

1. Introduction and summary

INTRODUCTION

A broken economic system that can no longer be effectively patched is ending. It is an interconnected global system shaped by the use of key currencies for cross-border payments by citizens and governments of countries other than the countries in which those currencies are issued. Since the 1980s, the dominant key currency in the global system has been the United States (US) dollar but, from the beginning, the constraints inherent in US acceptance of that role for its currency have created strains on its economy and on the global system that, in time, became unsustainable.

The flaw in this system is the basis for the confidence on which it depends. The choice to use the dollar for payments or investments outside US financial markets rests on belief in the ongoing strength of the American economy and its continued growth. Holdings of dollars by the rest of the world are in fact claims on the American economy that require confidence in its ability to pay its debts. Of course, the ability to attract savings from the rest of the world while running trade deficits seems to create a substantial advantage for the key currency country. US economic growth would have been much weaker over the last three decades without the build-up of debt financed by sizable inflows of foreign savings that helped provide both the ample credit that supported the US consumer-based economy and the credit Americans used to buy the imports that generate those savings. It has allowed the US to live beyond its means. But the continued dependence on debt-fueled growth that underpins this global system is the Achilles heel which led to its near collapse in 2008 and which will lead to another collapse in the not too distant future.

In addition to the debt-fueled growth dynamic that drives the American economy in its role as a key currency country, the global system has been shaped by the requirement that all countries except the US adopt an export-led growth model for their economies. Those countries that cannot use their own currencies to pay for cross-border transactions must run trade surpluses to acquire the dollars or other strong currencies needed to engage in international trade and investment. While the creation of the

euro allowed the European Union to trade among its members without that constraint, those countries, too, structure their economies to favor export-led growth and their markets are less open to the rest of the world than the US market. Consequently, the US has become the buyer of last resort for the world's economy; its ability to accept the ongoing trade deficits that sustain that role is a critical factor in allowing the current system to continue.

The debt-fueled, export-led growth models that shaped the global economy developed in tandem with dramatic changes in financial functions brought about by the creation of offshore markets, financial product innovation, and deregulation. The outcome was an erosion of control over the expansion of credit in national economies that led to extraordinary growth in debt relative to their economic output. The ratio of private sector debt to gross domestic product (GDP) for many countries, including the US, rose to levels that constrained the ability of their households, businesses, and financial sectors to generate the income needed to service and repay what they owed.

The rise in debt to historical levels constituted the primary threat to the global economy. Moreover, it was one of the clearest warning signals of the collapse that caused the financial crisis of 2007–2008. The crisis was not, as many asserted at the time, unforeseen (Galbraith, 2009), except by those who declined to read those signals. For those who did foresee the scale of the coming disaster, developments during the crisis confirmed the underlying fault lines that had emerged as changed institutions, products, and practices shifted the structure of the global system over the preceding decades.

These changes resulted in the transformation of national bank-based systems into a market-based global system dominated by large, multinational institutions based in major developed countries. The context for this transformation was neglect or abandonment of existing regulatory frameworks without attention to the implications of those changes for systemic soundness. Among the major indications of systemic vulnerability were the unprecedented growth of financial sectors relative to the economies in which they were located; the interconnectedness of financial institutions; and the extraordinary increases in international capital flows that exacerbated the pro-cyclicality of finance in both boom and downturn.

The outcome of the crisis has been deeply punishing for real sectors in many of the world's economies. It has led to numerous serious efforts by public agencies and independent analysts to ascertain its causes. But the effort to address those causes in ways that will prevent a recurrence is still a work in progress. The Dodd-Frank Act of 2010, for example,

seemed to go through the motions of a major reform effort, giving nominal recognition to problem areas without confronting the underlying structural issues that contributed to the collapse. The regulatory framework the act proposes continues to assume that the US financial system remains essentially bank-based. It fails to confront the many new issues that must be addressed to ensure the soundness, effectiveness, and transparency of the market-based system now in place. As a result, US financial law and regulation remain in the shadows of the bank-based system designed in the 1930s that began to morph into a market-based system as early as the 1960s.

