the preservation of economic freedom. Bent on disintegrating the market economy, the ruling parties will not consent to reforms that would deprive them of their most formidable weapon: inflation.

Mises noted that sound money meant what it meant in the nineteenth century—the gold standard. He thus rejected the monetarists' notion of fixing the paper money supply growth to achieve sound money.<sup>7</sup> For Mises, the primacy of the gold standard was the fact that it makes the determination of the monetary unit's purchasing power independent of government actions. It wrests from the hands of the "economic tsars" their most mighty instrument. It makes it impossible for them to inflate. To Mises, it was essential to force rulers to spend only what, by virtue of duly promulgated laws, they have collected as taxes. Whether governments should borrow from the public, and, if so, to what extent, were questions that were irrelevant to the treatment of monetary problems. The main thing is that the government and banks should no longer be in a position to increase the quantity of money in circulation and the amount of demand deposits.

Historically, one of the attractions of the return to gold has been to kill the superstitious belief that governments and banks have the power to make the nation or individual citizens richer out of nothing and without making anybody poorer. The shortsighted observer sees only the accomplishments of the government through spending newly created money but not the negative fallout for the private sector. He applauds the casino owner's fortune, but does not deplore the lost fortune of the losers. He fails to realize that inflation does not create additional goods but merely shifts wealth and income from some groups to others.<sup>8</sup> Moreover, he neglects to take note of the secondary effects of inflation: mal-investment and destruction of capital. Mises noted that often government policy makers confound money and capital; they believe creation of money through credit expansion is creation of capital and that lowering the rate of interest below the level it would take on an unhampered market is a blessing for a nation.

Mises laid out his currency reform proposal for a hypothetical country "Ruritania" which once, in the past, had adopted the gold standard. However, its government issued paper money to which it assigned legal-tender power in the ratio of one paper rur to one gold rur. All residents of Ruritania were made to accept any amount of paper rurs as the equivalent of the same nominal amount of gold rurs. The government alone did not comply with the rule it had decreed. It did not convert paper rurs into gold rurs in accordance with the ratio 1:1. As it went on increasing the quantity of paper rurs, Gresham's Law operated with gold rurs disappearing from the market. They were either hoarded by Ruritarians or sold abroad.

In such a world, the Ruritanian government knows what it has to do in order to prevent a further depreciation of the paper rur against gold or foreign exchange—simply eliminate the deficit spending it finances by continued inflation. From a monetary technique standpoint, the stabilization of a national currency's exchange rate against foreign, less-inflated currencies or against gold is a simple matter. The preliminary step is to abstain from any further increase in the quantity of the domestic currency. At the outset, this will stop the further rise in foreign exchange rates and in the relative price of gold. After some oscillations, a somewhat stable exchange rate will appear, with its peak depending on purchasing-power parity. However, this stability cannot last indefinitely. While an increase in the production of gold or an increase in the issuance of foreign currencies continues abroad, Ruritania now has a rigidly limited quantity of currency. Under these conditions, full correspondence between the movements of commodity prices on the Ruritanian markets and those on foreign markets can no longer prevail. If prices in terms of gold or foreign currencies are rising, prices in terms of rurs will lag behind them or even drop. This means that the purchasing-power parity is changing. A tendency will emerge toward an enhancement of the price of the rur as expressed in gold. When this trend becomes manifest, the propitious moment for the completion of the monetary reform has arrived. The exchange rate that prevails on the market at this juncture should be promulgated as the new legal parity between the rur and gold. Unconditional convertibility at this legal rate of every paper rur against gold, and vice versa, should henceforth be the fundamental principle.

The reform thus consists of two measures. The first is to end inflation by setting an insurmountable barrier to any further increase in the supply of domestic money.<sup>9</sup> The second is to prevent the relative deflation that the first measure will, after a certain time, bring about in terms of gold. As soon as the second step has been taken, any amount of rurs can be converted into gold without any delay and any amount of gold into rurs. A conversion agency, different from the central bank, shall be entrusted with exchange operations.<sup>10</sup> The agency requires, for technical reasons, a certain small reserve of gold. However, its main concern, at least in the initial stage of its functioning, should be how to provide the rurs required for the exchange of gold against rurs. To enable the agency to perform this task, it has to be empowered to issue additional rurs against full—100%—coverage by gold bought from the public.

The total amount of rurs issued before the start of the new monetary regime must not be increased by any operations on the part of the government; only the agency is free to issue additional new rurs, rigidly complying in such issuance with the rule that each of these new rurs must be fully backed by gold paid in by the public in exchange. The conversion agency serves the public and deals exclusively with that part of the public that wants to avail itself, on its own free accord, of the agency's services. Nevertheless, no privileges are accorded to the agency, other than paper money issuance. It does not get a monopoly for dealing in gold or foreign exchange. The foreign exchange market is perfectly free from any restrictions. Everybody is free to buy or sell gold or foreign exchange. There is no centralization of such transactions, any bank or dealer can settle foreign payments with foreign correspondents. Nobody is forced to sell gold or foreign exchange to the agency or to buy gold or foreign exchange from it.

The reform suggested would deprive the government of Ruritania of the power to spend any rurs above the sums collected by taxing the citizens or by borrowing from the public, whether domestic or foreign. Once this is achieved, the specter of an unfavorable balance of payments fades away. If Ruritarians want to buy foreign products, they must export domestic products. If they do not export, they cannot import. Based on the Ruritania model, Mises showed how the United States could return to a sound currency. He noted that, for US politicians and Wall Street pundits, a return to the gold standard is taboo. Gold opponents would be perfectly right if they were merely to assert that the gold standard is incompatible with the methods of deficit spending. One of the aims of a return to gold is precisely to do away with this system. However, the critics are mistaken if they deem that the reestablishment and preservation of the gold standard is economically and technically impossible.

Mises emphasized that the United States should restore the classical gold standard, which existed in the United States until 1934 with gold coins circulating freely, and not the gold-exchange standard. Gold must be in everybody's cash holdings. Everybody must see gold coins changing hands, and everyone must be used to having gold coins in their pockets, receiving gold coins when they cash their paychecks, and spending gold coins when buying something from a store. This state of affairs can be easily achieved by withdrawing all bills with denominations of five, ten, and perhaps also twenty dollars from circulation.<sup>11</sup> The newly suggested monetary regime would have two classes of legal-tender paper bills: the old stock and the new

stock. The old stock consists of all paper bills that were in circulation as legal tender at the beginning of the reform. It is strictly forbidden to increase this stock by the further issuance of any additional notes of this class. On the other hand, it would decrease to the extent that the Treasury and the Federal Reserve decree the reduction in the total amount of legal tender notes of this old stock plus bank deposits subject to checks existing at the beginning of the reform, to be affected by the final withdrawal and destruction of definite quantities of such old-stock legal-tender notes. Moreover, the Treasury is bound to withdraw from circulation, against the new gold coins, and to destroy, within a period of one year after the promulgation of the new legal gold parity of the dollar, all notes of five, ten, and perhaps also twenty dollars. Mises proposed that the new-stock legal-tender notes issued by the Conversion Agency must be issued only in denominations of one dollar or 50 dollars and upward. For Mises the classical gold standard is the only truly effective check on the power of the government to inflate the currency. Without such a check, all other constitutional safeguards can be rendered void.<sup>12</sup>

#### *Rothbard's (1962) Gold Standard Plan*

Rothbard was a fervent supporter of the gold standard and market economics. He called for a genuine gold dollar, as gold was the monetary standard in most countries until 1914, or even until the 1930s. He maintained that money has to be a commodity as implied by the US Constitution, Article I, Section 8, which entrusted Congress with the power, “*to coin money, regulate the value thereof,*” noting that what the framers of the Constitution meant by “*value*” was simply the weight and the fineness of coins. Rothbard argued that some eminent economists (e.g., Irving Fisher, Henry Simons, and Milton Friedman) overlooked the words, “*to coin,*” and jumped directly to, “*regulate,*” mistaking the latter for price level stabilization. He deemed that money has to be made of precious metals for these to have properties fit for money function; they have stable nonmonetary demand, high value per unit weight, high marketability, durability, divisibility, portability, identification, and homogeneity.

Rothbard noted that currency names such as pound sterling and dollar invariably originated as names for units of weight of a money commodity, either gold or silver. In short, they began not as pure names, but as names of units of weight of particular money commodities. For instance, the British pound was originally just a pound of silver money. The “dollar” began as the generally applied name of



an ounce weight of silver coined in the sixteenth century. Under the classical gold standard, it would be incorrect to say that the price of gold was fixed in terms of dollars or pounds. The dollar was simply a defined weight in gold. For instance, a British sovereign was not a price of gold; it designated a weight of 7.988052 grams of gold embodied in a coin named British sovereign.

As for every commodity, the “price” of gold relative to the price of other commodities varies in accordance with its supply and demand. Since the demand for gold and silver was high, and their supply was low in relation to the demand, the value of each unit in terms of other goods was high—a most useful attribute of money. This scarcity, combined with great durability, meant that the annual fluctuations of supply were necessarily small—another useful feature of a money commodity. Commodities on the market exchange by their unit weights, and gold and silver were no exceptions. A trader may sell copper to buy gold and then to buy butter; he sells pounds of copper for ounces or grams of gold to buy pounds of butter. In the free market, therefore, the monetary unit—the unit of the nation’s accounts—naturally emerges as the unit of weight of the money commodity, for example, the silver ounce, or the gold gram. In this monetary system emerging on the free market, no one can create money out of thin air to acquire resources from the producers. Money can only be obtained by purchasing it with one’s goods or services. The only exceptions to this rule are gold miners, who can produce new money. However, they must invest resources in finding, mining, and transporting what is a scarce commodity. Gold miners are productively adding to the world’s stock of gold for nonmonetary uses as well.

In the market, commodities take different forms for different uses, and so would gold or silver in a free market. The basic form of processed gold is gold bullion, and ingots or bars of bullion would be used for very large transactions. For smaller, everyday transactions, the gold would be divided into smaller pieces: coins hardened by the slight infusion of an alloy to prevent abrasion (accounted for in the final weight). It should be understood that all forms of gold would be as money, since gold exchanges by weight. A gold ornament is in itself money as well as an ornament; it could be used in exchange, but it is simply not in a convenient shape for exchange, and would probably be melted back into bullion before being used as money. Of course, it costs resources to shift gold from one form to another, and therefore in the market, coins would tend to be at a premium over the equivalent weight in bullion, since it generally costs more to produce a coin out of bullion than to melt coins into bullion.

Rothbard argued that a metal standard should be gold or silver. There is, indeed, a case for silver, but the weight of the argument remains with a return to gold. Silver's increasing relative abundance has depreciated its value significantly in terms of gold, and it has not been used as a general monetary metal since the nineteenth century. Rothbard proposed a genuine gold standard; that is, the dollar must be tied to gold permanently at a fixed weight, and must be redeemable in gold coin at that weight. The dollar should once again be defined as a unit of weight of gold. There could be no returning to a gold standard unless the dollar is first fixed to gold. A country could in fact return to the classical gold standard such as all major nations were on before 1914 and the United States was on from the 1850s to 1933.

Rothbard insisted that gold coins should circulate and be used in transactions. A device used by governments was to persuade the public not to use gold in their daily transactions; to do so was scorned as an anachronism unsuited to the modern world. In this way, gold was more and more confined to the banks, to be used for very large transactions. By imposing central banking, by suspending specie payments, and by encouraging a shift among the public from gold to paper or bank deposits in their everyday transactions, governments organized an ever larger proportion of money substitutes for gold (an increasing proportion of liabilities redeemable on demand in gold). By the 1930s, the gold standard—built on a shaky gold base supporting an ever-greater pyramid of monetary claims—was ready to collapse at the first severe depression or wave of bank runs.

Rothbard emphasized that there seemed little point in advocating fundamental reforms while neglecting the causes that undermined the gold standard in the past. He called for the abolition of the Federal Reserve and a return to some form of free banking-and-gold standard as prevailed in the American economy from the abolition of the Second Bank of the United States to the Civil War, in which there was no form of central banking, and each bank had to redeem its notes and deposits promptly in gold. The abolition of the Federal Reserve would mean that its gold supply, now kept in Treasury depositories, would have to be disgorged and returned to private hands. Disposal of gold reserves gives the clue to the proper definition of a gold dollar. In order to liquidate the Federal Reserve and remove the gold from its vaults, and at the same time tie gold to the dollar, the Federal Reserve's gold must be revalued and redefined so as to be able to exchange it, one for one, for dollar claims on gold. The Federal Reserve's gold is estimated at \$11 billion evaluated at \$42.2/ounce, corresponding to

262 million ounces of gold. The liquidation of the Federal Reserve supposes the liquidation of its assets and liabilities. The net liabilities would have to be redeemed in gold.<sup>13</sup>

Besides abolishing the Federal Reserve, Rothbard wanted to eliminate, or at least dramatically reduce, inflation and business cycles. Consequently, he proposed 100% reserve banking, which would take away the ability of banks to create money and thus reduce inflationary and deflationary pressures. The 100% gold reserve tradition, held by David Hume, Thomas Jefferson, Andrew Jackson, John Adams, C. H. Carroll, Amasa Walker, and Ludwig von Mises, considers the issuing of demand liabilities greater than reserves as equivalent to warehouse issuing and speculating in warehouse receipts for nonexisting deposits. Rothbard maintained that a 100% gold system was the soundest monetary system and the only one fully compatible with the free market and with the absence of fraud.

Rothbard noted that the Chicago School advocated the 100% reserve banking system in 1933, not for restoring a gold standard, but for eliminating recurrent financial crises. However, he noted that the 100% reserve banking system was advocated as a foundation for a gold standard by Amasa Walker (1873) and the Boston merchant Charles H. Carroll (in the 1850s); both authors emphasized 100% gold reserves against bank deposits as well as notes; they urged the replacement of the name “dollar” by gold ounce or gold gram. For the same reason of stability, Isaiah W. Sylvester (1882) advocated a 100% dollar and parallel standards. Elgin Groseclose (1934) was another strong advocate of the 100% gold standard.

The major objection to 100% gold reserves had been that it would leave the economy with an inadequate money supply. However, this objection has been challenged on the basis of the function of money as a medium of exchange. Money performs its function by being a medium of exchange; any change in its supply, therefore, would simply adjust itself in the purchasing power of the money unit, that is, in terms of the amount of other goods that money would be able to buy. An increase in the supply of money means merely that more units of money are doing the social work of exchange; consequently, that the purchasing power of each unit will decline. Because of this adjustment, money, in contrast to all other useful commodities employed in production or consumption, does not confer a social benefit when its supply increases. The only reason that increased gold mining is useful, in fact, is that the large supply of gold will satisfy more of the nonmonetary uses of the gold commodity. There is, therefore, never

any need for a larger supply of money (apart from the nonmonetary uses of gold or silver). An increased supply of money can only benefit one set of people at the expense of another set; that is what happens when governments or banks inflate the money supply. There can, incidentally, never be an actual monetary “shortage,” since the very fact that the market has established and continues to use gold or silver as a monetary commodity shows that enough of it exists to be useful as a medium of exchange. Under a 100% hard-money international gold standard, the currency of each country would consist exclusively of gold or of gold plus fully backed warehouse receipts for gold in the form of paper money and token coins. The world’s gold supply would be distributed among the various countries according to the demands for cash balances of the individuals in the various countries. There would be no danger of gold deserting some countries and piling up excessively in others for each individual would take care not to let his cash balance shrink or expand to a size that he considered inappropriate in view of his own income and wealth. A monetary medium is therefore critical to the free market, and the wider the use of this money, the more extensive the market and the better it can function.

Rothbard’s roadmap to return to a 100% gold dollar<sup>14</sup> has a transition program summarized as follows:

- Establish a 100% gold dollar by revaluation of the dollar at a “gold price” high enough to make the gold stock 100% of the present supply of dollars.
- Get the gold stock out of government vaults and into the hands of the banks and the people, with the concomitant liquidation of the Federal Reserve System and a legal 100% requirement for all demand claims.
- Transfer all note-issue functions from the Treasury and the Federal Reserve to private banks. All banks, in short, would be allowed to issue deposits or notes at the discretion of their clients.
- Free silver bullion and its representative in silver certificates (which would now be issued by the banks) from any fixed value in gold. In short, silver ounces and their warehouse receipts would fluctuate, as do all other commodities, on the market in terms of gold or dollars, thus giving “parallel” gold and silver moneys, with gold dollars presumably remaining the chief money as the unit of account.
- Eliminate (eventually) the term “dollar,” using only terms of weight such as “gold gram” or “gold ounce.” The ultimate goal would be the return of all countries to gold, at 100% of its particular currency, and the subsequent blending of all these national currencies into one unified world gold-gram unit. This was one of the considered goals at the abortive international monetary conferences of the late nineteenth century.

In such a world, there would be no exchange rates except between gold and silver, for the national currency names would be abandoned for simple weights of gold, and the world's money would be freed from government intervention.<sup>15</sup>

- Free (but presumably not gratuitous) the private coinage of gold and silver.