The primary activity in the market-based system that has emerged over the last half century is investing and trading, not traditional bank activities like deposit taking and lending. The development of parallel offshore markets was a major factor in the shift toward trading, but other developments in US financial markets also contributed to this change. When Lehman Brothers collapsed in the fall of 2008, intermediation between non-financial savers and borrowers had become a less important function for the financial system than speculating in and insuring financial assets issued and held by the financial sector itself.

Many believe stronger limits on leverage and trading are needed to ensure that a future crisis is not already in the making. The outcome of the 2016 election in the US, however, produced a political climate that placed repeal of the 2010 Dodd-Frank Act on the Congressional agenda. Those who favor repeal give little weight to the belief that the role of regulation is to protect the public whose money is at risk. Their proposals seem to argue that their role is to support a profitable financial system. Some advocate a return to self-regulation and the self-dealing by and within the financial system that resulted in the excessive speculation that triggered the crisis of 2007–2008, which will lead, once again, to an environment in which such anti-regulatory ideology will excuse policy-makers from making pragmatic assessments of the risks and problems that regulations are—or should be—designed to fix.

This book attempts to provide an assessment of how the monetary and financial frameworks for the US and global economies unraveled over the last 50 years. It offers proposals to reform the broken system now in place and calls for continued attention to the need for reform despite—or because of—the hostile political environment. The first section is a brief summary of the developments and proposals described in greater detail in subsequent chapters. The author hopes this summary will help the reader follow the progression of seemingly disparate issues that, like pieces of a puzzle, are indispensable parts of a narrative that describes how the

vulnerabilities in the current system emerged and how they continue to threaten the US and global economies.

SUMMARY OF THE BOOK

Part I

The first major shift in market structure was initiated in the 1960s by the development of unregulated markets for financial transactions denominated in national currencies outside their countries of origin. Institutions operating in these parallel markets for dollars, pounds, marks, and other currencies fundamentally changed how and by whom they were funded and how and to whom those funds were channeled. In time, those changes were incorporated into the operations of financial institutions in national markets, transforming the structure of domestic markets and forcing regulatory accommodations to meet the new functional configurations that resulted.

As early as 1970, offers of financial guarantees began to increase with the strategy established by the US Federal Reserve to solve the commercial paper crisis that resulted from the default of the Penn Central Railroad, inaugurating a trend toward contingency lending in which banks promised (for a fee) that they would lend to companies that were unable to sell their commercial paper. The growth in these guarantees led to swollen off-balance sheet positions for contingent liabilities held by banks and fueled the growth in non-bank lending funded by commercial paper. By the 1980s, what had evolved was, in effect, an unregulated parallel banking system. With finance companies as issuers and money market mutual funds as buyers of commercial paper, these sectors operated in tandem as lenders and funders of credit without the regulatory costs imposed on depository institutions.

But while the parallel non-bank system reduced banks' share of total financial assets, the parallel system itself was, in time, dwarfed by the ways banks found to evade regulatory costs and the innovative products they developed for guaranteeing and hedging against losses on financial assets. In the build-up to the crisis, selling and buying over-the-counter (OTC) derivatives contracts became a major area of activity for the largest financial institutions and led to the engorged off-balance sheet positions that became known as shadow banking.

Another critical development that hastened the shift from a bank-based to a market-based system was passage of the Employee Retirement Income Security Act (ERISA) in 1974. Rules and regulations that

required companies to back their promises of benefits with actual holdings of assets increased demand for securities and had the effect of encouraging a seismic shift in household savings from bank and thrift deposits to pension funds. The effect was to open a new and large channel for the flow of household savings to securities markets, and to increase their vulnerability to the volatility of market forces without protections such as those provided by deposit insurance.

The shift to a market-based system prompted little or no change in securities law and regulation. The emphasis on transparency initiated in the 1930s that had made US securities markets a model for the world was lost by the growth and increased dominance of opaque markets for buying and selling foreign exchange, mortgage-backed securities (MBS), OTC derivatives, and securities repurchase agreements (repos). With no information available on the volume and price of transactions, these markets posed increasing risks to the system as they became the dominant areas of credit creation and trading.