Rothbard acknowledged that he differed with Mises's suggestion for return to the gold standard by first establishing a "free market" in gold and cutting the dollar completely loose from gold, and then seeing, after several years, what gold price the market would establish. He claimed that the transition under Mises' Plan would be reverting to fiat money. In addition, the market would hardly be a "free" one, since almost all the nation's gold would be sequestered in government hands. He believed that it would be important to move in the opposite direction. The Federal government had seized the people's gold in 1933 under the guise of a temporary emergency; they should be permitted to reclaim their gold. Moreover, since the gold was held at that time as a counterpart for emitted dollars, he believed that the official link and official convertibility between dollars and gold should be reestablished as soon as Congress could be so persuaded. And finally, since the dollar was merely a weight of gold, properly speaking, it would not at all be appropriate to establish a "market" between dollars and gold, any more than there should be a "market" between one-dollar bills and five-dollar bills.

### *Ron Paul's (1985) Plan for a Gold Standard*

Ron Paul participated in the Congress Gold Commission in 1982 and asserted that the renowned Austrian economists Carl Menger and Ludwig von Mises proved that money emerged by evolution from the market process. Namely, governments did not invent gold bullion as money. A strategy for restoring the monetary role of gold should aim at reintroducing a new troy ounce gold coinage. Restoration of a new gold standard in the economy would have to come from the free market itself. Paul noted that Mises's strategy for a gold standard called, as a first step, for a radical and unconditional abandonment of any further inflation. Although Paul strongly supported this objective, he did not believe that it would ever be possible to achieve such a requirement if considered as "the first step." Banishing inflation is, in fact, the ultimate objective that gold reform is expected to achieve by creating a new gold standard. Paul noted that the second step that Mises

described, that all restrictions on trading and holding gold must be repealed, has already been achieved. In January 1975, it became legal for Americans to own and trade gold, and in 1977, the remaining prohibitions on gold clauses in contracts were repealed. In Paul's view, this restoration of liberty to acquire gold was the most important change in circumstances since 1953, and the one condition that was most favorable to the restoration of gold to its proper monetary role.

Paul agreed with Mises that, for reform to be achieved, it is essential to keep the Federal Reserve System out of the way; he supported Mises's Conversion Agency that would be responsible for issuing gold coins and bullion to the public and for redeeming excess quantities of gold in circulation if the public should choose to exchange gold for paper. A separation of powers between the central bank and a conversion agency would enable the securing of a sound currency. Paul noted that even a constitutional government could not be trusted with discretionary monetary power: "The President, Congress, and the Supreme Court have clearly proved their inability or unwillingness to protect the common man, the voter, from being victimized by inflationary machinations. The function of securing a sound currency must pass into new hands, into those of the whole nation."

In Paul's plan, the first step to restoring the gold monetary system is gold coinage; gold must be in the cash holdings of everyone. Everybody must see gold coins changing hands; everybody must be used to having gold coins in their pockets, to receiving gold coins when they cash their paychecks, and spending gold coins when they buy in a store. In the critical importance of the gold coinage lies the key to establishing a new gold standard. The first political step is, therefore, to get the coinage into circulation. One objective might be to aim for every American to become a gold owner. The reform must encourage a broader base of political support for gold ownership and the availability of gold for personal economic objectives.

The demonstrated popularity in the United States of Kruggerand coins, and all the imitators of the Kruggerand (Maple Leaf, Panda, Onza, and the US Gold medallions) have shown that it is possible to increase the circulation of gold coins prior to setting a new par value for the dollar. Indeed, the only affirmative recommendation of the Gold Commission in 1982 was to create a new US gold coinage in units of weight. Paul supported a purely private, free market monetary system with any manufacturer able to produce coins, as Americans saw in California from 1849 to 1864, but he believed that getting the US Mint further into the act, producing a gold coinage with some of

the mystique of the government, would be useful in the later political stages of monetary reform. In Paul's gold standard plan, the coinage should be based on exact units of bullion weight. The coins should be denominated in troy ounces, half-ounces, and smaller sizes if feasible. The denomination of the coinage is the secret to success in the later stages of the political agenda. Since the unit of money should be defined as a definite weight of bullion, a coinage denominated by units of troy weight contributes significantly to the reeducation of the public. This knowledge, which is now almost completely lost to many generations of Americans, must be reimplanted.

When the date finally arrives, at the end of the transition period, to provide the US dollar with a fixed definition in terms of gold, it would be easy to announce to the public that the conversion agency stipulated by Mises is starting to buy and resell the troy ounce coins at a fixed price. The dollar was defined as 25.8 grains of standard gold in 1900. The dollar has depreciated tremendously and would only have a very small gold content. There is nothing inconsistent with this requirement, if the coins are denominated in troy ounce, half-ounce, or quarter-ounce sizes. The conversion agency would function as a resale buyer and wholesale distributor of the coins, and equally as a buyer of last resort for the paper money of the Federal Reserve. The monetary system achieved has a dual form: paper and gold coins, and different denominations for each form—"dollars" for paper and "troy ounces" for coin. There is a specious similarity in this proposal to the gold exchange standard of the 1920s, but the active circulation of a small denomination of gold coins would negate this criticism.

Paul emphasized the longer-term benefits of bullion-weight coinage. Over the longer term, assuming the transition to a new gold standard is successful (with Congress enacting a gold value for the dollar and fiscal policy disciplined by monetary convertibility), there are still distinct advantages to retaining the coinage in units of troy weight rather than assigning an official stamped dollar value on the face of the coins. Gresham's Law—bad money drives out good—tends to affect even the most perfect gold coin standard. If gold coins are to circulate freely in an economy where all prices are quoted in dollars, the coins themselves should not be denominated in dollars. Gresham's Law operates even when bank notes are 100% warehouse receipts for gold. People might be able to trust that bank notes are fully backed by gold, but given the choice of which to spend and which to keep in the cash box, the paper would be spent and the coin would be saved because each monetary instrument has its own subjective value

qualities. The mere fact that honest coins are more secure than even the most secure paper is a sufficient qualitative difference to give them a premium value. The subjective evaluation of every person in the free market economy must be employed to help keep the monetary system honest and noninflationary. To assure that gold coins move in active commerce, rather than sitting in vaults, free market pricing should operate. Gold coins may command a slight premium everywhere except at the conversion agency, which would have to redeem any excess Federal Reserve dollar bank notes (token money) for honest coin, at the par value, in response to public demand.

The simple confusion of the coin and the denomination of the money produced the effect of Gresham's Law during the classical period. Gresham's Law is a natural consequence of price fixing, mandating the exchange of items with different marginal utilities at a ratio not determined by the free market. It is, in fact, a special case of setting a price by law slightly too low for gold coins, the preferred form of money for long-term savings. Only the conversion agency should be allowed by law to legally exchange genuine coin for paper dollars at the par value. There are costs in terms of real resources, that is, opportunity costs in the operations of a gold coin monetary system. Proponents argue that these costs are worth paying.

Most economists who support a gold coin standard do not mention the importance of distributing the marginal costs of coinage throughout the entire spectrum of the monetary economy. In the nineteenth century, this system of fixing the face value of gold coins in terms of paper bank notes, rather than by units of weight, led to the centralization of gold hoards in bank vaults, which made it easier for governments to confiscate them. If it is left up to the government, the central bank, or the banking system to absorb the costs of always having coins on hand to redeem bank notes at face value, the managers at each stage would attempt to economize these costs, rather than charging the consumer for them, and there would be a constant pressure to take coins out of circulation and replace them with substitutes, that is, paper bank notes and demand deposits. If the coinage is denominated only in terms of troy ounces and fractions of an ounce, the free market pricing structure takes care of this problem instantly and effortlessly. The official conversion agency must redeem Federal Reserve notes at par, but others should be free to charge a competitive premium for gold coins (i.e., to discount Federal Reserve notes). This would tend to ensure a continuing flow of gold coins into private ownership.



Mises, Rothbard, and Paul condemned the notion of using money as a policy instrument; they refuted the notion that printing more money and expanding credit would lower interest rates. The latter should be determined by the market and not fixed by the central bank. High interest rates would lead to significant increase in saving, reorientation of investment toward the most efficient enterprises, and therefore lead to higher growth; as real capital builds up, there would be a decrease of interest rates. In contrast, very low interest rates enforced by the government would lead to lower saving, mal-investment, and a decline in growth and employment.

These authors considered that a single country could go it alone and adopt the gold standard without waiting for the rest of the world to be under the gold standard. They rejected the idea of an international conference for restoring a gold standard since, in the past each country had gold money established by a sovereignty act and not by coordinating with partner countries. Mises wrote: "If the principles we have previously laid down, and the practical results which follow, are such as we have stated, then no one nation needs to hesitate in making this experiment for fear that other nations may not follow their example; for the community which has the soundest currency will, other things being equal, have the most profitable industry and the most advantageous commerce. There need be no legal restriction whatever upon the issue of such a currency, and it matters not how voluminous it may be since it will be composed in fact of value money, will obey the laws of value, and, of course, will regulate itself. There would then be no expansions or contractions, except from the legitimate operations of trade; and the currency of the nation would be perfectly sound."

### *Proposals of Jacques Rueff*

Jacques Rueff (1896–1978) was an untiring proponent of gold standard and an anti-Keynesian. He was critical of the gold-exchange standard that operated under the Bretton Woods system of fixed exchange rates and predicted its imminent collapse in early 1960s. He considered the Bretton Woods system (a system based on the US dollar) a repeat of the Genoa Conference system (1922) that had created a gold-exchange standard based on the British pound and would collapse under the same conditions that led to the UK exit from gold. Rueff considered that excessive money printing and inflation were inherent aspects of the gold-exchange standard. The inherent inflation

of the gold-exchange standard arises from the double creation of money in the reserve country and in the non-reserve surplus country and from the self-multiplication of credit in the reserve country. He stated that a reserve can run a trade surplus forever at the expense of non-reserve countries.

Rueff had acquired practical experience during the inter-war period and in the post-war period. He was the mastermind of the French economic rehabilitation and convertibility of the French Franc. He understood that stabilization could be achieved through strictly reining in government expenditures and money supply. He advocated an exchange rate parity that takes into account past inflation and does not lead to deflation. While Mises, Rothbard, and Paul were interested in reestablishing a gold standard for an individual country that might be interested in such a system, Rueff called for an international gold standard where each country operates on a gold standard and where payments would be settled in gold. He thought that the Bretton Woods gold-exchange system was established through an international conference among leading powers; it ought to be dismantled and replaced by a gold standard through an international conference among those powers. Each country should use only gold to settle international payments and no country should be allowed to use its own currency for such settlements. This was indeed the system that existed during the nineteenth century (and earlier), under which no country paper currency could be used in international payments with imbalances settled eventually through gold.

Rueff became obsessed with the idea of an international conference similar to Genoa or the Bretton Woods Conferences for restoring the gold standard. An international conference would be too far-fetched an idea. Rueff might have been more successful if he had tried to bring France back on the classical gold standard that it had before 1914. A gold reform should emanate from the sovereignty of a country. Every country should be free on how to organize its internal money. It may alone implement gold if even all the rest of the world remains on inconvertible paper. It may remain on inconvertible paper even if all the rest of world is on a gold or silver standard. International monetary conferences in late nineteenth centuries to restore international bimetallism failed badly. An international conference to restore gold is too remote, and even if convened, it would fail, since countries have such conflicting interests.

## Conclusions

The suspension of the gold standard became frequent with the invention of paper money in the form of bank notes. Paper money became ever more popular as it was created at a stroke of the pen. The temptation to print an increasing amount of paper money became difficult for most issuers to resist. Under the gold standard, the authorities issued paper money beyond their ability to redeem their banknotes in gold at par. Thus, as market participants doubted the ability of issuers to convert paper into gold, panic and bank runs ensued, and consequently, conversion into gold had to be suspended.

Restoring a gold standard following a suspension of the convertibility period requires a strict stabilization of paper money until it reaches a stable rate at which convertibility may be implemented on permanent basis; but politically, restoring the gold standard in 2014 is unimaginable, especially after decades with inconvertible paper money. However, it is possible for a country, or a group of countries, to do so. Restoring a gold standard is exactly the same experience as restoring convertibility of a currency at par. Eurozone countries pegged their currencies to the euro, and renounced monetary sovereignty in 1999. There is no shortage of proposals—Von Mises, Rothbard, Paul, and Rueff to name but only the most prominent—but in 2014, their adoption is highly unlikely. However, as circumstances change, especially with renewed challenges to the preeminence of the dollar and increased international financial instabilities, anything and everything may become possible!

## Islamic Money and Capital Markets

Financial crises, bank failures, and collapse of credit were recurrent during the eighteenth and nineteenth centuries in the United Kingdom, the United States, as well as in many other European countries. During the nineteenth century, bank runs and collapse of banks became inherent features of the banking system and even appeared as unavoidable. Financial crises may have been even more severe during the twentieth century, more widespread and frequent, with numerous developed and underdeveloped countries experiencing bank failures and stock market crashes. Inferring from historical experiences, Minsky (1986) maintained that conventional finance was inherently unstable in the developed world. Periods of prosperity alternating with periods of depression and massive unemployment (Siegfried 1906); and an inevitable and vicious cycle of debt crises that push the economy into recession or depression and wipe out much of the real income gains achieved prior to the crisis. Significant wealth is redistributed to debtors who default on their loans. Moreover, it is inflationary and, therefore, again inequitable. Famous politicians have been critical of conventional finance.<sup>1</sup> Eminent economists during the nineteenth and twentieth centuries,<sup>2</sup> witnessing financial crises occurring during their lifetimes, proposed reforms that establish 100% reserve commercial banking and an investment banking system that channels investments essentially on a pass-through basis. Some reforms called for abolishing interest-based credit and replacing it by equity-based investment. The 100% reserve deposit banking was painstakingly described in the Chicago Reform Plan of 1933 (Phillips 1994). However, financial institutions have seen fractional reserve banking and leveraging as important factors to their profitability, and have been adamantly opposed to any reforms along these lines.

The basic principles of financial stability advocated by many of these authors happen to be similar to those of Islamic finance. Islamic finance draws its precepts from the *Qur'an* and *Sunnah*. Basically, Islamic finance has two pillars: (i) 100% reserve money depository banking system and equity-based investment banking, and (ii) prohibition of interest and interest bearing debt. Thus, the only significant difference between the recommendations of these authors and Islamic finance is that all interest-bearing debt is prohibited in Islam; but what is common to both is that banks cannot create money and banks cannot leverage depositors' assets and, in turn, risks that they cannot support.

In the Islamic system, credit plays a negligible role; there are no borrowers or lenders; there is no conflict between borrowers and creditors.<sup>3</sup> There are only equity-holders as investors. There is no money creation out of thin air or through the credit multiplier. Money injection does not multiply through the banking system, as banks do not lend deposits. Investment banks cannot cause a financial crisis as they invest their clients' money on a pass-through basis and thus systemic risk is minimized. As a result, Islamic finance is inherently stable. A number of giants in the profession, including Irving Fisher (1936), Simons (1948), and Allais (1999), have advocated banking systems with characteristics that are similar to the Islamic financial system and developed in the Chicago Plan as the only stable system conducive to sound banking, sustained growth, and full employment.

We describe the main features of Islamic finance. We define the notion of capital and describe the relationship between real capital and money capital and the meaning of a financial crisis for real capital. Real capital has a cost in terms of production cost as well as abstinence by the savers. Once invested, it has a marginal productivity insofar as it enhances economic growth (Bohm-Bawerk 1888, Irving Fisher 1930). We discuss the nature of Islamic finance as a risk-sharing financial system (Askari et al. 2012); the role of a vibrant stock market in Islamic finance; the shortcomings of conventional stock markets; and the theoretical stability of an Islamic stock market. We advocate that governments may opt for equity financing of infrastructure projects in the form of private-public partnership (PPP). We describe the institutional aspects of an investment bank, and how such a bank operates in practice. We conclude by encouraging countries that seek to avert shortcomings of conventional finance and attain sustained growth to seriously consider a financial system that embraces risk sharing and 100% reserve banking, as advocated

in Islamic finance or the Chicago Plan or in Limited Purpose Banking (Kotlikoff 2010).

The chapter covers:

- Structure of Islamic finance
- Relationship between money and capital
- The remuneration of capital
- The foundation of Islamic finance—risk-taking and risk sharing
- Theoretical stability of Islamic stock markets
- Financing government projects through risk sharing
- The institutional aspects of an Islamic investment bank

## Structure of Islamic Finance

Islamic finance is based on the teachings of the *Qur'an* and *Sunnah* (the traditions of the Prophet Mohammad P.U.H.). It strictly prohibits interest (*riba*). No economic entity, be it individual, enterprise, state, bank, or central bank, is allowed to contract interest-based debt. Interest-free lending, called *quard-hassan*, is permitted.<sup>4</sup> However, since this form of lending has no pecuniary reward for investors, it may be negligible. Thus, in contrast to conventional finance, interest-based credit plays no role in Islamic finance. Because credit is almost absent in Islamic finance, there is no credit expansion or contraction and no fixing of interest rate by the state. Islamic finance can be defined as a two-tier financial system:

1. A 100% reserve depository and safekeeping banking system for domestic and international payments.
2. A profit-loss sharing investment banking that places real saving (domestic or foreign) directly in private or public projects (domestic or foreign) or indirectly via the stock market.

The first banking component keeps money deposits (e.g., cash, gold, silver, etc.) and settles payments via clearing, withdrawals, and other forms of payments, domestically and with foreign correspondents. Investment banking has no monetary role and no impact on monetary aggregates; it receives domestic and foreign savings, which it invests in productive projects or in more liquid investment such as mutual funds or stocks. Depositors receive transferable or marketable shares that enable them to liquidate their investment if they chose to do so. The nominal value of equity shares is not guaranteed nor is the return.