During those weeks of crisis in September 2008, it seemed almost ironic that reports on prices on the US stock market continued to be broadcast at the end of each day, even as they were being unraveled by developments in much larger markets—the market for MBS, for example, where, as early as 1984, trading was estimated to be larger than that in all the world's equity markets combined (Maxwell, 1984). In 2008, the scale of price collapses in the MBS and other OTC markets were disastrously unavailable to participants trying to make decisions on trade, as well as to regulators and the public at large.

Meanwhile, acceptance of these and other changes in financial structure seemed to support what the Bank for International Settlements (BIS) termed the rise in “free market ideology” that prompted a wave of deregulation in the domestic US market. At the beginning of the 1980s, Congress passed legislation ending limits on interest rates paid by banks and savings associations—critical provisions of the 1930s reforms—that led to widespread failures of thrifts and greater reliance on fee income for banks. Later in the 1980s, the Federal Reserve began to loosen reserve requirements in an effort to equalize costs for banks competing with other financial sectors and costs between banks' offshore and domestic markets, in order to bring more of their activities back into the home market and under surveillance by the central bank. But, as traditional banking operations lost their dominant role, banks also moved into new activities and, in 1999, succeeded in obtaining congressional approval for repeal of the 1933 Glass-Steagall Act that had separated commercial and investment banking.

At that point, the compartmentalized structure put in place in response to the Great Depression disappeared along with the particular missions and responsibilities of individual financial sectors. On paper, however, this regulatory structure and its institutions remained unchanged. Because of this disparity, regulatory responsibilities became muddled and effective systemic oversight was lost.

Part II

With the adoption of capital requirements and adherence to the belief that market forces should and would act as an appropriate regulator for the financial system, the unregulated offshore financial markets became the model for the US domestic system. Banks and other major financial institutions in the US took on functions developed offshore, where 80 percent of borrowing and lending occurs between financial institutions. They assumed the function of monetizing debt by using the opaque market for repurchase agreements to raise short-term funds from other financial institutions. This funding strategy enabled higher levels of leverage and trading for their own accounts as they used borrowed funds to buy assets that could be pledged for additional borrowing. Using this strategy, they effectively seized control over market liquidity—previously a central bank function—and created debt levels for financial and non-financial sectors that were unsustainable relative to economic activity. In addition, it was a strategy that tightened the web of interconnectedness that linked the fortunes of many to the performance of the largest institutions. As a result of the growth in interconnectedness in both domestic and offshore markets, the loss of confidence that developed as housing prices fell—one of the traditional asset-price triggers for financial crises—originated in the financial system and led to a run on the financial sector by the financial sector (D'Arista and Epstein, 2011).

The US Comptroller of the Currency—the primary regulator of national banks—ignored this growth in interconnectedness when, in the late 1990s, he failed to question whether the National Bank Act's restrictions on loans to individual borrowers in relation to capital should also apply to financial counterparties. The Federal Reserve, too, ignored its oversight responsibility in failing to assess developments underway in the run-up to the crisis. Before March 2008, the Fed had not moved to acquire information about the interconnectedness and exposure to risk among counterparties in the enormous credit risk transfer markets where collateralized debt obligations (CDOs) and credit default swaps (CDSs) were traded. The CDS market was estimated to have been a \$62 trillion

market—about four times larger than the US economy—at the time of Lehman Brothers' collapse.

The Fed also seemed unconcerned about the implications of the build-up of positions among dealers in the OTC market for derivatives. Since OTC derivatives are tailored to the needs of a single customer and thus cannot be traded, buying and selling contracts among dealers to hedge their positions pushed up the nominal value of outstanding contracts to many multiples of the value of underlying assets. The beginnings and ends of layers in these markets were obscured and most of the so-called assets involved had become impenetrable froth.

But the US Congress, too, shirked its oversight responsibility when it gave a boost to securitization in 1984 by exempting private issues of MBS from registration and disclosure, relying instead on the ratings of a few nationally recognized credit rating agencies. Since the issuers paid the agencies, one of the more glaring conflicts of interest in the MBS market was baked into the pie at that point.

Securitization was a boon to the banks: a way to evade capital requirements while earning profits on originating and servicing a rising volume of lending for mortgages. Moreover, it allowed a new class of unregulated institutions—mortgage brokers—to enter the system as originators without having to raise capital to hold the loans. But the absence of capital restrictions on banks' and other lenders' securitization exposures resulted in an undercapitalization of what had become the largest US credit market, one which fed the housing bubble and ensured that MBS were held and traded by almost all financial sectors, including pension and mutual funds.

The pervasiveness of MBS holdings meant that, when the bubble burst, homeowners experienced a double whammy: their net worth fell because of the drop in the value of their homes and then fell further as the value of MBS in their pension and mutual funds declined. In addition, the lack of disclosure about underlying mortgages in securitized pools dealt a third blow to households: it made negotiating loan workouts more difficult and exacerbated the rate of foreclosures.

As a result of securitization, small businesses, too, were dealt a heavy blow by the crisis. Banks had used business owners' residences as collateral to channel lending to these borrowers because the collateral could be securitized and the loans would no longer be held on their balance sheets. After the crisis, the position of small businesses as borrowers with underwater collateral and no access to credit became a significant and tragic drag on recovery.

Another critical development overlooked by regulatory authorities and Congress was the growing level of concentration in almost all financial

sectors. The growth in concentration accelerated as institutions expanded both their international reach and their share of financial activity at home. When Continental Illinois, the large Chicago-based bank, threatened to cause ripple effects throughout the system in 1984, “too big to fail” became a common term of reference for the dilemma of interconnectedness. That a single institution with liabilities for deposits, commercial paper, and commercial paper guaranties could damage the well-being of a wide range of other financial institutions, however, was not a new concern. Similar concerns about Franklin National Bank’s interbank deposits and foreign exchange contracts had led the Fed to intervene in 1975 when Franklin failed and, of course, the Fed did so again in 1984.

Concentration was evident in other sectors as well, especially among securities firms and institutional investors who, as managers of household savings invested in pension and mutual funds, held an unprecedented level of market power. Looking at an already high level of concentration in the 1980s, some argued for stronger anti-trust laws. But, given the widespread belief that markets free of government regulation are more efficient, that view was ignored in favor of the assumption that markets would curtail concentration.

In the end, however, government reinforced the market’s decision to permit ever higher levels of concentration. Beginning with the thrift failures in the 1980s, “supervisory mergers” and “purchase and assumption” transactions became the preferred method of handling failing depository institutions. A Federal Reserve paper noted that, between 1980 and 2005, 17,500 mergers involving small, medium-size, and large institutions took place—about 700 a year (Mester, 2007). In 1984, 64 banks held half of all banking assets. By 2009, that number had been reduced to five. Along the way, in 1991, Congress passed the Federal Deposit Insurance Corporation Improvement Act, authorizing federal regulators to rescue large banks and cover their uninsured deposits if their failure would create a serious risk to the banking system.

As a result, the erosion of regulation and abandonment of prudent financial practices proceeded at an even more rapid pace. Among the most egregious of the unsound practices that had become embedded in the system was the widespread engagement of large banks and investment banks in proprietary trading—that is, trading for the institution’s own account in addition to trading for customers’ accounts. Proprietary trading increased these institutions’ reliance on borrowing funds from other financial institutions to increase leverage to expand speculative positions involving carry trade transactions. “Carry trade” is a term for borrowing short term at low interest rates in order to invest in higher-yielding long-term assets. It was a strategy that diverted a sizable share of

financial resources away from transactions with non-financial customers in order to augment the profits of large institutions. In addition, the interconnectedness and leverage associated with carry trades added an increasingly higher level of risk to the financial system.

A reasonably strong version of former Fed chairman Paul Volcker's proposals to curb these activities was included in the Dodd-Frank Act in 2010. By December 2014, however, the proprietary traders had succeeded in adding an amendment to the government spending bill that weakened the force of the Volcker provisions. And, as noted, Dodd-Frank remains vulnerable to further weakening, rather than the strengthening hoped for by so many who made reform proposals during and after consideration of the bill.

The good news about the Dodd-Frank Act is that it fully recognized the importance of government regulation. Even so, it failed to recognize the extent to which changes in the structure of the financial system have altered relationships among financial institutions, regulators, and the monetary authority; and between finance and the real economy.