Depositors share in the profits and losses as well as in capital gains and losses. Islamic capital markets only intermediate between saving units and investing units in a way that precludes interest. They do not issue money or debt. They include investment banking, trust companies, asset management companies, stock markets, mutual funds, exchange-traded funds, and other forms of intermediary risk-sharing institutions. An important category of investments includes asset-linked investments with direct access to the underlying asset in case of bankruptcy.

Interest-based credit in the form of money against money plus interest from money cannot exist in Islamic finance. In conventional finance, credit plays a major role in commerce, production, and investment. It is self-liquidating. For instance, cotton is financed through loans from the cultivation of land to crop collection, to exports, manufacturing, selling to clothiers, and even to consumers who would buy cotton cloth on credit. The receipts at the end of each step pay the bank loan and interests contracted at the beginning of the step. In Islamic finance, this type of self-liquidating credit chain cannot exist. No money is exchanged against money plus interest. It is replaced by Islamic financing modes of *Bai Salam*, *Istisna*, *Murabaha*, *Mudaraba*, lease, installment sale, and risk-sharing financing. There is cash-in-advance at the beginning of each step and delivery of a commodity at the end of the step. In *Bai Salam*, a farmer sells his future cotton crop to a cotton trader against immediate payment and delivery upon cotton harvesting. In a risk-sharing scheme, the bank and the farmer are partners. The farmer owns the land and labor; the bank owns the working capital. Farmers and the bank share in profits and losses of cotton operations from seeding to its export. In Islamic finance, money cannot be expanded via credit. Hence, gold money supply is determined by the balance of payments, gold discovery, or transforming nonmoney gold into money. When there is a balance of payments surplus, gold money supply expands by an equal amount; when there is a deficit, gold money supply contracts by an equal amount.

The monetary and nonmonetary components of Islamic banking may be described using Tables 10.1–10.4.

In Table 10.1, we describe the balance sheet of the issuing monetary authorities, which can be the central bank, the Treasury, or any other issuing agency. Notes are issued against gold. We assume that foreign exchange can be converted instantly into gold. Total money supply is \$7,000, represented by notes issued against gold bullion. Table 10.2 contains the balance sheet of Islamic depository banks, which maintain 100% reserves. These institutions fulfill domestic and international

**Table 10.1** Balance sheet of the issuing monetary authorities

<i>Assets</i>		<i>Liabilities</i>	
Gold reserves	\$7,000	Notes in circulation	\$7,000
Total	\$7,000	Total	\$7,000

**Table 10.2** Balance sheet of Islamic depository banking

<i>Assets</i>		<i>Liabilities</i>	
Reserves in notes	\$5,500	Deposits	\$5,500
Total	\$5,500	Total	\$5,500

**Table 10.3** Consolidated monetary situation

<i>Assets</i>		<i>Liabilities</i>	
Gold reserves	\$7,000	Notes outside banks	\$1,500
		Deposits	\$5,500
Total	\$7,000	Total	\$7,000

**Table 10.4** Balance sheet of Islamic investment banking (nonmonetary banking)

<i>Assets</i>		<i>Liabilities</i>	
Reserves in notes	\$300	Saving deposits	25,000
Reserves in deposits at depository banks	\$700	(investment	
Investment (equities, <i>sukuk</i> , <i>Bai Salam</i> , <i>Istisna</i> , <i>Murabaha</i> , <i>Mudaraba</i> , Lease, Instalment sale, and risk-sharing modes)	\$24,000	accounts)	
Total	\$25,000	Total	\$25,000

payments operations through checks and clearing. They perceive fees for deposit safekeeping and payments operations. Table 10.3 describes the consolidated monetary position of the issuing institution and the depository banks. Table 10.4 describes the nonmonetary investment banking activities. We note that the savings accounts are not money instruments and are marked to market. Their level depends on level of development and depth of capital markets. The investment banks hold cash in notes as well as deposits at the depository banking. This liquidity is a working capital that emanates from the closing of some operations and serves to finance new operations. We observe that the cash reserves of investment banking institutions (\$300) are part of the notes in circulation, implying that  $\$1,200 = (\$7,000 - \$5,500 - \$300)$  in



cash are held by the nonfinancial private sector. The depositors in the investment-banking component are investors. They share state-contingent profits or losses. Their deposits are not secured in nominal terms and are marked to market. They may be withdrawn according to an agreed maturity or may be liquidated in a secondary market if they are in form of equity shares, *sukuk*, or shares in funds.<sup>5</sup>

Assume the investment banks acquire foreign equities for \$70, which they pay out of their deposits at banks. This operation creates a balance of payments deficit of \$70, the money supply is reduced by the same amount, and gold reserves are depleted also in the same amount. The balance of payments adjustment operates according to the traditional price-specie flow mechanism. Prices of goods and shares decline in the deficit country; they rise in the surplus country. Exports of the deficit country rise; its shares have higher yields; the combination of higher exports and foreign direct investment reduces or eliminates the balance of payments deficit and reestablishes the initial amount of money in the country.<sup>6</sup>

A property of Islamic finance is that it operates according to Say's law of markets—supply creates its own demand. Demand is generated from incomes in the economy and not from unbacked credit. Investment cannot exceed savings and there is no price inflation. There is no credit expansion as in the fractional depository system, and no over-and-under production. There is one-to-one mapping between currency and gold reserves. Hence, the risk of gold convertibility suspension or exit from gold is not a factor. Hence, the gold standard in an Islamic economy will risk no overissue of currency. If gold reserves fall, prices and wages will fall also. The exchange rate defined in terms of gold is fixed and is not altered by the issue of paper currency.

The basic pillars of Islamic finance are not a novelty. Simons (1948) one of the authors of the Chicago Plan (1933) proposed that nothing would be circulated but “pure assets” and “pure money,” rather than “near moneys,” and other precarious forms of short-term instruments that were responsible for financial crises. Simons, a supporter of the gold standard, advocated non-interest-bearing debt and opposed the issuance of short-term debt for financing public or corporate obligations. He also opposed the payment of interest on money, demand deposits, and savings. Simons envisioned private banks, which would play a substantially different role in society than they do currently. Rather than controlling the money supply through the issuance of debt, Simons' banks would be more akin to “investment trusts” than anything else would.<sup>7</sup>

## Relationship between Money and Capital

### *Real Capital versus Monetary Capital*

David Ricardo (1817) noted the fallacy that creating more bank credit or more money increases real capital and reduces the rate of interest. He expressed that money has a purchasing power over commodities and enables the circulation of commodities. More money will only increase prices and thus depreciate the value of money relative to commodities.<sup>8</sup> Real capital cannot be created out of thin air; monetary capital and real capital are not the same; central bank policies can misallocate and erode capital; and financial crises have a detrimental effect on the formation of real capital. When the US Federal Reserve prints dollars of money capital, it does not increase the quantity of real capital. It does, however, redistribute real wealth in favor of borrowers (Allais 1999; Bastiat 1877; and Carroll 1965),<sup>9</sup> and to the extent that it destroys real capital, it impairs economic growth. Real capital is determined by savings and is necessary for economic growth. Undistorted capital markets allocate capital in most efficient uses through intermediation between surplus units and investors. A financial crisis emerges if there is severe shortage of real capital or there is a significant loss of real capital by the creditors (F. Walker 1878; von Mises 1953).

Authors in the nineteenth century defined real circulating capital as a fund of consumer goods necessary to sustain workers in investment activities, that is, in the capital goods sector. David Ricardo (1817) defined capital as that part of the wealth of a country that is employed in production, and consists of food, clothing, tools, raw materials, and machinery as the means to enhance the contribution of labor. Hence, according to Ricardo, the notion of capital is intimately related to his labor theory of value, which considers labor as the foundation for the value of commodities. Capital may increase in quantity by additions to food and necessities. The notion of capital as a wage fund, namely food and necessities to sustain labor in the production process, dominated early classical capital theory. In particular, the notion of saving was identified with availability of food and necessities for sustaining workers in investment activities. For instance, labor engaged in building roads would require food surplus made available by farmers over and above their use. If the labor employed in consumer goods production absorbs its entire product, then there is no saving that can be used to free labor from the primary agriculture sector and to redeploy it in investment activities. Saving is

transformed through the production processes into fixed capital, that is, capital goods, and leads to capital accumulation.

Bohm-Bawerk (1888) reviewed many definitions of capital in his classic treatise *The Positive Theory of Capital*. Although he opted for a definition of capital as a subsistence fund that encompasses the Ricardian wage fund, he also saw capital as supporting landlords and money capitalists. Bohm-Bawerk formalized Ricardo's idea in a simple model. He considered an imaginary economy of two men secluded in a remote island: Robinson Crusoe and his brother Friday. Recognizing that capital has a positive marginal product and increases future consumption, Robinson and Friday decided to construct a net and a canoe. Robinson remains in the consumer goods sector in charge of catching fish; Friday is diverted to the capital goods sector where he collects raw materials such as wood, fiber, and iron, which he uses for manufacturing the canoe and the net. Evidently, Robinson has to save part of his fish catch to feed Friday. Denoting Robinson's output by  $Y_t$  during a time period  $t$ , and his fish consumption  $C_t$ , his saving is  $S_t = Y_t - C_t$ ; it serves to maintain Friday in the capital goods sector. The output of Friday per period of time is  $I_t$ . It is equal to  $S_t$ . Total output in this economy is  $Y_t = C_t + I_t$ .

Jevons (1871) had similar views of capital theory as Ricardo. He regarded capital as the aggregate of those commodities that are required for sustaining laborers of any kind, or class, engaged in work. A stock of food is the main element of capital; but supplies of clothes, furniture, and all the other articles in common daily use are also necessary parts of capital. The current means of sustenance constitute capital in its free or un-invested form. The single and all-important function of capital is to enable workers to await the result of any long-lasting work, to put an interval between the beginning and the end of an enterprise. It is evident that when men make their livelihood from the soil, with output only once a year, their subsistence needs for the whole year must be provided for in advance. The first and most obvious setting where capital is directly used as an input in industry is to enable production that requires considerable time to fruition. A man, when supported by capital, can afford to remain at his work until it is finished and is not compelled to leave it unfinished as he searches for the necessary means of subsistence. If there were no accumulated fund to support the laborer, no man could remain for a single day exclusively engaged in any occupation other than that which would supply his primary wants. Capital allows the employment of labor before labor's output is produced. Jevons believed that the definition of capital and the explanation of capital theory must rely on the distinction between free (working) and invested capital.

Working capital was defined as the wages of labor, either in its transitory form of money, or in its real form of food and other necessities of life. The ordinary sustenance required to support laborers of all ranks to be engaged in their work is the true form of capital. To invest capital is to spend money, or the food and maintenance that money purchases, upon the completion of some work. Capital remains invested or is sunk until the work has returned a profit, equivalent to the input or sunken capital cost plus interest. Accordingly, a railway would not be seen as fixed capital, but that capital is fixed in the railway. The capital is not the railway, but the food of those who made the railway. Abundance of free capital in a country means that there are copious stocks of food, clothing, and every other. Under such circumstances, it is possible that some of the labor force can be employed in production activities that would only yield output in the distant future, while no one feels any scarcity at present.

In a classic paper, Marcel Labordère (1907) presented a lucid analysis of real and apparent working capital and the genesis of financial crises. The economy may run into a crisis when the amount of real capital is insufficient to finance investment projects, leading to a suspension or loss of the projects. Real capital consists of subsistence products such as food, clothing, medicine, and other necessities that maintain labor in the investment sector; real capital is to be transformed into fixed capital such as capital goods, tools, railways, ships, commercial and residential buildings, etc. Labordère stated that money capital might be multiplied by banks at the stroke of pen in form of bank credit with no direct link to real capital resulting in price inflation and misallocation of resources. Labordère distinguished three accounts: consumption, saving, and investment accounts. The consumption accounts record the consumption of consumer goods or the subsistence goods, the savings accounts record the consumer goods that are not consumed and are to be transferred to the investment account; the investment accounts record the output of capital goods. He defined overproduction as a disproportionate increase in raw materials and un-finished investment projects caused by underproduction of real working capital. Simply stated, overproduction means excess of investment over saving.<sup>10</sup>

### *The Monetary Definition of Capital*

Capital is also a fund of money or a financial asset. Financial intermediation and banking use the notion of capital as a fund of money and not as a set of physical goods or objects. Financial transactions such

as purchase or sale of shares are accomplished with money. Money can be gold, any other commodity that is accepted as a medium of exchange, or fiat money. Besides being a medium of exchange, money serves as standard of value and a store of value. Money as a medium of exchange allows the circulation of goods. Money is an asset held along financial assets such as securities and real assets such as land, buildings, machinery, etc. Money is held in the form of cash, such as gold, currency, or deposited in the banking system. It is called money capital to the extent it has a purchasing power over commodities and financial and real assets. A holder of money capital may convert, at some transaction cost, his cash into securities or real assets. An increase in money capital may not be a translation of an increase in real capital and may turn out to be inflationary as stated by Labordère (1907).

Firms raise money capital, not to keep as money, but turn it into buildings, machinery, raw materials, etc. Banks mobilize saving and receive deposits in money. Banks purchase securities or disburse loans in money. Similarly, capitalists own funds of money and purchase securities, or loan money capital to borrowers. Borrowers borrow money not to keep it idle, but to turn it into real assets that they need. They pay interest for the service of these real assets. Money funds change in value as financial assets change in prices or valuation. Financial stability could be undermined when banks issue more money claims than are backed by real saving or when there is misalignment between money interest rates and the real return to capital. When financial capital multiplies independently of real capital, there will be shortage of real circulating capital; inflation is ignited; and speculative bubbles in stocks, housing, and commodities accelerate. All bubbles eventually burst. They lead to financial instability, real economic recession, and a forced and unjust redistribution of wealth from creditors to debtors and speculators.

## The Remuneration of Capital

### *The Rate of Profit and the Amortization of Capital*

An interest-based loan is remunerated by a contractual interest rate negotiated during the initiation of the loan contract. At loan maturity, the lender regains his capital plus interest payments. The capital is repaid from the firm's amortization according to a repayment schedule. In Islamic finance, there are no interest-based contracts. Investors are shareholders; they hold equally divided shares to the real assets of a firm; and they are paid dividends from profits. The latter are defined as the difference

between revenue and total cost, including amortization of capital. As in conventional finance, amortization of capital is required for reconstituting an invested capital. It may serve to pay investors such as in the case of *sukuk*. If shares represent a fixed capital, such as machinery and building, and are not redeemable, the amortization serves to reconstitute the fixed capital. Non-redeemable shares can be liquidated only through sales. If a firm decides to apply its amortization funds to repay long-term loans or redeem shares, then it has to reduce dividends and increase undistributed profits in order to reconstitute its fixed capital.

### *The Equilibrium Pricing of Capital*

The determination of an equilibrium rate of return is an essential aspect of capital markets. An equilibrium rate of return leads to an efficient allocation of resources and optimal economic growth. The rate of return of capital involves a time dimension and is studied in an inter-temporal setting (Figure 10.1). There is both abstinence, that is, saving, and investment in the present time. There is expected positive return and higher consumption in the future. Bohm-Bawerk noted that the rate of return is determined by time-preference and productivity of capital. Irving Fisher (1930) formalized an optimization framework that embeds Bohm-Bawerk's theory. We assume that the community has a preference function that involves present and future consumption of the form:

$$u = u(c_0, c_2) \quad (1)$$

Where  $c_0$  is present consumption and  $c_1$  is future consumption. The marginal rate of substitution between present and future consumption is defined as:

$$\frac{dc_1}{dc_0} = - \frac{\partial u}{\partial c_0} / \frac{\partial u}{\partial c_1} \quad (2)$$

We assume the community has an inter-temporal production possibility set that transforms present investment  $q_0$  into a future output  $q_1$  of the form:

$$q_1 = f(q_0) \text{ with } f' > 0 \text{ and } f'' < 0 \quad (3)$$

The marginal rate of transformation is:

$$\frac{dq_1}{dq_0} = f' \quad (4)$$

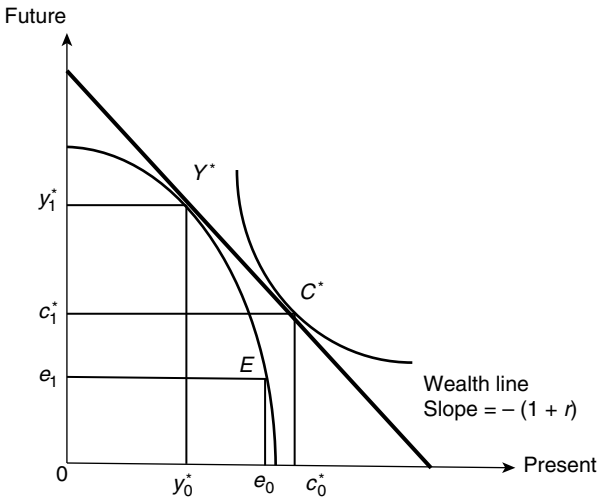


Figure 10.1 Time preference and capital productivity

The community has an inter-temporal endowment  $E(e_1, e_2)$  which represents the flow of goods it produces in the absence of any investment activity. For a given rate of return  $r$ , we draw a wealth line whose slope is  $-(1+r)$ . The community faces a double optimization problem. First, it maximizes its inter-temporal wealth by producing at  $Y^*(y_0^*, y_1^*)$ , where the marginal rate of transformation is equal to  $(1+r)$ . This implies the community invests  $q_0 = e_0 - y_0^*$  and gains an additional output of  $q_1 = y_1^* - e_1$ .