To deal with those changes in ways that will restore the financial stability necessary for sustainable growth in economic activity, regulations must be clarified and sharpened, and must apply in the same way to all institutions engaged in a given activity. In addition, a new system of financial guaranties must be put in place to protect household savings. Based on the kind of information about holdings already reported by financial institutions for tax purposes, such a system would insure individuals rather than institutions, using social security numbers to identify the individuals' accounts. It would cover holdings wherever held, whether in banks, pensions, or other retirement or savings accounts, up to the existing amount of \$250,000, and would charge a minimal insurance premium as the Federal Deposit Insurance Corporation does now.

Parts III and IV

Other efforts needed to strengthen US financial regulation and protect the public and the economy on which it relies must take into account how globalization has shaped both the financial system and the US economy over the past 50 years. The US balance of payments accounts were and are at the heart of globalization. Becoming a debtor nation in 1989 signaled the beginning of the ongoing loss of opportunities for the US economy to sell more goods abroad and at home. But, despite the vigor of the debate over trade, it almost always casts the trade deficit as a stand-alone phenomenon that can be blamed on the policies of other nations.

In fact, the US trade deficit stems from a broad set of causes—in particular, the dollar’s central role in global payments and investments—and represents a larger set of imbalances. As long as non-US residents choose to hold and use dollars for trade and investment transactions, their demand for the currency keeps the dollar exchange rate at a level that increases the cost of US exports relative to competing foreign-made products. It also reduces the cost of imports relative to domestically produced goods. And the foreign sector’s willingness to hold and invest dollars in American financial assets allows the US to continue to run up its tab with the rest of the world even as its trade deficit widens.

The accumulation of that form of red ink shows up on the other side of the US balance of payments accounts: the capital account. By any standard, the inflow of foreign capital measured by the capital account had become enormous in the 1990s and became a main support for US prosperity in that decade and into the new millennium. But US dependence on foreign capital creates an unsustainable foundation for economic growth, a fact that the Federal Reserve and successive US administrations have ignored. They have taken credit for ongoing economic growth during those years without acknowledging that foreign indebtedness has enabled the country to live beyond its means.

Commenting in 1971 on the role of dollar hegemony in the global payments system and how it would affect the trade deficit and economy of the US, the British economist Nicholas Kaldor predicted that it “would involve transforming a nation of creative producers into a community of *rentiers* increasingly living on others, seeking gratification in ever more useless consumption, with all the debilitating effects of the bread and circuses of imperial Rome” (Kaldor, 1971, p. 64).

One way in which dollar hegemony affects the US economy is through the accumulation of foreign exchange reserves held by other countries. Those reserves provide credit for the country in which they are invested as well as for the country that owns them, and their investment in US Treasury securities and the securities of government-sponsored enterprises (GSEs such as Fannie Mae and Freddie Mac) changed the allocation of credit in the US financial system. Augmented by enormous inflows of foreign private capital, these structural elements of the international monetary system contributed to the general prosperity the US experienced in the decade before 2008. But those good times were not, in fact, sustainable, because the mirror image of growing official and private foreign debt was the immense run up in domestic private sector indebtedness that set the stage for the crisis.

The dollar's role in the global system has had equally significant effects on other countries, precipitating crises around the world, beginning with the default and threatened default in 1982 of 15 lesser-developed countries that had borrowed dollar-denominated Organization of Petroleum Exporting Countries surpluses intermediated by US banks. While capital inflows increased growth and development in many countries in subsequent years, the costs of crises in the periphery of the global system contributed to the perpetuation of poverty and increasing inequality in many other emerging and developing economies.

Developments in the period before the 2008 crisis underscore the irrationality and inefficiency of the global financial and monetary systems. Beginning in 2004, increases in US interest rates sparked another round of carry trade transactions that brought a flood of foreign private investment into dollar assets, together with increases in inflows of foreign official investments as dollar reserves rose. The gross inflow through the US capital account was more than twice the amount needed to finance the trade deficit and other expenditures in the current account, and more than could be used to finance the borrowing binges of US households and businesses (US Department of Commerce, 2005).

As a result, the excess liquidity added to US financial markets was then exported through carry trades, using dollar borrowings to invest in higher-yielding assets in emerging economies. There, the inflow of dollars used to buy these countries' assets tended to be mopped up by their central banks in sterilization operations intended to prevent inflation and appreciation of their currencies. But, having accumulated additional dollar reserves in the process, the governments and central banks of emerging and developing countries invested them in dollar financial assets in the US and the Eurodollar market, setting in motion a sorcerer's apprentice scenario in which one response prompted another, and led to ever larger streams of cross-border flows and ever rising debt.

By amassing reserves, emerging markets were feeding the machine that generated the capital flows they were trying to guard against. They had, in fact, been doing this since 1999, when Asian and Latin American countries paid down bank debt and added to their deposits in the offshore markets, augmenting the amount of funding available for speculative activity in the international interbank market. By 2001, the build-up in foreign currency reserves as precautionary balances, to cover needed imports and protect against increases in the value of the dollar and dollar interest rates, led developing countries as a group to become net creditors to international banks. Their net creditor position was an outgrowth of their experience with volatile capital flows and illustrated one way that the international financial system undermined funding for development.

The main function of the need for the build-up in reserves was to enforce the export-led growth paradigm that required these countries to earn foreign exchange by reducing wages, in order to compete in selling cheap exports and then channel the surpluses they earned to rich financial institutions and economies.

The current, dollar-based international financial and monetary systems inflicted major damage through its role in feeding the unsustainable debt bubble in the global system that led to the 2008 crisis. In the US, for example, the amount of foreign investment in US financial assets rose in the 1980s and contributed 15 percent of total credit on average each year in the 1990s, peaking at 30 percent in 1998. Credit expansion fueled by foreign inflows resulted in unprecedented increases in the debt of all US sectors. Beginning with the Reagan administration, the debt of all US borrowers—federal, state, and local governments, corporations and non-corporate businesses, farms, households, non-profit organizations, and the financial and foreign sectors—doubled from \$5 trillion in 1982 (the total accumulated debt since the beginning of the republic) to \$10 trillion in 1990, and kept mounting through the years that followed. As the momentum accelerated in 2007, the year the crisis began, total outstanding US debt spiked to 352.3 percent of GDP (up from 255.3 percent in 1997), with particularly large increases in the debt of households and the financial sector relative to GDP (FRS, *Flow of Funds*, various issues).

Part V

In the US, one of the major losses brought about by deregulation was the abandonment of reliance on required bank reserves as a countercyclical lever to rein in and stimulate credit expansion and to perform as an effective monetary cushion for the financial system in a time of crisis. The alternative tool put in place in the 1980s was capital requirements—a rational response, in the wake of the Third World Debt Crisis, to the discovery that the major banks had not backed their offshore operations with capital and that, in 1983, the total capital of the nine largest banks could be wiped out if 15 highly stressed less-developed countries were to default on their dollar borrowings from those banks (Cline, 1983).

But the assurance that overlending could be prevented by requiring adequate capital backing for balance sheets proved wrong. Markets may punish individual institutions for unsafe behavior but, on a systemic basis, they behave pro-cyclically, willing and able to supply more capital in a boom when asset prices are rising but unwilling and unable to replenish capital when prices fall. And, of course, the value of any

institution's capital appreciates in a boom but falls along with all other prices in a downturn.

In the bank-based system funded by deposits, and with a monetary cushion provided by required reserves held by the central bank, the pressure on capital tended to occur with a lag, giving banks at least a brief window of time to expand their lending into more profitable areas and to reduce non-performing loans as a share of assets and capital. The rules of the game in a market-based system are less forgiving: assets must be marked to market with "haircuts" taken against capital when prices fall; good assets must be sold to restore required capital ratios and meet margin calls for more collateral. Once the downward spiral begins, it moves very quickly, triggering downgrades in credit ratings and a loss of confidence that raises the cost of funding and lowers the firm's stock price. At that point, it is almost impossible for an institution to raise additional capital and regain its robust standing.