Second, the community maximizes inter-temporal utility by choosing a consumption point where the indifference curve is tangent to the wealth line. It consumes  $C^*(c_0^*, c_1^*)$ . The inter-temporal optimum output and consumption implies a resource deficit today equal to  $c_0^* - y_0^*$ , and a resource surplus in the future equal to  $y_1^* - c_1^*$ . This deficit is financed through loans or by issuing shares; the latter form of financing, that is, equity financing, is commonly adopted in foreign direct invest between countries. It is offset in the next period in form of export of capital as acquisition of equity shares.

In an Islamic financial system, there are only equity shares. The surplus units demand shares; the deficit units are firms who supply equity shares to finance their productive investment projects. There are no consumer loans via the banking system. From the inter-temporal time preference, we may derive a savings function:

$$S = S(r); S_r = \frac{ds}{dr} > 0 \quad (5)$$

Savings may be assumed as an increasing function of the rate of return on capital  $r$ . The investment function, or equivalently, the supply of new shares of capital, may be assumed to be a decreasing function of the rate of return for two reasons: first, the marginal efficiency of capital technically is a decreasing function of the investment; and second, the rate of return is a cost for the investing firm. It is the return that has to be paid to stockholders. The higher the rate of return, the higher would be the dividends to be paid, and the lower would be the demand for investment. Hence:

$$I = I(r); I_r = \frac{dI}{dr} < 0 \quad (6)$$

The partial equilibrium in the capital market, *ceteris paribus*, is obtained at the intersection of the savings and investment schedules, where  $I(r) = S(r)$  (Figure 10.2a). The equilibrium rate  $r^*$  that equates investment and savings is called the natural rate of return and is determined by real forces (Hayek 1931). It is a datum toward which the capital market rates of return tend to converge. It is to be contrasted to the money rate of interest,  $i$ , which is determined in the money market by the demand and supply of loanable funds (Hayek 1931) (Figure 10.2b). The rates in the equity markets and those in the money markets may differ substantially. The theory of two interest rates was developed by Thornton (1802) and Wicksell (1898) and was used by Hayek (1931) in his theory of trade cycles. These writers argued that banks could expand credit beyond real savings causing the money rate to be substantially below the natural rate, an economic boom, and a cumulative inflationary process of the prices of commodities and assets. The credit boom is eventually doomed to collapse into financial dislocation and bankruptcies leading to a deflationary process of prices and economic recession (Siegfried 1906; Irving Fisher 1933).

Sraffa (1932) criticized Hayek's notion of natural interest rate; he contended that in a nonmoney economy, there is a natural rate (i.e., equilibrium rate) for each commodity. Hence, Hayek's maxim that banks ought to set the money rate at the natural rate level is not feasible since there is no unique natural rate. Lloyd Metzler (1951) reconciled the dichotomy of the money and natural interest rates. He



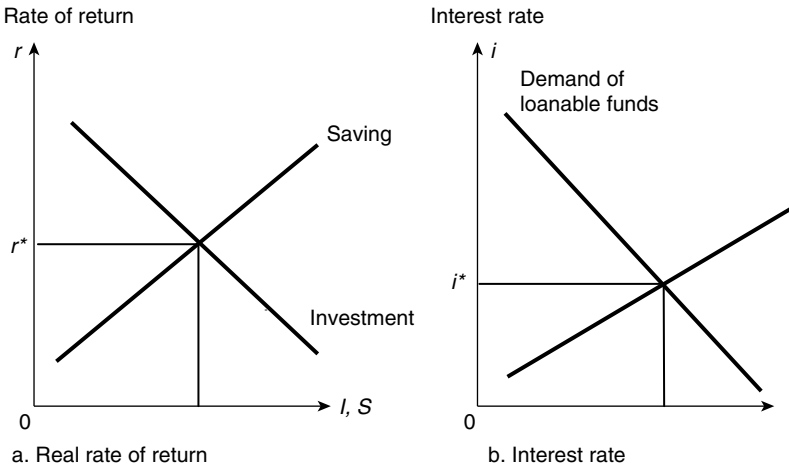


Figure 10.2 Partial equilibrium of capital and money markets

showed that an equity capital market might have a rate of return that satisfies both the ex-ante savings and investment equilibrium and the portfolio equilibrium condition.

Because of absence of an interest rate, Islamic money and capital markets fit into Metzler’s model (1951) as shown by Askari et al. (2014). The economy evolves toward a rate of return determined by productivity, abstinence, as well as liquidity preference. There are no two rates of return the difference of which causes either overtrading or a severe contraction of credit. Islamic finance is immune to monetary disturbances, which were found to be the main reason for banking and stock market crashes.

## The Foundation of Islamic Finance— Risk Taking and Risk Sharing

In the *Qur’an*, many verses explicitly condemn interest and interest-based transactions. Likewise, many sayings of the Prophet severely condemn interest-based dealings. For instance, Verse 2:275 states: “They say that indeed *al-Bay’* (trade) is like *al-Riba* (interest-based debt contract). But Allah has permitted *al-Bay’* and has forbidden *al-Riba*” This verse can be considered as the cornerstone of the *Qur’an*’s conception of an economy since the major

implications of how the economy should be organized are derived from its text. Islamic finance precludes any form of interest-based debt. A creditor has to invest directly his money and bear the risk of his enterprise. He is the direct owner of the assets of his enterprise. In Islamic finance, the borrower-creditor conflict is absent. Entrepreneurs individually or jointly participate directly in an enterprise with their material and human wealth and share the risk of their enterprise. We define this form of organization as risk taking and risk sharing (Askari, et al. 2012). In a loan contract, the creditor assumes no enterprise risk; the latter is borne by the borrower. If the investment fails, the borrower is still legally bound to reimburse the loan. In fact, in the *Qur'an*, the repayment of debt is an overriding obligation. No wealth can be inherited prior to the discharge of every debt.

Risk sharing has been an integral part of human activities long before the formation of modern day corporations, banks and other financial institutions. It has been a natural activity, whereby parties find it profitable to pool resources, be it financial, entrepreneurial, technical, or other forms of resources, as opposed to operating individually. The sharing of risk is undertaken with the expectation that the combination of numerous participants (investors, entrepreneurs, scientists and those from many other professions and walks of life), larger resources, and diversified skills and technologies would result in greater output and larger profits than operating individually; and in some instances, projects that for a variety of reasons would not have been undertaken would be developed and pursued. Partners in business ventures have contractual arrangements that define the contribution of each party, including the financing, the managerial, the technical, contingencies that could arise, and the distribution of the fruits of their undertaking. Risk-sharing enterprises have evolved over the centuries into the modern corporate structure that have diversified equity ownership and are the dominant source of economic output and employment in most advanced economies. Brouwer (2005) traced the evolution of the modern day corporation in Europe. She described how the equity-based *commenda* organizations supported trade in medieval Europe. The *commenda* organization, which was especially popular in Pisa and Venice, has over the centuries evolved into the limited liability corporation of today. The *commenda* was based on equity financing, as opposed to debt financing, and became the most popular organizational form of maritime ventures in medieval Italy. Weber (1889) has described the evolution of these organizations into

limited liability companies with autonomous management, then into corporations with many investors and a managing partner, and evolving into widely held share ownership.

### *Risk Sharing and Vibrant Capital Markets*

Investment banks ought to invest directly in projects in agriculture, industry, and trade. They provide monetary capital to firms, become joint owners of the assets of the firm, and share in its profits and losses. Islamic investment banks do not look for borrowers. They have to initiate the projects, carry out their completion, and market their products. Nonetheless, a stock market was a historic necessity in financial intermediation and an important element for promoting risk. The key features of a stock market are pooling savings, relaxing financing constraints for firms, distributing risk among a large number of owners and diversifying risk, and providing liquidity for shareholders. Specifically, Islamic finance would achieve its objectives of promoting risk sharing through efficient stock markets. Developing a stock market could be a major channel for mobilizing saving for productive investment. Conventional banking and bond markets are debt markets; stock markets are risk-sharing equity markets. The primary objective of the stock market is to enhance financial intermediation through a nonbanking channel, primarily stock exchanges and over-the-counter markets.

Stock markets were necessary for mobilizing capital resources—venture and equity capital—and enhancing asset liquidity. Equity capital is the normal source of funding for business enterprises in all countries throughout history, with the equity owned individually or by business associates. Investors in stocks could be the initial founders of the enterprise. Their aim is not speculative or short-term. Their purpose is to establish a productive firm that would produce real goods and services, provide employment, and would be expected to stay in business indefinitely; this is commonly referred to as “a going concern.” Investors may be individuals and entities looking for long-term and profitable investments, they may be institutional investors, such as pension funds and endowment funds, or in fact, they could be anyone looking for viable investments that entail risk sharing. Stock markets have been instrumental in the development of most industrial countries.

In the natural development of a successful firm, growth requires increasingly diversified sources of capital that may have to be shared by a larger number of stakeholders. For instance, it may turn into a

joint stock company with its capital divided into shares owned by shareholders. Some firms may become public and allow their shares to be traded on the stock market. Going public affords the company access to a wider and more diversified pool of capital and gives its shareholders enhanced liquidity. The importance of a stock market depends on many factors including the general business climate and the quality of institutions, economic size, the availability of entrepreneurial talent, the size of the savings pool, and the number of listed firms. As an economy grows, develops and creates shareholding companies, the stock market becomes more important as the instrument for financing projects and corporate operations, which in turn is intimately connected to the real economy—the production of goods and services demanded by consumers, institutions and governments.

Besides long-term capital for firms, stock markets provide liquidity for stockholders. Workers may constitute a retirement fund by buying shares during their active age and enjoy the dividends during their retirement age. Idiosyncratic risks impact the liquidity of shareholders when they materialize. While some individual idiosyncratic risks can be mitigated through the purchase of insurance policies, such as health, life, and accident, there are potentially a large number of unforeseen, and therefore unpredictable personal or family risks that are not as of yet insurable and for which no insurance policy could be purchased, for example, risks to a person's livelihood. An individual can buffer against uninsurable risks by buying shares of stocks in good times and selling them when, and if, a liquidity shock is experienced. Similarly, stock markets can be used to diversify the risk of shock to asset returns. Firms can also reduce their liquidity risk through active participation in the stock market. They can also reduce the risk associated with the rate of return on their own operation—such as productivity risk—by holding a well-diversified portfolio of shares of stocks. Thus, incentives are created for investment in more long-term productive projects. Moreover, an active and vibrant stock market creates strong incentives for higher degree of technological specialization, in turn increasing the overall productivity of the economy. This happens because without sufficiently strong risk sharing in the financial system through the stock market, firms avoid deeper specialization fearing risks associated with sectoral demand shocks (Saint-Paul 1992).

The reason stock markets are such an effective tool for risk sharing is because each share represents a contingent residual equity claim. Particularly, in the case of open corporations, their common stocks

are “proportionate claims on the payoffs of all future states” (Fama and Jensen 1983). These returns are contingent on future outcomes. Stock markets that are well organized, regulated, and supervised are efficient from an economic point of view, because they allocate risks according to the risk-bearing ability of the participants. The Arrow-Debreu model of competitive equilibrium (1964) provides a solution to the problem of how best the risks of an economy can be allocated; efficient risk sharing requires that economic risks be allocated among participants in accordance with their “respective degree of risk tolerance.” Thus, the best instrument of risk sharing is a stock market “which is arguably the most sophisticated market-based risk-sharing mechanism” (Brav et al. 2002). Developing an efficient stock market can effectively complement and supplement the existing and to-be-developed array of other Islamic financial instruments. It would provide the means for business and industry to raise long-term capital. A vibrant stock market would allow risk diversification necessary for management of aggregate and idiosyncratic risks. Such an active market would reduce the dominance of banks and debt financing where risks become concentrated creating in turn system fragility.

A large number of theoretical and empirical studies over recent decades have focused on the investment-employment-growth benefits of stock markets. When risk is spread among a large number of participants through an efficient stock market, closer coordination between the financial and real sector is promoted as well as better sharing of the benefits of economic growth and financial system stability. Risk transfer through debt instruments, in contrast, along with high leverage, weakens the link between the financial and real sector, thus posing a threat to financial sector stability. Especially as the growth of pure financial instruments, that is, those with little connection to real assets, outstrips the real sector a phenomenon emerges called decoupling (Menkoff and Tolkorof 2001) or financialization (Epstein 2005) whereby finance no longer is anchored in the real sector. The result is financial instability leading to frequent bouts of crises. Reinhart and Rogoff (2009) have demonstrated the high frequency of crises in the history of the conventional system, which are invariably connected to excessive increases in debt financing or leveraging. All too often, financial sector crises have required large government interventions and massive bailouts. Thus, while private financiers enjoy the gains of robust pure financial innovations, the society at large suffers the pain of saving the real sector from the vagaries of financial sector crises.

Empirical studies have demonstrated that countries with robust stock markets rely more on equity and long-term financing and less on banks and short-term debt. Firms place greater reliance on external capital than on internally generated funds. With a strong stock market, venture capitalists can recoup their capital investment in a project through initial public offering thus promoting faster roll over of venture capital to make it available more frequently to finance other productive real sector projects. Not only can individuals and firms benefit from the existence of a vibrant and robust stock market that provides risk-sharing opportunities, countries can also benefit from risk sharing with one another. A large body of empirical research in recent years, in the area of international risk sharing, has demonstrated that there are gains to be made by countries when they trade in each other's securities.

### *Unstable Conventional Stock Markets*

Conventional stock markets suffer serious instability and experience repeated crashes with detrimental consequences on real economy. Figure 10.3 shows that the S&P 500 stock index has been increasing at an annual rate of 25 percent during January 2009–December 2013 despite sluggish real growth, high unemployment, and low labor force participation rate. This shows that a conventional stock market has a weak link to the real economy, and may be moved by a cheap monetary policy and speculation. As average real GDP growth was about 2 percent, the difference  $25\% - 2\% = 23\%$  represents gains not paid by dividends from firms' profits, but by capital gains that redistribute



Figure 10.3 Weekly S&P 500 stock index, Jan. 2009–Dec. 2013

wealth in favor of the gainers. The distortions of stock prices entail distortions in asset prices, commodity prices, and sharp depreciation of monetary assets. When stock markets are dominated by speculation, they can rarely contribute to financial intermediation; the risk of bubbles is high; late investors will see their wealth wiped out in the event of a crash.

From early on, conventional stock markets have been exposed to swindle schemes such as the South Sea Company (1720). While vibrant stock markets are recommended, stock markets may be characterized by low investor participation. The prime reason for this is low trust and, a related factor, the high cost of market entry. Empirical evidence (Guiso et al. 2008) suggests one reason for low participation of the general population in stock markets is the fact that people generally do not trust stock markets. Low level of trust, in turn, is explained by institutional factors and education. Moreover, high transaction costs—especially information and search costs as well as the high cost of contract enforcement—are crucial factors inhibiting stock market participation. Conditions for a vibrant, robust stock market have been analyzed in the literature. Allen and Gale (2007) suggested that a successful, deep, and active stock market requires that information, enforcement, and governance cost be eliminated or at least minimized. Once this happens, the cost of entry into equity market becomes low and “there is full participation in the market. All investors enter the market, the average amount of liquidity in the market is high, and asset prices are not excessively high.” Lucas (1990) has proposed the abolition of capital gains tax as a way to promote investment through stock markets: “I now believe that neither capital gains nor any of the income from capital should be taxed at all.”

There is, however, a paradigm gap between what Islam teaches and actual market behavior. If the Islamic rules of market behavior—such as faithfulness to the terms and conditions of contracts, trust and trustworthiness—are in place in a society, the informational problems and transaction costs, governance, and enforcement issues either would not exist or would be at low levels such as not to create a deterrence to stock market entry. For this reason, government actions (and the institutions they create) to remedy the deficit in informational, enforcement and governance behavior to reduce the cost of participation in stock markets have to be stronger and more comprehensive than exist today. These policies, actions, and institutions should have the competence, efficiency, and enforcement capabilities to elicit the kind of behavior that replicates, or closely approximates, what is

expected if market participants behaved in compliance with Islamic rules. Such actions, policies, and institutions would include, inter alia: developing a level playing field for equities to compete fairly with debt-based instruments; this means removing all legal, administrative, economic, financial and regulatory biases that favor debt and place equity holdings at a disadvantage; creating positive incentives for risk sharing through the stock market; limiting leverage (including margin operations) of nonbank financial institutions and the credit creation ability of banks through prudential rules that effectively cap the total credit the banking system can create; instituting thoughtful securities laws and regulations as promulgated for example by the US Securities and Exchange Commission.

Taj El-Din (2002) noted that Islamic *Shari'ah* recognizes stock markets as vehicles for investment and also encourages existing non-interest modes of investment that are based on the pooling of numerous sources of capital through floatation of stock subscriptions under specified rules and conditions. However, he observed that exchange of financial claims was found more vulnerable to hazard and to the lack of information, both contrary to Islamic rules of exchange. He examined the efficiency criteria of conventional stock markets and concluded that the dominance of speculative motives versus those of real investment and the nature of interaction among "professional" and "non-professional" market players deprived these stock markets of internal stabilizers and undermined their efficiency. Efficiency in the financial market cannot be ensured by laissez-faire policies. It is necessary to reinforce Islamic rules. A regulatory framework is, therefore, indicated with the aim of organizing the stock market on an Islamic basis that controls speculation and information asymmetry.

Along similar lines, Maurice Allais (1999) called for radical reforms of conventional stock markets. He noted that stock markets were true casinos where big poker games were being played. The wide gyrations in stock prices were transmitted to the real economy, leading to economic crises. According to Allais, the stock market system is fundamentally noneconomic, inefficient, and unfavorable to the smooth functioning of economies. It can be advantageous only to a small minority of speculators. Allais called for the elimination of hedge funds and institutional intermediaries, other than brokers, whose activity was only trading in shares. He proposed the elimination of all financing of stock market operations through credit and the adoption of high margin requirement for forward operations to be paid in cash and not through loans. The continuous quotation of



stocks should be dismantled and replaced by one daily quotation; the automatic trading programs for sales and purchases have to be eliminated. In the same manner, speculation on indices and derivatives has to be eliminated.

We should note that monetary policy has a direct bearing on the stability of stock markets. Central banks have often fuelled stock market bubbles by creating excessive liquidity. When stock prices become overinflated in relation to fundamentals, the market eventually crashes. Central banks at times try to re-inflate the bubble. Governments have seen stock market bubbles as a sign of buoyant economy and opposed attempts to arrest bubbles. A regulatory framework for stock markets cannot be conceived independently of monetary policy. Criteria have to be developed for measuring and preventing bubbles and determining how far stock prices have departed from their fundamentals. Triggers have to be put in place to arrest euphoria and speculation and prevent ruinous crashes.

## Theoretical Stability of Islamic Stock Markets

Theoretically, an Islamic stock market should operate according to the precepts of the *Qur'an* and *Sunnah*. In a like manner to theoretical stability of banks that operate on the basis of Islamic precepts, Islamic stock markets are free from two major sources of instability, namely, interest rates and un-backed money creation. A high degree of instability makes a stock market inefficient, requiring large resources for trading and hedging risk, and dissuades savers from participation in the markets. A high degree of stability will encourage savers and enable stock markets to achieve maximum efficiency in financial intermediation, reduce trading cost, and enlarge participation.

In the absence of speculation arising from dysfunctional credit (debt) markets, equity prices would tend to show less volatility. Essentially dividends and real savings would drive demand for equity shares. Demand cannot be fuelled by fictitious credit. The supply would be influenced by initial public offerings. Hence, both the demand for and supply of equity shares are influenced by stable variables in the absence of interest rates and debt, and equity prices would tend to display a stationary pattern. Assuming that economic and financial relations in society are governed by the institutions (rules of behavior) prescribed by Islam, one would expect that there would be low probability of emergence of speculative bubbles. Asset prices in Islamic

finance would feature low correlation with the market portfolio and would be more influenced by idiosyncratic risks.

Two elements explain the absence of systemic risk (Askari et al. 2010). First, the Sharpe Ratio in the capital asset pricing model (CAPM) is very low.<sup>11</sup> Expected returns are compared to the average rate of return in the economy. Such a rate of return would display a stable pattern over time and would not fluctuate in the same fashion as interest rates. Interest rates on risk-free bonds cannot influence the Sharpe Ratio in Islamic finance. Consequently, the equity premium would be small, since households do not hold risk-free assets. The deviation between the expected return and the market return would be very small and result from nonsystemic factors, such as the scale of the firm, the efficiency of its labor force, or its entrepreneurship. Second, the magnitude of beta coefficient in the CAPM would be small in Islamic finance. The performance of one firm would be influenced by its competitiveness, cost efficiency, promotional efforts, and investment plans. In the absence of common systemic risks, the correlation of a firm's return with the market portfolio would be very low.

In Islamic finance, the pool of real savings rather than credit would determine asset demand. The supply of equity shares would be determined by real investment plans. Hence, demand for and supply of shares would tend to be stable. The rate of return would essentially comprise dividends, with very small changes in equity prices. Equity share prices would be stationary variables, with no persistent upward or downward trend.

## Financing Government Projects through Risk Sharing

Economic growth depends in part on capital accumulation, the higher the capital/labor ratio the higher the income per capita. Poverty is identified with a shortage of capital; alleviating poverty requires increasing capital in form of housing, machinery, plants, hospitals, schools, etc. Development of infrastructure is required for sustained growth in poor countries. However, capital accumulation and economic development have been constrained in many poor countries by the scarcity of savings.

Infrastructure projects involve large indivisibilities and have high social rate of return. In many poor countries, the state alone undertakes the construction of these projects, generally financed from

taxes or borrowing. The development of infrastructure in roads, water, electricity, education, health, and communications depends heavily on government capital expenditures. However, in spite of donors' financing, public investment programs (PIP) have remained insufficient. Many poor countries have become heavily indebted and have not been able to repay their debt. Foreign debt was in part directed to finance government current expenditures and did not contribute to build a capital base for its repayment. Despite many decades of foreign borrowing, numerous poor countries have not graduated from dependency on foreign resources and have become even more dependent. Many poor countries have little control over their budget. They have a narrow tax base and face frequent overruns in salaries and military spending; they experience serious shortfalls in capital expenditure and maintenance. As a result, existing infrastructure is deteriorating. Islamic finance offers an innovative approach for mobilizing domestic and foreign resources and boosting the public investment programs (PIP). The prohibition on interest can be helpful to a poor country because it avoids debt and relieves the government budget from any debt and debt service payments. They could instead rely on equity and risk-sharing financing of PIP. Basically, the government as well as other equity holders becomes joint owners of an infrastructure project. They contribute with long-term capital and hold non-redeemable property titles called common stocks. Stocks can be liquidated only on secondary markets. The government and private equity holders face the same risk and share dividends as in any joint stock company. Besides equity financing, Islamic finance embraces the securitization of real assets and issuance of asset-backed securities for financing PIP. The securitized assets are called *Sukuk*; they have a return generated by the underlying real assets. Unlike common stocks, *Sukuk* are redeemable at a maturity date and may also be liquidated on a secondary market. *Sukuk* financing of the PIP is widely used in a number of countries. To promote Islamic finance instruments, a poor country needs to develop a stock market as a vehicle for long-term resources and liquidity (Askari et al. 2012).

For a selected infrastructure project, a poor government may establish a public entity that will float equity shares on the stock market, mobilize domestic and foreign resources, and construct the project. The entity will manage the project on a commercial basis and generate dividends to be paid to the shareholders. The rate of return of the project has to be competitive in relation to the stock market return in

major stock exchanges. Otherwise, the government will not be able to attract domestic and foreign subscribers.

The private sector is generally far more efficient and innovative than the public sector. Technical innovations such as computers, internet, cars, and airplanes originate in the private sector. Many countries, seeking efficiency and higher growth, have devolved to the private sector a large number of infrastructure projects that are still under the attributions and ownership of government in many poor countries. Projects in hydraulic and fuel electricity can be easily conceded to the private sector. Similarly, projects in water, roads, and communications may be delegated to the private sector. In some sectors, infrastructure projects involve large indivisibilities; they can be efficiently implemented only as a natural monopoly, such as for instance a railroad, a major highway, an airport, seaport, etc. Under these conditions, the government may make a concession to a private company for a period of time. The company constructs and exploits the project on a commercial basis under contractual arrangements that regulate a natural monopoly. The government may hold a portion of the capital; or it may simply hold sovereignty rights over the concession while all the assets remain privately owned by the company.

The association between the public and private sector (PPP) in infrastructure projects can take a number of forms. The BOT, or build-operate-and-transfer, is a concession agreement between an entity representing the public authority and a private party, whereby the private party constructs and operates an infrastructure facility for a fixed time period, and after that time period, the ownership of the project is transferred to the public authority without any or minimal financial obligations. Besides the BOT, there is the Build, Operate & Renewal of Concession (BORC). It is a BOT, but with an option to renegotiate the agreement of renewal of contract for operation at the end of a contract period. As a result of the negotiation, either the operations will remain with the same project company or the ownership will be transferred to the public authority. This option makes the contract flexible and efficient, provided the obligations and risk-sharing processes are clearly defined, understood, and implemented. There is the Build, Own, and Operate (BOO) contract. The BOO is a variant of BOT as far as the specifications and obligations are concerned. However, generally, BOOs are permanent franchises in which the private party keeps ownership until its performance on obligations is seen satisfactory by the public authority. In this sense, it is a hybrid of BOT and BORC. Since many infrastructure facilities exist;

however, in deteriorating conditions, a poor country may consider the Rehabilitate, Own, and Operate (ROO) contract. Under an ROO, an existing public project is given over to a private firm for rehabilitation according to specifications. The private firm will own the project until it meets the initial conditions.

A country can also consider *Sukuk* as another *Shari'ah*-compliant mobilization of financial resources. Governments and corporations use *Sukuk* extensively. Unlike a fixed-income bond, a *Sukuk* is a structured product based on a real asset. The primary condition for issuance of *Sukuk* is the existence of assets on the balance sheet of the government, the corporate body, the banking and financial institution or any entity that wants to mobilize financial resources. The identification of suitable assets is a key step in the process of issuing *Sukuk* certificates. *Shari'ah* considerations dictate that the pool of assets should not solely be composed of debts from Islamic financial contracts (e.g., *murabaha*, *istisna*), but should also comprise real assets. As in typical securitization of financial or real assets, the basic framework is that a special purpose vehicle (SPV) issues *Sukuk* (or certificates) to investors and uses the proceeds of the issuance to purchase a pool of assets from the originator of *Sukuk*.

Poor countries should consider an Islamic approach to their PIP and innovate in risk sharing and financing with *Sukuk*. They could consider stock markets as vehicle for mobilizing domestic and foreign resources and reduce debt financing. This approach has a number of advantages: it reduces the reliance of government budget on borrowing, thus imparting greater stability to the budget and mitigating the risk of “sudden stops;” promotes tax equity and reduces the burden of taxation; has a positive distributional effect in that the financial resources that would normally go to service public debt can now be spread wider among the people as returns to the shares of government projects; enhances the potential for financing of larger portfolio of public goods projects without the fear of creating an undue burden on the budget; promotes ownership of public goods by citizens, which should have a salutary effect on maintenance of public goods as it creates an ownership concern among the people and to some extent mitigate “the tragedy of commons;” promotes better governance by involving citizens as shareholder-owners of public projects; and provides an excellent risk-sharing instrument for financing of long-term public sector investment. By providing greater depth and breadth to the stock market and minimizing the cost of market participation, governments convert the stock market into an instrument

of international risk sharing as other countries and their people can invest in the stock market.

An alternative to overcome conventional finance constraints in many developing countries is to promote Islamic finance and risk sharing in form of *Musharakah* and *Mudarabah* arrangements. This alternative seems to be the alternative that can alleviate the investment constraints facing private sector in many developing countries.

## The Institutional Aspects of an Islamic Investment Bank

Many investment banks operated along Islamic principle of risk sharing in the distant past, in Europe and the United States, in form of holding companies or trust companies. Modern banking institutions operating along Islamic principles were launched since the 1960s and 1970s in many Middle Eastern countries. The National Industrial Company founded by Mahsoun Jalal is an example of a holding company that owns shares in industrial companies. The Islamic Development Bank is an investment bank that operates on Islamic principles.

An Islamic investment bank is a joint stock institution that is regulated by banking laws such as amount of required capital, audit rules, transparency, and safeguards against swindling. It differs from investment funds such as mutual funds to the extent that it does not restrict its activity solely to trade in shares and *Sukuk*, but it has to finance directly productive projects in industry, agriculture, mining, etc. It obeys minimum capital requirement and has a paid up capital before it starts collecting saving from investors. Its capital is not in the form of loans or deposits, but in the form of equity. The bank is a purely financial institution. Its operations consist of financing circulating as well as long-term fixed capital. In financing circulating capital, such as advances to firms for financing production, the bank advances liquid working capital needed for paying wages, purchasing raw materials, and other production costs. The advances are repaid at the end of the production cycle from sale proceeds. The bank shares in the profits of the operations it has financed according to predetermined proportions. For instance, if the bank advances funds, it will regain its funds plus a profit equal to a predetermined proportion of the difference between total sales and the advanced fund. The bank may finance wheat production of a group of farmers on a *Bai-Salam* mode;

it receives delivery of wheat at storage locations, and appoints wheat dealers to sell it. It gains profits or suffers losses in the operation. Its circulating capital is reconstituted at the end of the wheat operation. The bank may undertake short-term financing on *Murabaha* mode. It buys raw materials, which it sells to a client firm with a profit margin and according to a predetermined payment schedule. In financing long-term investment, such as steel making, the bank becomes a shareholder who provides money capital and participates in profits and losses of the steel maker. The bank may sell its shares if it chooses to obtain liquidity or restructure its portfolio of assets.

The bank is not allowed by law to issue any credit in form of promissory notes or pledges. All its operations have to be financed through cash payments. It may organize its depositors' accounts according to short-term investment accounts and non-redeemable investment accounts. Deposits in the former accounts may be withdrawn with a prior notice at market value. Investment accounts may be in form of participation in specific enterprises, in which case the rate of return is determined by the profitability of these enterprises, or general accounts, in which case the return is determined by the profitability of the bank. Deposits in the investment accounts are translated into a bank's marketable shares that are traded on a secondary market. More specifically, depositors in the non-redeemable investment accounts become common shareholders of the bank.

## Conclusion

Conventional finance has been prone to recurrent financial crises that cause massive economic downturns and unemployment and severe dislocations. It is redistributive, redistributing wealth to borrowers at the expense of creditors. It requires recurring government bailouts. Numerous developing countries have been unable to promote risk-sharing equity markets capable of mobilizing domestic and foreign financial resources for development while many advanced countries continue to be plagued by recurring financial crises.

Throughout time, a number of politicians and renowned economists have denounced the shortfalls of conventional finance. They advocated a financial system that operates according the principles that happen to broadly coincide with the principles of Islamic finance, especially its feature of 100% reserve depository commercial banking. Islamic finance has a (i) two-tier banking system—100% reserve deposit system and risk-sharing equity banking akin to a mutual

fund, and (ii) prohibits interest and interest-based (debt) transactions. Islamic finance promotes risk sharing and an efficient risk-sharing vehicle would be a stock market that operates along Islamic principles that prohibit interest and interest-based leverage. The advantage of an Islamic stock market is to preclude the crashes of conventional stock markets, to attract more participation in stocks, and support sustained growth. Governments can finance some public projects through equities (instead of debt), using asset-linked securities. The development of a stock market has long been a part of proposals of monetary reform that have sought to reduce the money creation power of banks and leveraging. Nonetheless, there is considerable work in terms of institution building that needs to be done. Regulations have to be all encompassing in order to limit damage caused by instability. Developing an active and efficient stock market can promote international as well as domestic risk sharing that renders the economy and its financial system more resilient to shocks.



## The Gold Standard in Islamic Finance

Gold money has operated in both primitive and advanced economies. Gold remains the international money that has no nationality. Plans for restoring gold have emphasized:

- lifting any inhibition to gold trade and circulation
- establishing a monopoly issuance agency that has no banking feature and makes no discounting or advances to the state or any other entity
- blocking any paper issuance except against foreign exchange and gold
- establishing mints to mint gold and silver coins denominated in weights (troy ounces);
- establishing two-tier banking: (i) 100% reserve bank depository system; (ii) investment banking
- fixing a gold value for the local currency at the end of the transition period, when the local currency has appreciated significantly in relation to gold with the issuance agency buying and selling gold against local currency at the new parity

Mises emphasized that a return to the gold standard is not a technical problem;<sup>1</sup> it is political and is a quest for liberty and economic growth. In this chapter, we assume that the objective is to return to the fixed exchange rate system of the gold standard and we examine its restoration in the context of the Islamic financial system—risk-sharing equity finance (no interest-bearing debt instruments) and 100% reserve banking—and in the process show that the gold standard is most compatible with this type of financial system that incorporates 100% reserve commercial banking.

At the outset, we should state our firm belief that financial instabilities caused by the fractional reserve banking system and leveraging creates a mountainous debt that can never be paid except in default,

as shown in 2008; speculators do what they do best: speculate; bankruptcies ensue; banks are bailed out, in part on the basis of “too big to fail,” as the financial industry has become all too powerful; and the real economy suffers with human lives destroyed. To our mind, Kindleberger (1978) perhaps gives the most readable depiction of this recurring and unfortunate tale.<sup>2</sup>

Islamic finance addresses many of the issues associated with financial crashes. It puts a lid on money creation, eliminates leveraging, and promotes risk sharing (not risk shifting with interest-remunerated debt), all essential ingredients for financial stability and anchoring the financial sector in the real sector. Moreover, the stability features of Islamic finance are proven.<sup>3</sup> The gold standard is important for the success of the Islamic financial system; and gold is the only natural money that is accepted everywhere. While in 2014, the abolition of fractional reserve banking and the adoption of a gold standard international payments system may be the subject of science fiction movies, we believe that some of these elements may be in time adopted because of continuing financial crises and their heavy economic toll, especially on the most unfortunate members of societies.