Therefore, designing an appropriate role for capital in a mixed bank- and market-based system is an issue that must be addressed in order to overcome the pro-cyclical effects embedded in the current system. Reliance on capital adequacy as the primary tool for macroprudential regulation of the banking system contributed to the development of the crisis; unfortunately, its continued centrality in the regulatory paradigm maintains the ongoing vulnerability to pro-cyclical market forces that produce crises.

Part VI

Outmoded national monetary systems also pose a major threat both to individual countries and to the global economy. That the Federal Reserve ignored the expansionary effects of foreign lending and made no effort to defuse the debt bubble becomes apparent in light of the excessive credit expansion in the years before the crisis, and its failure to warn the public of the level of risk. While central bank inaction was partly due to Fed officials' strong adherence to free market ideology, an equally persuasive argument is that, given the change in financial structure, the Fed was stuck with outworn tools that made it difficult to moderate or prevent the damaging rise in debt. Fed officials understood that meeting the central bank's obligation to prevent inflation and deflation required counter-cyclical actions but, even as they affirmed the continued effectiveness of monetary tools, former Fed chairmen acknowledged that those tools had become less powerful (Greenspan, 1993) and bore some offsetting risks (Bernanke, 2010).

A context for the argument that monetary tools have become counter-productive is provided by descriptions of how they were used during the crisis. In the initial response to the crisis, 62 percent of the Fed's total lending of \$1.7 trillion was loaned to the 20 large banks it deals with in conducting the majority of its open market operations (Matthews, 2013). While these loans (at a median interest rate of 0.48 percent) may have been necessary to prevent a collapse of the financial system, they provided little relief for households and businesses, and their failure to reignite economic activity prompted the addition of quantitative easing (QE) to the toolkit.

Five years after the beginning of the 2008 crisis and following the third of its QE operations, the Fed had bought \$3 trillion of US Treasury securities and MBS with relatively little increase in lending or economic activity to show for it. Of course, there tends to be a time lag before the effects of monetary policy show up, but this lag was longer than usual and the expected, eventual pick-up after any downturn was not occurring. Monetary officials in several countries—the US, the United Kingdom, and at the BIS—began to voice concerns about the limits of monetary policy. One, William White at the BIS, pointed out the dramatic change in financial structure that had occurred, noting that banking had been replaced by a “collateralized market system with the repo market at its heart” (White, 2013, p. 87).

The need for a new, inclusive reserve system builds on the reality of that observation. It recognizes that the old reserve system that imposed reserves on bank deposits was applicable only to banks, since banks alone can create deposits when they make loans. To regain systemic monetary influence will require imposing reserve requirements on all financial institutions. The structure that would make that possible would be one in which the Fed engages in repurchase transactions with all sectors of the financial system in a broad range of sound assets. To do so, the Fed would need to create reserves that would be posted on the liability side of financial institutions' balance sheets and posted as assets on the Fed's balance sheet. In the process of buying and selling assets through repo transactions, the Fed would add or subtract interest-free liabilities on the side of institutions' balance sheets that hold customers' funds and capital, thus enabling it to counter excessive losses or gains in either of those sources of funding. This would allow the Fed to act systemically in changing the supply of credit and restore its former role in conducting effective countercyclical operations.

The proposed system-wide reserve regime would overcome the procyclical pressures in the market-based system by allowing institutions to buy and sell reserves at face value, rather than be forced to sell assets as

prices fall and “haircuts” deplete capital. It would also give all financial institutions direct access to the lender of last resort. For example, if mutual funds faced runs by shareholders, they could avoid selling assets by transferring them to the Fed under repurchase agreements and acquiring reserves needed to offset customers’ withdrawals. Of course, the Fed would, as now, act in that capacity at its own discretion. But it would have a direct channel for action to replace the convoluted system used during the 2008 crisis, or in earlier years when it had to pressure banks to lend to other financial sectors to address their problems.

Part VII

Curbing the irrational forces of cross-border capital flows to moderate their excessive contributions to the expansion and destruction of debt is a necessary component of the effort to both stabilize global finance and ensure the potential for sustainable economic activity in the global economy that all nations need to protect and promote their own growth. Numerous proposals for additional issues of Special Drawing Rights (SDRs) by the International Monetary Fund (IMF) reflect widespread recognition of the need for reform. But dealing with the problem of the current system, in which the need for reserve creation is driven by the need for export-led growth, will require innovative structural arrangements.