This chapter covers:

- Prior conditions for implementing a gold standard in an Islamic economy
- A theoretical framework for restoring the gold standard
- Does a gold standard impair external competitiveness?
- The views against the gold standard
- Superiority of Islamic finance and gold

## Prior Conditions for Implementing a Gold Standard in an Islamic Economy

The financial system of the economy has to comply with Islamic finance, with interest-based contracts being strictly forbidden. In Islamic finance, investors are shareholders; the return to capital is determined *ex-post*. There are no debtors and creditors in Islamic finance,<sup>4</sup> and therefore there is no conflict between debtors and creditors. This conflict has dominated the debate on the price level; if the price level declines, debtors will be hurt and therefore the rate of interest has to be lowered through money printing; however, if the price level rises, creditors will be hurt and therefore the rate of interest has to rise through a contracting money supply; in either scenario, the

monetary policy is seen as a means to protect one group against the other group (Clark 1895).<sup>5</sup> In Islamic finance, the causes of inflation are also absent. Any deflation that is not a deliberate contraction of money is an orderly price adjustment to transmit gains in productivity and technical change to consumers, and should be freely permitted.

The state can finance projects through partnership papers (PPP)—securities that individuals buy with the return determined by the project's success and its price determined on the market. The state can engage in deficit financing if it is in the interest of society and if the return on such securities is tied to profitability of the individual infrastructure project being financed or to the real rate of return in the private sector. Thus borrowing by the state has to be free from interest, such as the return tied to the performance of the project (e.g., toll road) or based on *quard hasan* (interest-free loan). The state has priority attributions in defense, justice and security, and enhancing social welfare within the financial means prescribed by the *Shari'ah*.

The price and wage mechanism in the allocation of resources is of paramount importance in any economy. Prices and wages have to be market-determined and flexible. The Prophet (pbuh) strongly rejected fixing prices. A gold standard can only work in the classical setting of the eighteenth and nineteenth centuries, where markets were free from government interference and prices and wages were flexible both upwards and downwards.

## A Theoretical Framework for Restoring the Gold Standard

We observe that in an Islamic economy, with a 100% reserve requirement for bank deposits, the money multiplier is equal to one; there is no expansion or contraction of the money stock via credit movement. Under a gold standard system, the country can no longer issue local currency except in relation to gold or foreign exchange. Hence, the prior condition postulated by Mises of no increase in paper money supply, other than resulting from gold and foreign trade, is fully satisfied in an Islamic economy that has a 100% depository system and has adopted the gold standard.

We assume the national currency is an inconvertible paper currency called the dinar; the latter is the unit of account for all transactions as well as statistical data; we assume that the dinar is not a reserve currency. In other words, the country cannot print dinars

and pay for imports. It has to earn foreign exchange through commodity exports, grants, or selling securities to be able to import. It cannot borrow on an interest basis; however, it can issue asset-backed *sukuk* and shares in foreign capital markets. Since the country has to earn foreign exchange and deal in foreign exchange, we may consider that it is on a pseudo-gold standard to the extent that it may turn its foreign exchange instantly into gold on the free international gold market. The convertibility of the dinar into foreign exchange at floating market rates is equivalent to the convertibility into gold, at the prevailing market prices for gold.

We assume this Islamic economy wants to restore the gold standard. Gold will be the standard of value and the measure of property. The government dismantles anti-*Shari'ah* laws that interfere with trade and possession of gold. The government establishes a monetary agency with a monopoly to issue its paper currency called the dinar at a floating exchange rate against foreign exchange and gold only. The monetary agency resembles the Issue Department of the Bank of England; however, it has no feature of a central bank or a bank and is not a part of the central bank. It never discounts any paper or makes any advance to the government or any other entity. It never makes any banking operation domestically or with foreign correspondents. It never interferes with the free foreign exchange market. The monetary agency stands ready to buy foreign exchange and gold for dinars at market-determined exchange rates. Every foreign exchange is converted immediately, on the free international market, into physical gold by the monetary agency. By law, the monetary agency holds only gold; it does not hold foreign exchange or silver; it sells only gold at the market rate. In implementing its currency reform to move to a full-fledged gold standard, the government has to allow the monetary agency to buy and sell monetary gold against the local currency, the dinar. It has to allow banks and forex dealers to buy and sell gold and silver coins of domestic or foreign origin.

The government has to establish a mint office that will be in charge of minting standardized gold and silver coins at a fee that only covers the cost of assaying and minting. The gold to be minted is brought to the mint office by the monetary agency, banks, and private citizens. The mint office will certify the authenticity of the gold and silver coins and prevent counterfeiting. Citizens should be allowed to acquire gold coins minted locally or abroad that bear no denomination except weight and fineness denominations; for example, troy ounce, troy half ounce, troy quarter ounce. If residents export commodities, say,

wheat, oil, and others, they may elect to import gold and transform the gold into coins. These coins should be allowed to circulate in the economy especially in settling large transactions. The purchase of gold coins should be facilitated through licensed banks and forex dealers.

Monetary gold is acquired through external trade, local mining if available, and diversion from nonmoney uses. The import of gold is paid for by foreign exchange earned from exports of merchandise and services. Gold trade is carried at international prices in the same way as for all tradable commodities such as corn, crude oil, sugar, coffee, and others. The economy has to export commodities in order to import gold or any other commodity. Gold is bought and sold against dinars at the monetary agency or any appointed dealer at the market rate. Gold coins and bars may be deposited for safekeeping at depository institutions and used in payment operations. Depository institutions have to keep deposited gold in coins or bars and restitute them in coins or bars and never in paper money. Customers convert their gold into dinars in separate operations at authorized banks and forex bureaus or directly at the monetary agency. During the transition period, gold circulates alongside the paper dinar at floating rates in the same way as foreign currencies circulated alongside the dinar prior to the gold inception. Traders may directly use their foreign currencies or convert them into dinars to settle payments. Silver coins circulate at a free rate as a commodity. Shops may accept them at their market rate defined in dinars. The monetary agency should monitor the exchange rate of the dinar in relation to gold only and not to foreign currencies; there should be no effort to economize on gold circulation or limit it only to bullion.

When the dinar is about to appreciate considerably in relation to gold, following a period of floating in relation to gold, the country has reached the end of the transition period and is ready to operate under a classical gold standard. The government has two options. The first option is to allow the deflation process, only if deflation were not the outcome of a deliberate money contraction and provided the economy has enough wage and price flexibility to absorb deflation. Moreover, there is no creditor-debtor conflict in Islamic finance, and deflation will not hurt debtors nor benefit creditors. The merit of this appreciation is that it will increase gold circulation in the economy and will encourage gold imports. However, it would be important to have a fixed value of the dinar in terms of gold that can be maintained. This will eliminate foreign exchange instability and uncertainty in transactions. Accordingly, the government may decide, as a second option,

to decree a fixed value of the dinar in relation to gold. The monetary agency will buy and sell gold against the dinar at par. The dinar has a denomination in units of accounts, and the gold coins and bars will continue to be denominated in weights. At par, the dinar will be as good as gold. The country undertakes to have 100-percent coverage of any newly issued dinar; that is, each new dinar has a full gold back up. Inversely, gold sold by the monetary agency entails a withdrawal from circulation of an equal amount of dinars. The risk of a speculation against the dinar once it is pegged to gold is nil, since there is no possibility for borrowing in dinars in the economy. The dinar has been strictly controlled and tightly linked to the transaction needs; there is no more redundancy of dinars. However, there may be crop failure that necessitates considerable gold for imports, which may exceed the gold held at the monetary agency. In such contingency, the agency may consider temporarily floating the dinar until it reestablishes the previous parity again.

We may observe that there should be a subsidiary metallic coin system in silver, copper, bronze, and nickel to supplement gold in the settlement of small transactions, as was the UK system during 1816–1914. The subsidiary coinage is denominated not in weight but in decimals of an Islamic dinar. To prevent inflation through subsidiary coinage, a number of paper dinars have to be drawn for each equivalent amount of decimal coins.

We may note that Islamic finance is free from the defect that undermined the currency principle in the United Kingdom, since credit, which contributes to money expansion and contraction, does not exist in Islamic finance. In fact, the principle of 100% coverage of notes with gold is called the currency principle. As already discussed at length, this principle was embedded in Sir Robert Peel's Act in 1844 that regulated the Bank of England notes issuance. In Islamic finance, fractional banking and interest-debt are precluded. There is no money creation by banks in form of discounting and loans. Hence, there is no demand for liquidity to pay debt, and therefore no risk for destabilizing the gold system.

In line with Mises' view, we emphasize that there are no technical issues involved with restoring the gold standard since the country was on a pseudo-gold standard; the whole exercise consists of reigning in paper money supply; stabilizing the gold price in terms of local currency; then pegging the gold price at a durable stable rate. The instrument of control is paper money supply. A stable gold price is to be market determined. The main condition for a gold standard remains

the political will of the government to free the economy from corrupt forces, establish a balanced fiscal budget, and renounce inflation. We should underscore that no initial condition was formulated regarding the stock of the paper dinar or the stock of gold. The country does not have to amass gold before it moves to a gold standard nor does it have to withdraw its dinars from circulation through taxation and budget surpluses. The prior conditions are to lift any restriction on gold as money; establish a monopoly issue agency; apply 100% reserve banking; and abolish interest-based contracts. The stock of gold acquired will be determined by the demand for gold; the higher the demand for gold, the more the country has to increase its exports and reduce its non-gold imports. The market will also determine the composition of its money in stocks of dinars and gold and the convenience offered by each form of asset.

### Does a Gold Standard Impair External Competitiveness?

Does it matter, from the external competitiveness perspective for the country, to be on a gold standard with its currency convertible into gold at a fixed rate while other countries have inconvertible paper currencies? The prevailing fallacy is that a country will be at a disadvantage in its trade if it is under a gold standard; such was the case of the United Kingdom during 1925–1931. According to this fallacy, a country should inflate to prevent deflation required by the balance of payment deficits and rely instead on movements in the exchange rate to eliminate external deficits. We repeat that an economy characterized by wage and price rigidities will not be able to implement a gold standard. It needs inflation to reduce real wages or to finance large fiscal deficits. Moreover, a country whose currency is a reserve currency, as was the case for the United Kingdom, will have an incentive to move out of gold and inflate. Likewise, the US enjoys a privileged position with the dollar being a reserve currency; it can expand credit and import practically without limit. To increase imports, it sets interest rates at zero. A reserve currency can afford to finance open mass-unemployment and welfare programs through printing money and running eternal external deficits.

A country saddled with severe wage rigidities, large fiscal deficits, and high domestic inflation, has no option except currency devaluation to protect its export industries. This type of economy cannot

implement a gold standard. However, a country compliant with the principles of *Shari'ah*, and whose currency is not a reserve currency, will have an incentive to return to gold since it is already on a pseudo-gold standard and cannot import commodities without exporting commodities. It cannot import commodities against paper as the case prevails for a reserve currency. The country achieves external competitiveness via its investment, production, price and wage flexibility, and productivity. Achieving external competitiveness via inflation and currency devaluation amounts to redistribution in the form of a subsidy to exporters at the expense of importers; it creates additional profits that have not resulted from cost effectiveness. As inflation accelerates, the effect of currency depreciation wanes and exports are diverted to local consumption (Farrer 1898).

Hence, a country on a gold standard, even when all the rest of the countries are on inconvertible paper, will not be at a competitive disadvantage; instead, in view of the stability of its financial environment, it will be able to grow and export at competitive prices. By renouncing the gold standard, many developing countries remained unable to grow despite their significant economic potential; instead, they became highly indebted and were not able to develop exports. They relied on aid instead of trade. They experienced large fiscal deficits, high inflation, and recurrent financial crises.

## The Opponents' Views against the Gold Standard

Imagine the case of a bank, licensed by the government, which emits \$1,000 in form of debt, against \$100 in gold reserves. This debt increases prices. Banks request payment of debt in real capital, that is, which did not exist in the first place. The economy had adjusted to a new fictive money supply of \$1,000, instead of the real supply, \$100. Debt can be repaid only by new fictive debt or default. In case of default, there will be deflation. Hence, this is the argument of those who oppose gold. With paper money, the central bank prints money and bails out bankrupt banks. However, money was never meant to be a bailout or a taxation instrument. Money is only a medium of exchange; it is not a factor of production, such as capital or labor, which constrains production. Opponents of the gold standard in favor of paper money—to free the economy from what they call the “shackles of gold,” have used the shortage of gold argument. The opponents of gold freed the economy from the shackles of gold; however, they



imposed on it the shackles of recurring financial crises and all that goes with them.

Carroll (1850s) had extensively argued that gold and debt are like water and fire. Debt is organized as a currency and has to extinguish gold. Fiction has to be settled against fiction. Under the gold standard, there may be overexpansion of credit by the fractional banking system and consequently, high price inflation (Holden 1907). When the credit boom reaches either imminent bank insolvency or debtors' default turns into a financial crisis, the result is the same whether under a gold standard or fiat money. Debtors default; banks are bankrupted; and prices collapse. The only difference between gold and paper money is that under gold, banks cannot be rescued and depositors lose their capital to debtors. Under paper money, applying Bagehot's (1873) last resort theory, the central bank prints as much money as required to save banks. The loss is transferred, via inflation, to workers, pensioners, and creditors, or if financed through the budget, to taxpayers (privatizing profits and socializing losses).

Under gold money, the economy developed structural flexibility for prices and wages. Under paper money, the economy has developed structural rigidities for prices and wages and has not been able to clear markets for assets, products, and labor. Moreover, the optimum money supply in a growing economy has been extensively discussed with no consensus. Milton Friedman (1969) suggested that money supply has to increase in line with real GDP growth. Likewise, Gustav Cassel (1921) maintained that gold output ought to increase at three percent per year to allow the adequate supply of money. Bastiat (2011) noted: "it is a very unimportant circumstance whether there be much or little money in the world. If there is much, much is required; if there is little, little is wanted, for each transaction: that is all."

Mises (1953) and Rothbard (1994) maintained that once a commodity has been established as money and considered to be in sufficient supply, there is no social benefit from increasing its quantity. Hence, there is a benefit to increase the supply of wheat, oil, fruits, etc., since every addition of these goods enhances consumers' living standard; an increase in money has no benefit since no consumer consumes money; it only dilutes the purchasing power of money. The issue of optimal quantity of money is dismissed as economy adjusts to any nominal quantity of money as illustrated by Hume (1752). The latter claimed that if the Great Britain's money were reduced overnight by four-fifths, the economy would simply adjust to a new money supply equal to one-fifth of the initial stock.<sup>6</sup> Moreover, under high

inflation or hyperinflation, the economy adjusts to an ever-rising money supply and develops deep-rooted inflationary expectations. The real quantity of money is endogenous variable. If prices adjust freely, they instantly clear the markets for labor and goods.

Islamic finance refutes the issuance of empty promises; moreover, the most important factor for money instability, viz. interest-based credit, does not exist.<sup>7</sup> The money supply is determined by trade and not by banks.<sup>8</sup> Asset prices are not exposed to speculation and high volatility as in conventional finance.<sup>9</sup> There are no loans for leveraging large positions in securities or in futures markets. Moreover, the quantity of gold has never ceased to grow, although at a slow pace. It should be stressed that deflation under the gold standard was never a harmful or disruptive deflation as those witnessed following a debt deflation and a collapse of the credit pyramid (Fisher 1933). Lord Farrer (1898) showed that productivity gains and technical progress, through a channel for transmitting economic growth to consumers, generated deflation. Price deflation inflates quantities produced; price inflation deflates quantities produced.

A reform of an international payments system along Islamic lines could require gold, even though the Chicago Plan stressed 100% reserve money and equity-based banking without specific reference to gold. But our contention is that for any form of a gold standard to prosper there must be strict limits on paper money (and in turn demand deposit) creation. If not, then there would be insufficient gold available for currency conversion. But the beauty of Islamic finance is that it imposes discipline through 100% reserve commercial banking, elimination of risk shifting (interest-bearing debt) in favor of risk sharing (equity finance). The authors of the Chicago Plan might have stressed a return to gold had they experienced a pure paper system as prevailed after 1971. A removal of interest-based debt is essential for stability under a paper or a gold system. Nonetheless, inconvertible paper is not natural money and did not emanate from market forces. It is so only by the fiat of the state and is also a non-redeemable debt. As a result, the state has found paper money convenient to finance deficits. Since each country is part of the world economy and benefits from international trade, multiplication of paper currencies makes it necessary to identify a small number of currencies as reserve currencies. Once these currencies are selected, the system becomes similar to the present-day paper system. Moreover, in multiple currency system, exchange rates fluctuate but with gold, there is no reserve money and exchange rates instability is avoided.

## Superiority of Islamic Finance and Gold

The main objective of the proponents of the gold standard is to achieve sustained growth and employment. Many countries have bloated public bureaucracies with large fiscal deficits often financed by paper money, and a number of countries suffer from high inflation and economic decline attributed in part to costless money paper. Establishing gold in Islamic finance achieves the benefits of Islamic finance and affords gold a platform and an anchor that make a gold standard system impervious to government intervention and collapse. In 2014, there is no economy that operates on the basis of Islamic finance or a gold standard. Although Islamic finance, in reality, a *Shari'ah*-compliant instrument, has been introduced in many markets, it is still a very small fraction of the international financial system and not a major part of any individual country's financial system. Hence, we do not have an empirical case from which we can establish solid evidence of the superiority of Islamic finance and gold. We have instead a great number of counterfactual cases, where leading industrial countries as well as developing countries are suffering economic stagnation, high unemployment, high inflation, high indebtedness, and continued, or at least expected, financial instability. Very high income and wealth inequality prevails through redistribution of money printing. The income distribution is no longer determined by the real contribution to the national output.

There are undeniable truths in economics, one of which is that economic growth needs capital—both physical and human. Islamic finance fully supports capital accumulation. Financialization, in form of a bloated financial sector, is detrimental to financial stability and economic growth. Islamic finance does not promote financialization of the economy and the Islamic financial sector is anchored in the real sector. Islamic finance directs more resources to investment and capital accumulation, and, therefore, enhances and sustains economic growth. By allowing gold to circulate as money, the government establishes sound money and increases productive forces; namely, to earn hard money, producers have to increase production and workers have to compete for jobs. Undeniably, powerful vested interests in governments and in the financial sector will oppose any attempt to rein in the financial industry by establishing 100% reserve banking and limiting the leveraging activities of financial institutions and a gold standard anchored in such a robust financial system. But there are forces on the global horizon—the ascension of China and other emerging

economies with large balance of payments surpluses and the increasing international resentment toward US economic and financial management that have adverse global fallouts—pointing to an end to the era of the dollar-dominated international payments system.

## Conclusions

The money of any country is under the attribution of the government; its soundness depends solely on the government and the soundness of its policies. Restoring the gold standard has never been in any country a technical problem. It was the political decision of the government as shown in many historical experiences. No country that restored a gold standard had to consult the world. It was an internal decision. Every country can unilaterally restore a gold standard, even if the rest of the world is on paper money. A prior condition was to cease the issue of empty paper money and restore convertibility of paper money in gold. All restrictions to gold trade and circulation have to be abolished; no taxes should be imposed on imports, exports, and holdings of gold.<sup>10</sup> The state has to reopen the mints to gold and silver. Islamic finance provides the principles so much advocated by the sound money school. Namely, the state has to abolish the privileges it has conferred on interest groups, especially fractional banking to the banking industry. Banking has to be 100% reserve safekeeping and payments banking. Under a gold standard, gold is the measure of value. The free market forces will establish the appropriate stock of gold in circulation through external trade, mining, and conversion from jewelry.

# Notes

## I Introduction

1. John Law, 1720, admitted the necessity of the state to circulate paper money.
2. Milton Friedman called for abolishing the Federal Reserve; creating a money issuance department within the US Treasury; bringing the money supply under the direct authority of the US Congress; and with the latter authorizing issues at zero interest rates so to keep money supply increasing at 4 percent per year on average.
3. In 1934, the US dollar was devalued from \$20.67/ounce to \$35/ounce.
4. The real bills doctrine was described by Adam Smith: “The whole paper money of every kind, which can easily circulate in any country, never can exceed the value of the gold and silver of which it supplies the place, or which—the commerce being supposed the same—would circulate there, if there was no paper money.”
5. Juglar mentioned a new enterprise was created to drain the Red Sea and recover the Egyptian treasures that sank in the sea during the crossing of Moses and His people. A large number of people bought the shares of this company.
6. “The gold and silver money which circulates in any country may very properly be compared to a highway, which, while it circulates and carries to market all the grass and corn of the country, produces itself not a single pile of either. The judicious operations of banking, by providing, if I may be allowed so violent a metaphor, a sort of wagon-way through the air, enable the country to convert, as it were, a great part of its highways into good pastures and cornfields, and thereby to increase very considerably the annual produce of its land and labor. The commerce and industry of the country, however, it must be acknowledged, though they may be somewhat augmented, cannot be altogether so secure when they are thus, as it were, suspended upon the Daedalian wings of paper money as when they travel about upon the solid ground of gold and silver. Over and above the accidents to which they are exposed from the unskillfulness of the conductors of this paper money, they are liable to several others, from which no prudence or skill of those conductors can guard them” (*Wealth of Nations* II.ii.86).
7. *Common Sense*, pp. 405ff.

8. *Choice in Currency*, p.16.
9. A regulatory body of the financial institutions has no relationship with central banking. Regulation in finance is needed as much as other regulation in medicine, drugs, transport, urban zoning, environment protection, etc.
10. *Qur'an* 9:85: "And to (the people of) Madyan (Midian) (We sent) their brother Shu'aib. He said: 'O my people! Worship Allah! You have no other *Ilah* (God) but Him. [*La ilaha ill-Allah* (none has the right to be worshipped but Allah)].' Verily, a clear proof (sign) from your Lord has come unto you; so give full measure and full weight and wrong not men in their things, and do not mischief on the earth after it has been set in order, that will be better for you, if you are believers." *Qur'an*: 17:35: "And give full measure when you measure, and weigh with a balance that is straight. That is good (advantageous) and better in the end." *Qur'an* 55:7-9: "And the heaven He has raised high, and He has set up the Balance. In order that you may not transgress (due) balance. And observe the weight with equity and do not make the balance deficient." *Qur'an* 83: 1-3: "Woe to *Al-Mutaffifin* [those who give less in measure and weight (decrease the rights of others)]. Those who, when they have to receive by measure from men, demand full measure. And when they have to give by measure or weight to men, give less than due." *Qur'an* 5:38. "Cut off (from the wrist joint) the (right) hand of the thief, male or female, as a recompense for that which they committed, a punishment by way of example from Allah. And Allah is All-Powerful, All-Wise."

## 2 The Shortcomings of the Present Payments System

1. Maurice Allais (1999) called unbacked money creation as money counterfeiting. Carroll (1965) called fictitious credit as counterfeiting and a redistribution of wealth.
2. Many authors in the past (e.g., Bastiat [2011]; Carroll [1965]; Walker [1873]; von Mises [1953]; Rothbard [1994]) predicted the failure of the paper money system.
3. A founder of inflationism was John Law (1705), who pushed France into financial chaos following unrestricted money printing that quadrupled prices and created the illusion of prosperity.
4. "In Fed and Out, Many Now Think Inflation Helps," *New York Times*, October 26, 2013.
5. Bastiat (1877) deplored the redistributive injustice of paper money inflation. It steals wealth from losers and showers it for free on the gainers.
6. We should note that another factor limiting the smooth functioning of the gold standard was increasing downward price and wage inflexibility.
7. Maurice Allais (1999) called unbacked money creation as money counterfeiting. Carroll (1965) called fictitious credit as counterfeiting and a redistribution of wealth.
8. The idea of economizing on gold was rooted in the writings of Adam Smith (1776) and David Ricardo (1810); it led to the collapse of the gold standard. Critical of Adam Smith's view that the substitution of gold would be beneficial

by saving the use and cost of gold and silver in the currency, Carroll (1965) noted that “the truth is, an expanded and consequently cheap currency is the most costly and wasteful machinery a nation can possess; the history of the world shows it to be uniformly unprofitable or disastrous... There was never a greater mistake in any science, and never one so fatal to the stability of property and the well-being of society.”

9. Only the US redeemed gold at \$35/ounce for central banks only. The rest of currencies were pegged at fixed rates to the US dollar and none was redeemable in gold.
10. A number of economists (e.g., Rueff 1964) argued that the problems associated with the fall of the Bretton Woods system could have been avoided if politicians thought about restoring gold standard in 1971. But the world community did not seriously reconsider the gold standard despite the financial disorders caused by inconvertible monies.
11. Franco Modigliani and Hossein Askari (1971) recommended an international payments system that had as its reserve asset a diversified basket of internationally traded commodities.
12. Many prominent writers have denounced the role of the US Fed. Milton Friedman (1972) stated that “there is inflation because the US Fed has decreed so.” Murray Rothbard (1994) and Ron Paul (2009) considered that the US Fed was formed by interest groups to bail out financial institutions and called for its abolishment. Many writers in the free-banking school consider that a central bank is totally un-necessary for sound money, and should be eliminated.
13. Carroll (1850s) deplored the devastating effects of paper money. He stated that “the value of money is regulated to disorder, to the impairing of contracts, and to the confusion of all just ideas regarding the rights of property, as effectually by the powers exercised by the States in granting bank charters, with authority to issue ‘bills of credit’.”
14. Adherence to gold remained strong in the Austrian School. However, most of the academic profession and press were hostile to gold and called gold as barbarous and its proponents as gold fools that would like to bring the world back to prehistoric times. A basic reason for their hostility was the irreconcilability of gold with Keynesianism. In Muslim countries, some prominent writers have derided the initiative of former Malaysian prime minister, Dr. Mahathir bin Mohamad, for a gold dinar, as chimera.
15. In classical theory, value is measured by the amount of labor embodied in the commodity or the scarcity of the commodity (e.g., diamonds). A piece of paper has negligible or no intrinsic value in it.
16. Minsky (1986) argued that as credit expands, Ponzi borrowers who simply can pay neither the principal nor the interest of the loan will dominate it. Labordère (1907) maintained that speculation intensifies during a credit boom, prices of commodities and assets rise rapidly, and optimism reaches a peak. Banks lend freely. Apparent capital (loans) multiplies in relation to real available capital (saving). The shortage of saving becomes severe leading to the suspension of many long-term projects. There is also mal-investment in form of oversized projects and nonprofitable investment due to abundance

and cheapness of loans. Expected cash flows and profits do not materialize. Bankers suffer losses on their loans and investment in equity shares.

17. Carroll (1850s) described the notion of “price without value”; namely, currency generated by bank lending pours forth only to drive up prices without creating additional value.
18. In the Quran in the Surat *Alkabf*, verse 82: “As to the wall, it belonged to two orphan boys in the town and there was under it a treasury belonging to them.” The treasury here is gold. If buried in the ground, paper money will be damaged.
19. Among early fallacies with paper money was that paper was so inexpensive to produce and could be used to economize on the costly production of gold and silver (Adam Smith 1776). The argument is that the world is better off using labor and capital to produce other commodities such as food instead of gold and silver, which can be replaced by costless paper. This fallacy has been rejected on many counts. It omits that gold has an intrinsic value and would be produced because it is a valuable commodity even prior to being used for money. In the same manner, diamonds will be produced even if they have no monetary use. Hence, gold continued to be produced, even though it was no longer used as money. Nonmonetary demand for gold is very high. Monetary function is fulfilled by the existing stock of gold, which has been accumulated over thousands of years. New production of gold is very small to existing world stock of gold. The latter can accomplish a monetary role without a need for further gold production. Gold can also be drawn from nonmonetary uses into monetary uses. The fallacy amounts of advising to build a house or a bridge with paper, since this material has a negligible cost compared to the high cost of steel and concrete.
20. A reserve country is in the same position as a gold producer. The latter can buy anything he wishes as long as he keeps producing gold. While gold producer has a limit to his gold output such as high production cost or exhaustion of the gold mine, a reserve currency has no cost and no limit to printing reserve currency.
21. If a reserve country pays its imports with exports, say of food products, real capital in the rest of the world increases; economic growth and employment are in turn spurred.
22. Wheat is chosen only as illustration. Reserve currency-country residents may buy real and financial assets in the rest of the world; for instance, they may buy foreign corporations with reserve currency.
23. Without the creation of fictitious credit, aggregate demand remains within the incomes generated in the economy as postulated by Say’s law of the markets, and will not lead, over the long run, to external trade deficits.
24. The gold-exchange standard (Genoa and Bretton Woods) was equally highly inflationary (Mlynarski 1929; Rueff 1964). Foreign exchange (in sterling or dollars) was redeposited in the respective issuing country and led to abnormal credit expansion and eventually an exit from gold of the United Kingdom (1931) and the United States (1971).
25. Central banks during the nineteenth century had pure monetary functions such as issuing bank notes, discounting bills, and settling foreign payments.



- They were never concerned by price level stability, full-employment, or countercyclical policies (see Gilbart 1919).
26. The central bank promotes moral hazard; it disregards prudential ratios and Basel guidelines in its drive to force credit on borrowers. In face of banks' reluctance, the central bank lends directly to subprime borrowers.
  27. This ratio does not include write-offs and toxic assets bought by the US Fed. Since credit at this level can never be repaid, the usefulness of the ratio is to measure the extent of free wealth transferred through banks to borrowers and through the fiscal deficit to beneficiaries of government transfers.
  28. Rueff (1964) argued that credit expansion might cause impoverishment or starvation. For instance, as prices rise, peasants become more impoverished; they consume their grain seeds and livestock. They have no longer seeds or livestock for generating necessary farm output. The result is starvation. Labor-dere (1907) claimed that credit expansion exhausts working capital (saving) and stalls the economy. Hayek (1931) and von Mises (1953) claimed that credit expansion caused mal investment and distortions in the productive structure. Governments cannot generate a surplus for debt payment and often default on debt through inflating the price level. Often governments default also on their foreign debt.
  29. Most of the credit was based on lending a fictive capital that never existed in real savings. Fictive capital cannot be repaid with real capital.
  30. The government also subsidizes homeowners in their mortgage payments to prevent a fall of home prices.
  31. The yen's sharp appreciation in 1986–1988 led the Bank of Japan to lower dramatically its interest rate and expand credit. Speculation became virulent in assets causing a financial collapse in 1992 and an enduring economic crisis in the following decade, called the lost decade.
  32. Commodity prices, including gold, are prices in part set on futures markets. Very low interest rates and cheap money enable speculators to finance large positions in commodities and send these prices higher.
  33. In 2014, over 50 million people were beneficiaries of food stamps in the United States. In many countries, food price inflation has badly hurt food consumption of poor people. In fact, food riots erupted in many poor countries in 2007–2008.
  34. The unemployment data is from Benjamin Anderson, "The Road Back to Full Employment," in *Financing American Prosperity*, 1945. Data on unskilled labor cost was the statistics of the US Bureau of Labor Statistics.
  35. Many developing countries have limited number of financial institutions and a very small number of products. Banks finance mainly trade and real investment operations and do not extend consumer loans. In these countries, the concept of financialization is almost inapplicable. The latter applies essentially to economies such as the United States, the United Kingdom, Japan, Europe as well as countries that have highly advanced financial system and considerable number of financial products with banks competing for both corporate and consumer loans.
  36. <http://michael-hudson.com/1998/09/financial-capitalism-v-industrial-capitalism/>

### 3 The Horrors of Hyperinflations

1. *Money and Trade Considered, With a Proposal for Supplying a Nation with Money*, 1705.
2. This principle has been adopted consistently by the US Supreme Court, which accorded the absolute power to legislate in money to the US Congress. It literally disallowed the constitutional principle that stipulated that money was gold and silver.
3. Gleeson (1999) and Minton (1975) provide very good narration of the life and banking and speculative experience of John Law.
4. It is an inherent feature of every economic theory that contravened the natural mechanisms of the economy to end in disasters. To conquer Nature we have to obey it. The desire of new theoreticians was to change hell into paradise. They ended up changing paradise into hell. For instance, Marxism aimed at prosperity and justice. It ended up into revolutions and misery. Law wanted short cuts to wealth through paper money; his system went out of control and brought dire consequences, such as hyperinflation, speculation, and wealth redistribution that enriched freely some and ruined totally others, which he never predicted in his writings. Although Law was a passionate gambler, one can hardly infer from his elaborate writings that he wanted chaos and ruin.
5. The stock speculation in France spilled over to the United Kingdom and caused the South Sea Company mania. Both the Mississippi and South Sea bubbles collapsed at the same time in 1720.
6. See Janet Gleeson (1999).
7. Voltaire called the decree restricting legal possession of metal coin the most unjust edict ever rendered and the final limit of tyrannical absurdity.
8. The church endowments were financing vast programs in education that comprised schools and universities, in health that comprised hospitals and hospices, and charity for the needy. The seizing of the properties of the church inflicted losses on the entire nation by ending resources devoted for human capital and poverty alleviation.
9. The initial effect of the paper currency was beneficial as a stimulus to commerce. However, a deep public distrust of paper money and the fear that the currency would be worthless if the uncertain Revolutionary regime collapsed soon caused the assignats to depreciate. The outbreak of war with the European powers in 1792 (e.g., Austria and England) caused a further decline in the value of the assignats.
10. The extension of the “maximum” to all commodities only increased the confusion. Trade was paralyzed and all manufacturing establishments were closed down. Attempts by the Convention to increase the value of the assignats were of no avail. Too many causes operated in their depreciation: the enormous issue, the uncertainty as to their value if the Revolution should fail, and the relation they bore to both specie and commodities, which retained their value and refused to be exchanged for money of constantly diminishing purchasing power.
11. The stringent financial measures during the Reign of Terror temporarily stabilized the value of the assignat at one-third of its face value. However, by

- early 1796, the assignats in circulation amounted to less than 1 percent of their original value; their value did not even cover the cost of printing them. On May 21, 1797, all unredeemed assignats were declared void.
12. Constantino Bresciani-Turroni's book, *The Economics of Inflation* (1931), was among the best-documented books on Weimar Republic hyperinflation. The author was an economist who worked in Germany during 1919–1937. Not only did he live through the conditions of Germany during and after the hyperinflation, but he also had substantive illustrative data. The material of this section is essentially based on this book.
  13. Havenstein said he postponed buying a suit waiting for prices to come down! He did not know that he was the only one that controlled prices in any direction he wished.
  14. Total money supply, which was pyramided on this money base, was an astronomical number.
  15. All trade died; shops were closed; unemployment among unionized workers was 30 percent in November 1923. People were starving in the cities; no farm produce was brought to the cities. The very meager trade was based on dollars, gold and silver coins, or direct barter. Here, we have the opposite of Gresham's law; namely, the good money drove out the bad money.
  16. Coincidentally, Rudolf Havenstein died on November 20, 1923. He was replaced by Hjalmar Schacht, a prudent banker who succeeded in maintaining firm stability during his tenure at the Reichsbank.
  17. The Treaty of Versailles required Germany to pay in gold a total of \$31.5 billion in annual installments extending until 1988 plus 26 percent of its annual exports receipts. The treaty aimed at crippling completely the German economy. During 1919–1920, war reparation payments depleted the gold reserves of the Reichsbank. The default of Germany prompted France and Belgium to occupy the Ruhr Region in 1923.
  18. From an Islamic perspective, money is a medium of exchange and should not be used as a means of taxation by the government. The German hyperinflation illustrated the danger of inflation as a taxation mean. In Islam, taxation is based on real income and real wealth according to just rules. Inflation taxes blindly the poor and exempts the rich. Worse, most of the proceeds of inflation arise not to the state but to the rich, as illustrated in Germany during 1914–1923.
  19. In order to pay the large costs of World War I, Germany suspended the convertibility of its currency into gold when that war broke out. Unlike France, which imposed an income tax to pay for the war, the German Kaiser and Parliament decided without opposition to fund the war entirely by borrowing.
  20. The interest rates were kept at 5 percent by the Reichsbank until a late stage of the hyperinflation, and could not reflect the scarcity of capital. In real terms, interest rates were overly negative.
  21. Jacques Rueff (1964) maintained that inflation might cause starvation by destroying the working capital. To stave off general famine, Germany was provided loans in the Dawn Plan, which were used practically for food imports.