One arrangement that would help meet this need would be the establishment of a closed-end, international investment fund under the Bretton Woods umbrella. The investment fund would issue its own liabilities in various national currencies and invest in private and public assets in emerging and developing countries. These investments would provide funds for infrastructure and other projects that require long-term financing. Selling shares in the proposed fund to private institutional investors, such as mutual and pension funds in both developed and emerging economies, would help provide to developing countries a buffer against the volatility of current channels for private cross-border flows. Shares in the fund would also provide assets for the investment of reserves by central banks and governments in emerging and developing economies. Given the multilateral guaranty by the fund backed by its Bretton Woods member countries, this channel for reserve investment would redirect export surpluses back into the countries that own them, rather than into the financial markets of strong-currency countries.

Still another, more critical, flaw in the current international monetary system must also be addressed: the means of payment. Creating a new international monetary system that would build on ideas developed at the

time of the meetings at Bretton Woods, but not included in the institutional framework of that agreement, would meet that need. For example, using John Maynard Keynes' concept of an international clearing union, a public international clearing agency could be structured to hold the international reserves of countries; debiting and crediting their accounts through interactions with their national central banks would allow all countries to make international payments in their own currencies. Member countries' reserves would be backed by their government's securities and, with the permission of a majority of its members, the new agency would be able to buy or sell those securities to augment or reduce a country's reserves. This would allow the clearing agency, unlike the IMF, to engage in countercyclical strategies that would influence global liquidity and introduce an effective lender of last resort at the international level.

Given the inability and unwillingness of any other country or group of countries to accept the current account deficits that are inevitable for key currency countries, continuation of the current international monetary system depends on the ongoing successful economic performance of the US and its continued willingness and ability to remain the buyer of last resort for the global economy. However, continued US dependence on foreign savings to bolster economic performance has increased the vulnerability of the key currency. With holdings of dollar reserves by so many countries and in so large an aggregate amount, the threat is that a significant fall in the value of the dollar would sharply contract the value of global reserves. Such a decline in the value of reserves—like the one that occurred in the period 1928–32—would exert substantial pressure on national economies that would spread quickly throughout the global system.

Part VIII

In describing the ways in which changes in financial structure and regulation altered the US and global financial systems and how those changes contributed to an inexorable drift toward crisis, this brief analysis of the issues and problems discussed in the book concludes that the export-led growth imperative in the key currency system led to an unsustainable explosion in debt in the US and global economies and that the evolution of a privatized financial system operating in interconnected national and offshore markets with little or no public sector monetary or regulatory constraints contributed to the rise in debt to historically high levels over the last 30 years.

This final section gives evidence that dangerous levels of debt in relation to GDP in the US and global economies remain a threat to economic activity. It also notes the widening gap between what US residents own abroad and the US holdings of non-residents—a negative net international investment position that grew from 24 percent to 43 percent of GDP in the years from 2002 to 2016, as ongoing US trade deficits continued to be financed by foreign savings. America's high level of external debt makes it increasingly vulnerable to loss of confidence in the dollar as the key currency in the global system, as rising debt in the household and business sectors lower the level of growth in GDP on which that confidence depends, or because shifts in holdings of dollar assets become a means to express concern about the political environment. A significant fall in the value of the dollar would wreak havoc on financial markets around the globe. And, as noted, the fact that the aggregate level of international reserves held by emerging market and developing economies reached 24 percent of global GDP in 2016 exacerbated their vulnerability to a fall in the value of the dollar. A drop in the value of international reserves would cause immediate contractions in the economies of those countries.

In short, this book argues that the regulatory and monetary frameworks now in place have intensified rather than defused the threat of another crisis. Defusing that threat will require both regulatory and monetary reforms that will replace the debt-fueled, export-led growth models embedded in the global transactional framework, reduce pro-cyclical pressures introduced in the transition from a bank-based to a market-based system, and restore the potential for countercyclical initiatives needed to reinstate a stable financial system that can support sustainable economic activity in the US and global economies in the decades to come.