## 4 Origins of Gold as Money

1. C. H. Carroll (1850, 1965) denounced the notion of medium of exchange: “But the dollar is such a pure abstraction, as the medium of exchange, which, as such, can be made as perfect by the authority or permission of government in a leather button, or in an item of bank debt, as in gold or silver, that almost any absurd statement as to a deposit of dollars may have the sanction of the British school of political economy, and pass for good banking and good sense; because the doctrine of that school is commonly accepted that the medium of exchange is the only essential function of money. While that doctrine prevails, political economy, in my opinion, will not amount to *a row of pins*. Money in trade is a commodity, a thing that is bought and sold; out of trade it is simply wealth. It is the creature of commerce, not of government. It existed before government. When history began, it was gold and silver bullion circulating by the common unit of weight, as Abraham weighed the shekels of silver to Ephron. Its essential function in commerce is that of capital as the common equivalent of value in exchange; and the prime element of an equivalent is always cost of production; its other elements being supply and demand. Instead of being a mere medium of exchange, it is the most conspicuous object of exchange in commerce, since, as the universal equivalent, it buys and pays for everything offered for sale, and is wanted, always and everywhere, as no other commodity can be, the wide world over. An exchange is as complete on the receipt of money as of any other commodity.”
2. For instance, a land rent contract may be written as: £300 and 700 bushels of corn/year. If the bushel is £1, the farmer pays £1,000; if the bushel is £1.5, the farmer pays £1,350; and if the bushel is £0.5, he pays £650. This was a form of indexing so as to keep the value of rent in line with that of commodities.
3. Oliver Cromwell produced milled coinage, that is, high quality coins of uniform size and shape produced on a press using finely milled blank planchets, on a limited basis during the Commonwealth (1649–1660). Under Charles II milled coin production greatly expanded and several coin denominations were revised. In fact, for several denominations Charles II produced the last hammered version of a particular coin, during 1660–1662, as well as the first milled version of the coin, during the late 1660s. Milled hand press coinage continued to be produced in England through the remainder of the period. It was not until the very end of the Eighteenth Century that the next major innovation occurred, namely the invention of the steam powered coining press at Matthew Bolton’s Soho mint in Birmingham.
4. From the earliest times, there was a fixed ratio of exchange between gold and silver. It was not always the same, nor was it necessarily the same in all places at the same time, but there was generally, if not always, a well-known ratio in all places where both metals circulated. In the great Empires of antiquity, there was always a fixed ratio, and the same ratio was maintained in the Babylonian, Assyrian, Lydian, and Persian Empires.

## 5 The Gold Standard

1. In many countries, deposits are considered to become full property of the depository institution, which is free to use it in anyway it chooses. The depositor has only a claim on the bank, which the bank may forfeit.
2. The choice of gold and silver as monetary standard was the comparative steadiness in the value of the precious metals, for periods of some duration. In the choice between gold and silver, gold has a greater value under a smaller bulk, which qualifies it for the standard in an opulent country; however, it had greater variations of value during periods of war or extensive commercial discredit. Ricardo viewed silver as much more steady in its value, in consequence of its demand and supply being more regular. The only objection to its use as a standard was its bulk, which rendered it unfit for the large payments required in a wealthy country.
3. Among the advantages of a paper over a metallic circulation, may be reckoned, as not the least, the facility with which it may be altered in quantity, as the wants of commerce and temporary circumstances may require: enabling the desirable object of keeping money at a uniform value to be, as far as it is otherwise practicable, securely and cheaply attained.
4. To say that money is more valuable than bullion or the standard, is to say that bullion is selling in the market under the mint price. It can, therefore, be purchased, coined, and issued as money, with a profit equal to the difference between the market and mint prices.
5. The issuers of paper money should regulate their issues solely by the price of bullion, and never by the quantity of their paper in circulation. The quantity can never be too great or too little while it preserves the same value as the standard. Money, indeed, should be rather more valuable than bullion, to compensate for the trifling delay, which takes place before it is returned in exchange for bullion at the mint. This delay is equivalent to a small seigniorage; and coined money, or bank notes, which represent coined money, should in their natural and perfect state, be just so much more valuable than bullion.
6. In Germany, there were seven factories for producing paper money and 130 printing companies working around the clock to print marks during 1920–1923.
7. What matters for the economy is real money balances. The nominal money is determined by the central bank. However, market participants determine real money by way of changes in the price level. In fact, if prices and wages adjust downward, the economy is able to create larger real money balances for its needs. In contrast, inflation creates money shortage; real money was in dire shortage during the German hyperinflation (1922–1923).
8. In essence, interest led to fictive debt and to the necessity of inconvertible paper; it creates a fictive loan that cannot be paid in real commodity (e.g., gold); it can be paid only in inconvertible paper that can be expanded to the same extent as fictive debt.
9. The issue of price stability is irrelevant in Islamic finance; there are no debtors who will fight for inflation or creditors who will benefit from deflation.

10. In Islamic finance, futures markets have to make actual delivery of commodities and have to operate according to Islamic modes such as *Bai Salam*, *Istisna*, *Murabaha*, and others.
11. There is a dilemma regarding the definition of inflation and deflation. Some writers prefer to define inflation (deflation) as an increase (decrease) in the quantity of money. Other writers define inflation as an increase in the price level. Assume money stock is \$100 and wheat crop is 100 bushels. The price per bushel is \$1/bushels. Assume that wheat crop in the next seasons has become 200 bushels. The price becomes \$0.5 per bushel. Assume the central bank wants to maintain price stability and keep wheat price at \$1/bushel. It pushes money supply to \$200. Money incomes rise, but prices are maintained constant. If the rate of inflation is measured by the increase of money supply, it is equal to 100 percent. If it is measured by the price index, it is 0 percent. While the deflation mechanism corresponds to a simple clearing of the markets, the inflationary mechanism is highly inefficient and distortive. The central bank has to monetize fiscal deficit or expand credit to bring money supply to \$200.

## 6 Gold and the International Payments System

1. *Essai sur la Nature du Commerce en General*, 1730–1734.
2. This assumes competitive market. He cannot reduce his wage in countries where minimum wage laws are in effect; he has to be unemployed and receive income from the state.

## 7 Bimetallism and the Gold-Exchange Standard

1. The Sherman Act was repealed immediately after the closing of mints to silver coinage in India in 1893.
2. The notion of money shortage is not easy to define. Even in the German hyperinflation (1922–1923), inflationists were clamoring about money shortage.
3. The exchange rate between gold and silver, defined as ounces of silver per one ounce of gold, moved from 15.57 in 1870 to 39.15 in 1902 depreciating by 151 percent.
4. There was no definition for “fundamental disequilibrium”; such lack of definition would provide more leeway for a member country to manipulate its currency.

## 8 Recurrence of Financial Crises and Suspensions of Gold Payments

1. Unbacked credit that does not correspond to real saving creates high demand in some sectors. For instance, large car loans create high demand for the car industry that is paid for by forced real saving. When forced saving becomes too small and cannot finance the higher output of the car industry,

a financial crisis erupts—there will be overproduction and excess capacity in the car industry and underproduction in the food sector.

2. Algeria borrowed from France in early eighteenth century to finance government waste and could not repay. This led to French colonization of Algeria for over one century and death of hundreds of thousands in the ensuing conflicts.

## 9 Strategies for Reintroducing the Gold Standard

1. An example of a central bank suspension was the famous Bank of England suspension from 1797 to 1821. Private banks suspended gold payments in case of a bank run or bankruptcy. The US emitted a nonconvertible currency, called the greenbacks, in 1861, upon eruption of the Civil War.
2. The first general circulation of paper money by the federal government occurred in 1861. Pressed to finance the Civil War, Congress authorized the US Treasury to issue noninterest-bearing Credit Bills. These bills acquired the nickname “greenback” because of their color.
3. Latin Union included France, Belgium, Italy, Switzerland, and Greece.
4. The exchange rate between gold and silver, defined as ounces of silver per one ounce of gold, moved from 15.57 in 1870, to 39.15 in 1902, depreciating by 151 percent.
5. This situation is similar to modern conditions where countries have to acquire dollars to settle their balance of payments.
6. The wording of “fetter” by the enemies of gold demonstrates their bias.
7. This rule of money supply assumes 100% seigniorage for the money issuer; in contrast, gold is a produced commodity and has zero seigniorage.
8. A lottery winner is rich, say, by \$10 million. However, the rest of participants are poorer to the extent of the cost of their participation; it is a zero-sum game.
9. This measure is known as monetary approach for the balance of payments. Countries facing an external deficit promptly impose a ceiling on credit and money in order to generate a balance of payments surplus.
10. The issuance agency resembles to the Issue Department of the Bank of England under Peel’s Act, with the same feature of emitting banknotes that are 100% covered by gold.
11. The denominations five, ten, and twenty dollars referred to dollars in 1953. Noting the price of gold at \$35/ounce in 1953, twenty dollar bill was worth 20/35 ounce of gold. Assuming gold price at \$1700/ounce in 2013, the equivalent of 20/35 ounce would be \$971. This implies that token bills such as \$100 and \$50 would have to be kept in circulation under the new reform.
12. The repeal of the Constitution’s money law has led to oversized government and restrictions on enterprise.
13. We note that Mises’s plan did not stipulate the sale of all the Federal Reserve gold holding to the public. Only a small amount has to be loaned to the Conversion Agency.

14. One hundred percent gold standard means one hundred percent reserve money as well as gold money. No fractional banking at individual or central level is allowed.
15. For instance, 5 grams 9/11 fineness may be chosen as a standard world gold coin. It will have a name, say, "Gold," and will be adopted as the unit of account worldwide.

## 10 Islamic Money and Capital Markets

1. The third US president, Thomas Jefferson, famously stated, "I believe that banking institutions are more dangerous to our liberties than standing armies. If the American people ever allow private banks to control the issue of their currency, first by inflation, then by deflation, the banks and corporations that will grow up around [the banks] will deprive the people of all property until their children wake-up homeless on the continent their fathers conquered. The issuing power should be taken from the banks and restored to the people, to whom it properly belongs." In respect to inflation, US Senator Daniel Webster (1782–1852) noted, "We have suffered more from this cause than from every cause or calamity. It has killed more men, pervaded and corrupted the choicest interests of our country more, and done more injustice than even arms and artifices of our enemy."
2. For example, Allais (1999), Bastiat (1877), Carroll (1965), de Soto (2012), Irving Fisher (1936), Rothbard (1994, 2008), Paul (2009), Raguét (1840), Amasa Walker (1873), and von Mises (1953).
3. We define credit as loan in cash, which is to be reimbursed in cash. We exclude commodity transactions that are settled according to a time schedule.
4. For details, see Askari et al. 2011.
5. Mirakhor (1993) studied the real demand for money and financial assets in an Islamic economy in the context of both a closed and an open economy. Savings rise with the rate of return. He showed the existence of an equilibrium rate of return that establishes equilibrium in money and assets markets as well as the goods markets.
6. This natural gold mechanism of price and wage adjustment has been strongly combated in the United Kingdom and the United States. The strong opposition to price mechanism was a major cause for abolishing gold system by the United Kingdom in 1931.
7. The Glass–Steagall Act (the US Banking Act of 1933) limited commercial bank securities activities and affiliations between commercial banks and securities firms. However, the act did not embrace a main Chicago Plan recommendation, particularly the 100% reserve banking. The Gramm–Leach–Bliley Act repealed the Glass–Steagall Act in 1999.
8. Interest for money is not regulated by the rate at which the bank will lend, whether it is 5, 4, or 3 per cent, but by the rate of profits that can be made by the employment of capital, and which is totally independent of the quantity or of the value of money. Whether a bank lent one million, ten million, or a hundred million, they would not permanently alter the market rate of



interest; they would alter only the value of money that they thus issued. In one case, ten or twenty times more money might be required to carry on the same business than what might be required in the other.

9. Allais wrote, "In essence, the present creation of money, out of nothing, by the banking system is, I do not hesitate to say it in order to make people clearly realize what is at stake here, similar to the creation of money by counterfeiters, so rightly condemned by law. In concrete terms, it leads to the same results." Bastiat (1877) deplored the redistributive injustice of paper money inflation and wrote, "I must inform you that this depreciation, which, with paper, might go on till it came to nothing, is affected by continually making dupes; and of these, poor people, simple persons, workmen and countrymen are the chief. Sharp men, brokers, and men of business, will not suffer by it; for it is their trade to watch the fluctuations of prices, to observe the cause, and even to speculate upon it. But little tradesmen, countrymen, and workmen will bear the whole weight of it." In the same vein, Carroll (1965) severely condemned the redistributive effect of money and credit; he noted: "Of all the contrivances for cheating mankind, none has been more effectual than that which deludes them with paper money. This is the most effectual of inventions to fertilize the rich man's field with the sweat of the poor man's brow."
10. Unbacked credit that does not correspond to real saving creates high demand in some sectors. For instance, large car loans create high demand for the car industry that is paid by forced real saving. When forced saving becomes too small and cannot finance the higher output of the car industry, a financial crisis erupts; there will be overproduction and excess capacity in the car industry and underproduction in the food sector.
11. The Sharpe ratio is defined as  $\frac{R_i - R_f}{\sigma_i} = \rho_{iM} \frac{R_M - R_f}{\sigma_M}$  where the variables are:  $R_i$  = expected return of share  $i$ ;  $R_f$  = rate of return of riskless asset;  $R_M$  = expected return of market portfolio;  $\sigma_i$  = risk of share  $i$ ;  $\sigma_M$  = risk of market portfolio;  $\rho_{iM}$  = correlation coefficient between share  $i$  and market portfolio returns.

## II The Gold Standard in Islamic Finance

1. Technically, restoring gold amounts to restraining money supply based on the Hume monetary approach to the balance of payments. The International Monetary Fund, in countries suffering from external deficits, often applied this type of approach. The approach forces strict money and credit ceilings that generate substantial external surpluses.
2. Charles P. Kindleberger (1978), *Manias, Panics, and Crashes: A History of Financial Crises*.
3. Hossein Askari and Noureddine Krichene (March 2014), "Islamic Finance: An Alternative Financial System for Stability, Equity, and Growth," *PSL Quarterly Review*, 67(268); Hossein Askari, Noureddine Krichene, and Abbas Mirakhor (June 2014), "On the Stability of an Islamic Financial System," *PSL Quarterly Review*, 67(269).

4. We limit the definition of debt to conventional interest-based bank credit. *Shari'ah*-compliant trade transactions fall under a different category of debt; namely, commodity transactions to be fulfilled according to an agreed payment schedule.
5. Irving Fisher proposed the notion of compensated dollar to stabilize the price level. He proposed a devaluation of dollar in relation to gold in case of price level decline and a revaluation of the dollar in case of a rise in the price level.
6. What matters for the economy is real money balances. The nominal money is determined by the central bank. However, market participants determine real money by the way of changes in the price level. In fact, if prices and wages adjust downward, the economy is able to create larger real money balances for its needs. In contrast, inflation creates money shortage; real money was in dire shortage during the German hyperinflation (1922–1923).
7. In essence, interest led to fictive debt and to the necessity of inconvertible paper; it creates a fictive loan that cannot be paid in real commodity (e.g., gold); it can be paid only in inconvertible paper that can be expanded to the same extent as fictive debt.
8. The issue of price stability is a nonissue in Islamic finance; there are no debtors who will fight for inflation or creditors who will benefit from deflation.
9. In Islamic finance, futures markets have to make actual delivery of commodities and have to operate according to Islamic modes such as *Bai Salam*, *Istisna*, *Murabaha*, and others.
10. However, gold holders are still compelled by *Shari'ah* to pay *zakah* of 2.5 percent per year. This will encourage gold holders to invest it in productive assets that generate flows of income and not hold gold idle.

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